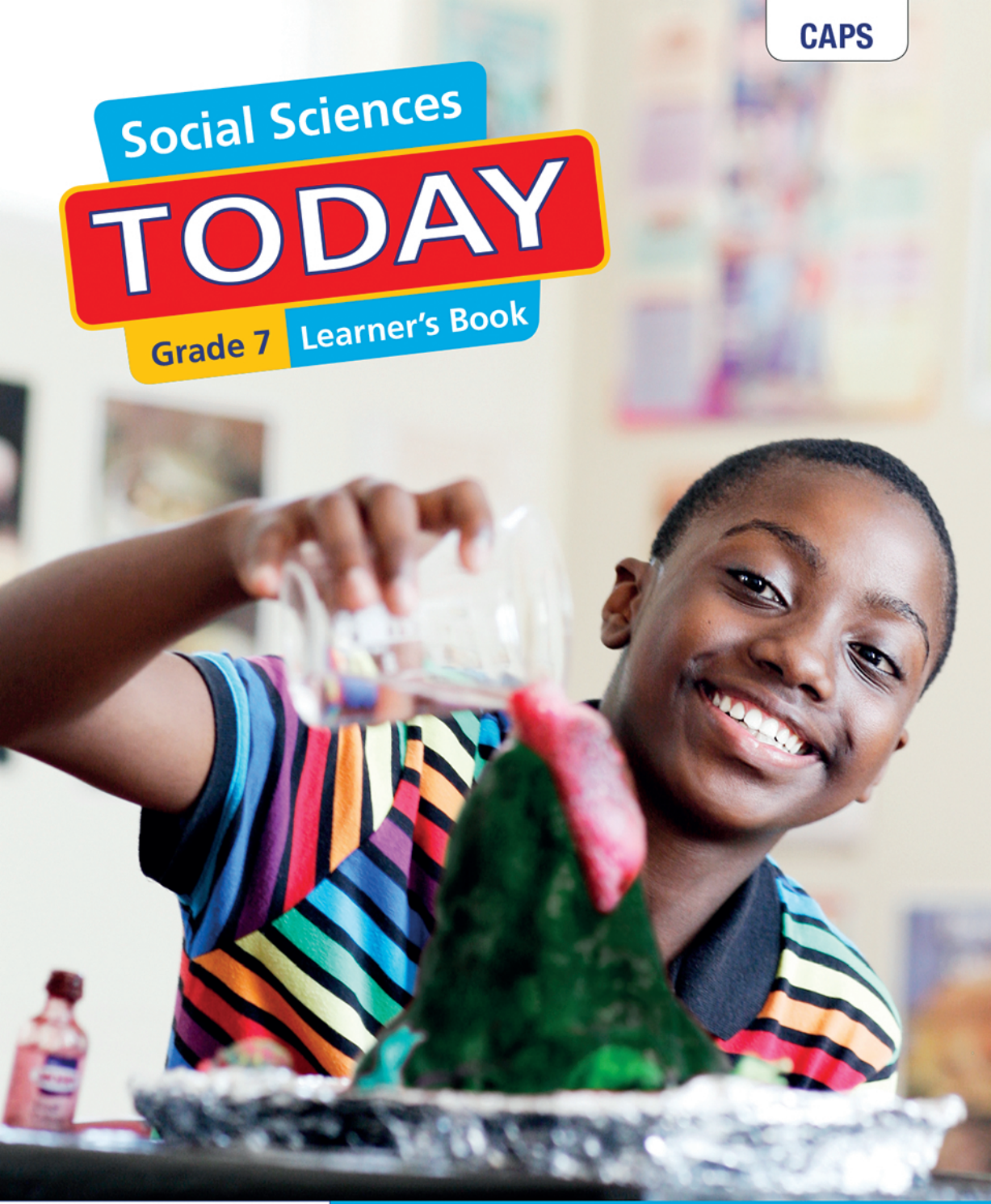
CAPS

Social Sciences TODAY

Grade 7 Learner's Book



MASKEW MILLER LONGMAN

J. Earle • G. Keats • A. Clacherty • V. Edwards
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Contents

Geography

History

Topic 1 Map skills

Key concepts and content

- Use a street map to find places, including using the index and grid references.
- Make sketch maps and walk around an area observing and taking notes for the sketch map.
- Explain routes verbally.
- Understand that scales show us how much smaller objects and distances are on a map than on the ground.
- Learn that some maps have small scales and others have larger scales, depending on the size of the area they are showing.
- Use scale to estimate distances on maps, and confirm those distances (both direct and indirect) by accurate measurement.
- Identify current world events and where they happened on a world map.
- Use latitude and longitude to locate places.

Unit 1 Local maps and street maps

key words

grid lines vertical and horizontal lines drawn on a map in a grid shape

grid squares the squares (sometimes rectangles) on a map formed by grid lines

grid reference using numbers and letters on the grid lines to refer to a specific place on a map

index an alphabetical list of words, objects or places with page numbers, usually found at the back of a book, to help you find that item in a book

Finding home, school and places of interest on a map of the local area

People use maps to find their way around and to find interesting places. Most cities in South Africa have street maps. These maps are usually prepared as a book because showing a city on one sheet of paper would be too big to use.

Using a street map to find places and describing a route

A street map has two features to help you find things:

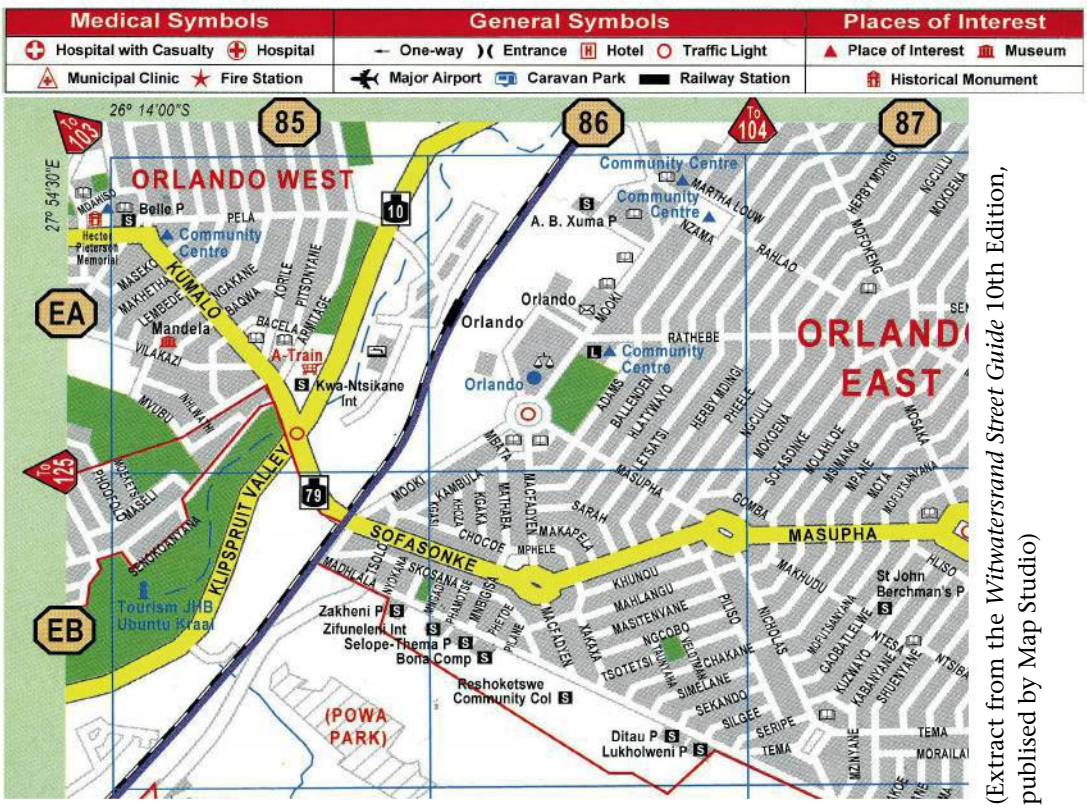
- **grid lines** drawn on the maps to form **grid squares**
- an **index** at the back.

Grids and grid references

Most maps have lines drawn from north to south and other lines drawn from east to west. These lines form a grid that makes it easier for you to find things. On a street map, the grid squares are labelled using letters and numbers. These letters and numbers together form a **grid reference**, because they refer to a place on the grid. The extract from the Witwatersrand street map in Figure 1.1 shows a grid and its features.

Geofact

Just a few years ago, most cars had street finders in them and millions of these map books were sold. These days more and more people are using GPS devices to find their way in cities. How long will it take before street finders will no longer be in the form of books?



(Extract from the *Witwatersrand Street Guide* 10th Edition, published by Map Studio)

Figure 1.1 A map grid

Activity 1 Find places on a map and describe a route

Use the street map in Figure 1.1 to complete this activity.

- You have a friend who lives in Inhlwathi Street, but you are not sure whether it is in Orlando East or Orlando West.
- Look at the street map and see how long it takes you to find Inhlwathi Street. Remember that we have given you only one small section of the map. In real life, you would also have to find the correct map and page in the actual street finder.
- Inhlwathi Street is listed as being in grid square EA 85.
- Find the letters EA on the left-hand side of the map. Now look for the numbers 85 along the top of the map. The grid square that they give you is the square in the top left corner of the map (or more correctly, the north-west corner). You can now find your friend's house easily.
- Your friend takes you from his house to two famous places nearby. What are those places?

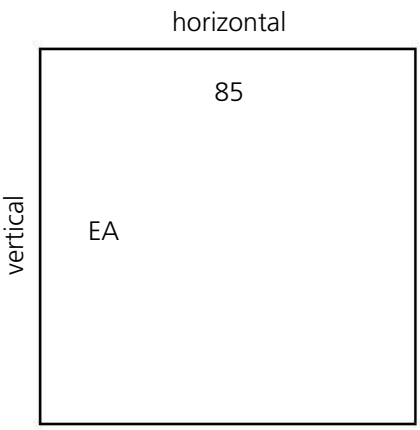
1. Write a description of the route you would take to get from your friend's house to the memorial.

Using a grid and an index to locate places in a street guide

You can use a grid and an index to find places on a street map.

Use a grid to find places

As mentioned earlier, a grid reference contains a letter, followed by a number. This order is necessary because it relates to how you use the grid reference. The correct way to use a grid reference is to start with the grid information on the left or right side of the map and then to read the information along the top or the bottom of the map. So, you start with the vertical line and find out how far down the page the place is located, and then you use the horizontal line to find out how far to the left or right the place is on the page.



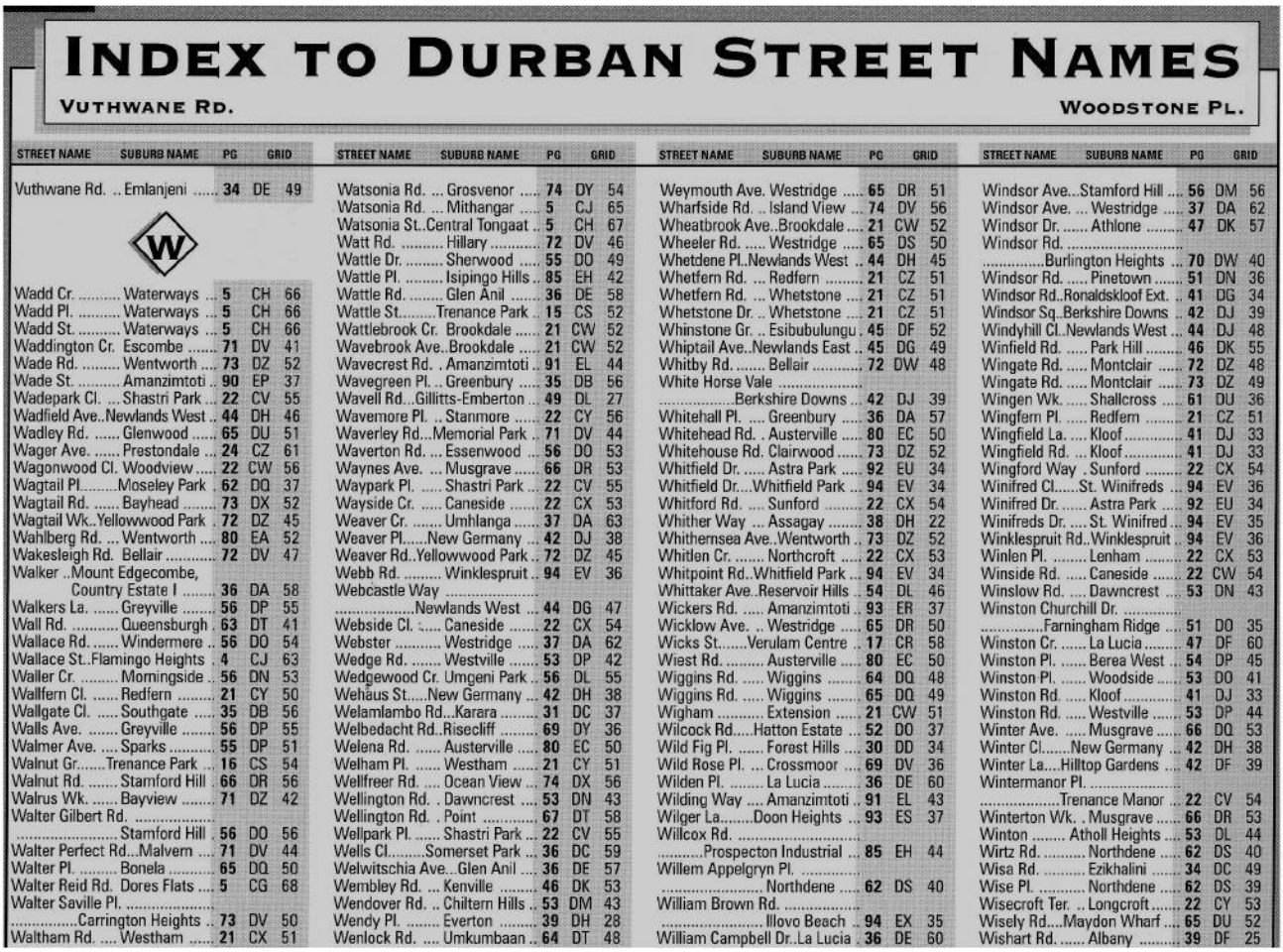
Activity 2 Find these places

Use the street map in Figure 1.1 on page 2 to find the following places:

1. What is the name of the school in grid square EB 87?
2. What is the suburb name that is shown in grid square EA 87?
3. What is the grid reference for the one railway station shown on this map?

Use an index to find places

The index of street names in Figure 1.2 below is from the Durban Street Guide. The index shows the street name, the suburb where that street is, the page number where the street can be found and the grid reference, to help you find the street more easily.



INDEX TO DURBAN STREET NAMES

VUTHWANE RD. — WOODSTONE PL.

STREET NAME	SUBURB NAME	PG	GRID
Vuthwane Rd.	Emlanjeni	34	DE 49
Wadd Cr.	Waterways	5	CH 66
Wadd Pl.	Waterways	5	CH 66
Wadd St.	Waterways	5	CH 66
Waddington Cr.	Escombe	71	DV 41
Wade Rd.	Wentworth	73	DZ 52
Wade St.	Amanzimtoti	90	EP 37
Wadepark Cl.	Shastri Park	22	CV 55
Wadfield Ave.	Newlands West	44	DH 46
Wadley Rd.	Glenwood	65	DU 51
Wager Ave.	Prestondale	24	CZ 61
Wagonwood Cl.	Woodview	22	CW 56
Wagtail Pl.	Moseley Park	62	DQ 37
Wagtail Rd.	Bayhead	73	DX 52
Wagtail Wk.	Yellowwood Park	72	DZ 45
Wahlberg Rd.	Wentworth	80	EA 52
Wakesleigh Rd.	Bellair	72	DV 47
Walker	Mount Edgecombe, Country Estate I	36	DA 58
Walkers La.	Greyville	56	DP 55
Wall Rd.	Queensburgh	63	DT 41
Wallace Rd.	Windermere	56	DO 54
Wallace St.	Flamingo Heights	4	CJ 63
Waller Cr.	Morningside	56	DN 53
Wallfern Cl.	Redfern	21	CY 50
Wallgate Cl.	Southgate	35	DB 56
Walls Ave.	Greyville	56	DP 55
Walmer Ave.	Sparks	55	DP 51
Walnut Gr.	Trenance Park	16	CS 54
Walnut Rd.	Stamford Hill	66	DR 56
Walrus Wk.	Bayview	71	DZ 42
Walter Gilbert Rd.	Stamford Hill	56	DO 56
Walter Perfect Rd.	Malvern	71	DV 44
Walter Pl.	Bonela	65	DQ 50
Walter Reid Rd.	Dores Flats	5	CG 68
Walter Saville Pl.	Carrington Heights	73	DV 50
Waltham Rd.	Westham	21	CX 51
Watsonia Rd.	Grosvenor	74	DY 54
Watsonia Rd.	Mithangar	5	CJ 65
Watsonia St.	Central Tongaat	5	CH 67
Watt Rd.	Hillary	72	DV 46
Wattle Dr.	Sherwood	55	DO 49
Wattle Pl.	Isipingo Hills	85	EH 42
Wattle Rd.	Glen Anil	36	DE 58
Wattle St.	Trenance Park	15	CS 52
Wattlebrook Cr.	Brookdale	21	CW 52
Wavebrook Ave.	Brookdale	21	CW 52
Wavecrest Rd.	Amanzimtoti	91	EL 44
Wavegreen Pl.	Greenbury	35	DB 56
Wavell Rd.	Gillitts-Emberton	49	DL 27
Wavemore Pl.	Stanmore	22	CY 56
Waverley Rd.	Memorial Park	71	DV 44
Waverton Rd.	Essenwood	56	DO 53
Waynes Ave.	Musgrave	66	DR 53
Waypark Pl.	Shastri Park	22	CV 55
Wayside Cr.	Caneside	22	CX 53
Weaver Cr.	Umhlanga	37	DA 63
Weaver Pl.	New Germany	42	DJ 38
Weaver Rd.	Yellowwood Park	72	DZ 45
Webb Rd.	Winklespruit	94	EV 36
Webcastle Way	Newlands West	44	DG 47
Webside Cl.	Caneside	22	CX 54
Webster	Westridge	37	DA 62
Wedge Rd.	Westville	53	DP 42
Wedgewood Cr.	Umgeni Park	56	DL 55
Wehaus St.	New Germany	42	DH 38
Welamlambo Rd.	Karara	31	DC 37
Welbedacht Rd.	Riseclif	69	DY 36
Welena Rd.	Austerville	80	EC 50
Welham Pl.	Westham	21	CY 51
Wellfreer Rd.	Ocean View	74	DX 56
Wellington Rd.	Dawncrest	53	DN 43
Wellington Rd.	Point	67	DT 58
Wellpark Pl.	Shastri Park	22	CV 55
Wells Cl.	Somerset Park	36	DC 59
Welwitschia Ave.	Glen Anil	36	DE 57
Wembley Rd.	Kenville	46	DK 53
Wendover Rd.	Chiltern Hills	53	DM 43
Wendy Pl.	Everton	39	DH 28
Wenlock Rd.	Umkumbaan	64	DT 48
Weymouth Ave.	Westridge	65	DR 51
Wharfside Rd.	Island View	74	DV 56
Wheatbrook Ave.	Brookdale	21	CW 52
Wheeler Rd.	Westridge	65	DS 50
Whetdene Pl.	Newlands West	44	DH 45
Whetfern Rd.	Redfern	21	CZ 51
Whetfern Rd.	Whetstone	21	CZ 51
Whetstone Dr.	Whetstone	21	CZ 51
Whinstone Gr.	Esibubulungu	45	DF 52
Whiptail Ave.	Newlands East	45	DG 49
Whitby Rd.	Bellair	72	DW 48
White Horse Vale	Berkshire Downs	42	DJ 39
Whitehall Pl.	Greenbury	36	DA 57
Whitehead Rd.	Austerville	80	EC 50
Whitehouse Rd.	Clairwood	73	DZ 52
Whitfield Dr.	Astra Park	92	EU 34
Whitfield Dr.	Whitfield Park	94	EV 34
Whitford Rd.	Sunford	22	CX 54
Whither Way	Assagay	38	DH 22
Withernsea Ave.	Wentworth	73	DZ 52
Whitlen Cr.	Northcroft	22	CX 53
Whitpoint Rd.	Whitfield Park	94	EV 34
Whittaker Ave.	Reservoir Hills	54	DL 46
Wickers Rd.	Amanzimtoti	93	ER 37
Wicklow Ave.	Westridge	65	DR 50
Wicks St.	Verulam Centre	17	CR 58
Wiest Rd.	Austerville	80	EC 50
Wiggins Rd.	Wiggins	64	DQ 48
Wiggins Rd.	Wiggins	65	DQ 49
Wigham	Extension	21	CW 51
Wilcock Rd.	Hatton Estate	52	DO 37
Wild Fig Pl.	Forest Hills	30	DD 34
Wild Rose Pl.	Crossmoor	69	DV 36
Wilden Pl.	La Lucia	36	DE 60
Wilding Way	Amanzimtoti	91	EL 43
Wilger La.	Doon Heights	93	ES 37
Willcox Rd.	Prospecton Industrial	85	EH 44
Willem Appelgryn Pl.	Northdene	62	DS 40
William Brown Rd.	Illovo Beach	94	EX 35
William Campbell Dr.	La Lucia	36	DE 60
Windsor Ave.	Stamford Hill	56	DM 56
Windsor Ave.	Westridge	37	DA 62
Windsor Dr.	Athlone	47	DK 57
Windsor Rd.	Burlington Heights	70	DW 40
Windsor Rd.	Pinetown	51	DN 36
Windsor Rd.	Ronaldskloof Ext.	41	DG 34
Windsor Sq.	Berkshire Downs	42	DJ 39
Windyhill Cl.	Newlands West	44	DJ 48
Winfield Rd.	Park Hill	46	DK 55
Wingate Rd.	Montclair	72	DZ 48
Wingate Rd.	Montclair	73	DZ 49
Wingen Wk.	Shallcross	61	DU 36
Wingfern Pl.	Redfern	21	CZ 51
Wingfield La.	Kloof	41	DJ 33
Wingfield Rd.	Kloof	41	DJ 33
Wingford Way	Sunford	22	CX 54
Winifred Cl.	St. Winifreds	94	EV 36
Winifred Dr.	Astra Park	92	EU 34
Winifreds Dr.	St. Winifred	94	EV 35
Winklespruit Rd.	Winklespruit	94	EV 36
Winlen Pl.	Lenham	22	CX 53
Winside Rd.	Caneside	22	CW 54
Winslow Rd.	Dawncrest	53	DN 43
Winston Churchill Dr.	Farningham Ridge	51	DO 35
Winston Cr.	La Lucia	47	DF 60
Winston Pl.	Berea West	54	DP 45
Winston Pl.	Woodside	53	DO 41
Winston Rd.	Kloof	41	DJ 33
Winston Rd.	Westville	53	DP 44
Winter Ave.	Musgrave	66	DQ 53
Winter Cl.	New Germany	42	DH 38
Winter La.	Hilltop Gardens	42	DF 39
Wintermanor Pl.	Trenance Manor	22	CV 54
Winterton Wk.	Musgrave	66	DR 53
Winton	Atholl Heights	53	DL 44
Wirtz Rd.	Northdene	62	DS 40
Wisa Rd.	Ezikhalini	34	DC 49
Wise Pl.	Northdene	62	DS 39
Wisecroft Ter.	Longcroft	22	CY 53
Wisely Rd.	Maydon Wharf	65	DU 52
Wishart Rd.	Albany	39	DF 25

(Extract from the *Durban Street Guide* 6th Edition, published by Map Studio)

Figure 1.2 An index to street names

Activity 3 Use a map index

Use the map index in Figure 1.2 and write down the answers to these questions.

1. On which page will you find Wedge Road?
2. What is the grid reference for Wendover Road?
3. In which suburb is Wendover Road?
4. Wellington Road seems to be in two different suburbs. Give two reasons to explain why this might be so.
5. You will see the name Vuthwane Road in the top left corner of the index. Why is this name there?

Unit 2 Sketch maps and explain routes

Map conventions

Most maps contain four **conventions** to make them easier to use. These conventions are:

- a title
- a map key and **symbols**
- a scale
- a north direction arrow and the four **cardinal** points.

Figure 1.3 A map key

A title

The title tells you the name of the place or the most important place on the map.

A map key and symbols

A map key explains the symbols used on the map. Another name for the key is 'legend'. Figure 1.3 shows a simple map key. Look for other map keys in your atlas.

Scale

A scale shows you the distance between places. When you draw a sketch map, you may need to show scale. An easy way to show scale is to calculate how many times the drawn distance or length fits into the actual distance or length. For example, draw a line to represent the wall of your classroom. Now measure how many times this line fits into the same wall of your real classroom. If it fits 30 times, then you can write your scale as 1:30. You could change this written scale into a line scale. Each centimetre on your line scale will represent 30 centimetres on your classroom wall. Your **line scale** will then look like the one shown in Figure 1.4. You will learn more about scales in Unit 3.

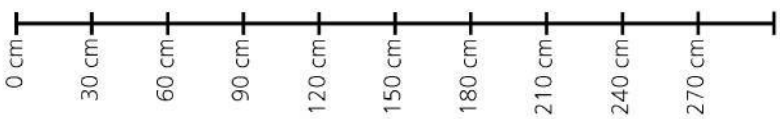


Figure 1.4 A line scale

A north direction arrow and the four cardinal points

A north direction arrow on a map tells you which way to hold your map. You must be able to orientate your map, which means to point it correctly towards north. The four cardinal points are the four main points on a compass: north, south, east and west. This information is needed on a map so that you know where north is.

key words

convention a standard or usual way of doing something. Conventionally, maps usually have certain things that we find on them, like a scale and a title

symbol on a map a symbol is a small image or sign of something that allows us to show it on the map without taking up too much space and without having to use words

cardinal main or most important

line scale a line that looks a bit like a ruler, which is drawn on a map to show how much smaller the map is than the real distance on the ground

Sketching maps to show the route from one place to another

How would you give two new learners directions from your classroom to the principal's office? A sketch map is one useful way of giving directions.

Geofact

The needle of a compass is magnetised, which means that it points to the magnetic north pole of the Earth. This is not the same as the true north pole, which is where all the lines of longitude come together. The magnetic north pole is somewhere in Alaska.

Activity 4 Draw a sketch map of a route in your school

Draw a sketch map of a route from your classroom to the principal's office.

1. Walk the route and make notes and a rough sketch of what you see. Include:
   - the main places where they need to turn
   - some obvious features that will help them recognise where they are
   - any grassy areas, tarred areas or parking areas
   - anything else that will help them find their way.
2. First, work out the approximate distance of one part of the route. For example, measure the length of a parking area. When you draw your sketch map, show the length in metres. (Round off the distance if necessary.)
3. Now draw your sketch map. Include all the information you recorded. Also add a title, a legend and your measured distance (a scale).
4. Exchange route maps with another group. Pretend that you are completely new in the school and see if you can follow the route.

Determining and showing compass directions on a local sketch map

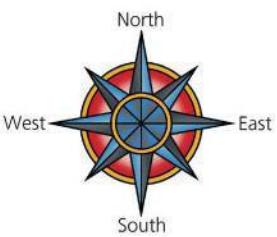
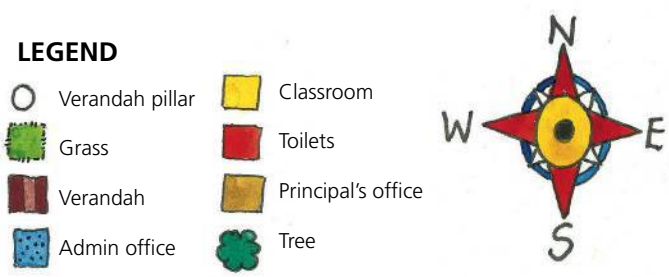


Figure 1.5 The four cardinal points

A north direction arrow on a map tells you how to hold your map so that it points correctly towards north. Always orientate your map so that it matches the positions and directions of objects on the ground. The diagram in Figure 1.5 shows the four cardinal points. Maps sometimes show a north arrow or a symbol with all four cardinal points, so that you know which way north is on the map. You can use either option when you draw your own sketch maps.



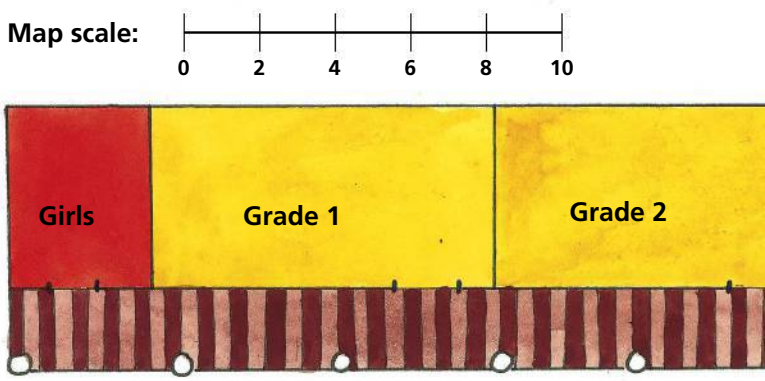


Figure 1.6 A sketch map

Activity 5 How to find north

1. Go outside your classroom to an open space.
2. Decide where the sun rises and where the sun sets.
3. Now point to the east (sunrise) with your right arm and to the west (sunset) with your left arm. North is directly in front of you.
4. Go back to your classroom. Draw a simple sketch plan of your classroom. Show the door, windows, any cupboards, your teacher's desk and perhaps just mark the position of the rows of desks.
5. Now add in the four map conventions – a title, scale, key and north direction arrow.

Figure 1.7 The person in the illustration is standing with her right arm pointing to where the sun rises and her left arm to where the sun sets. North is in front of her and south is behind her.

Explaining a route verbally

Giving clear and simple directions is an important skill that you need to develop.

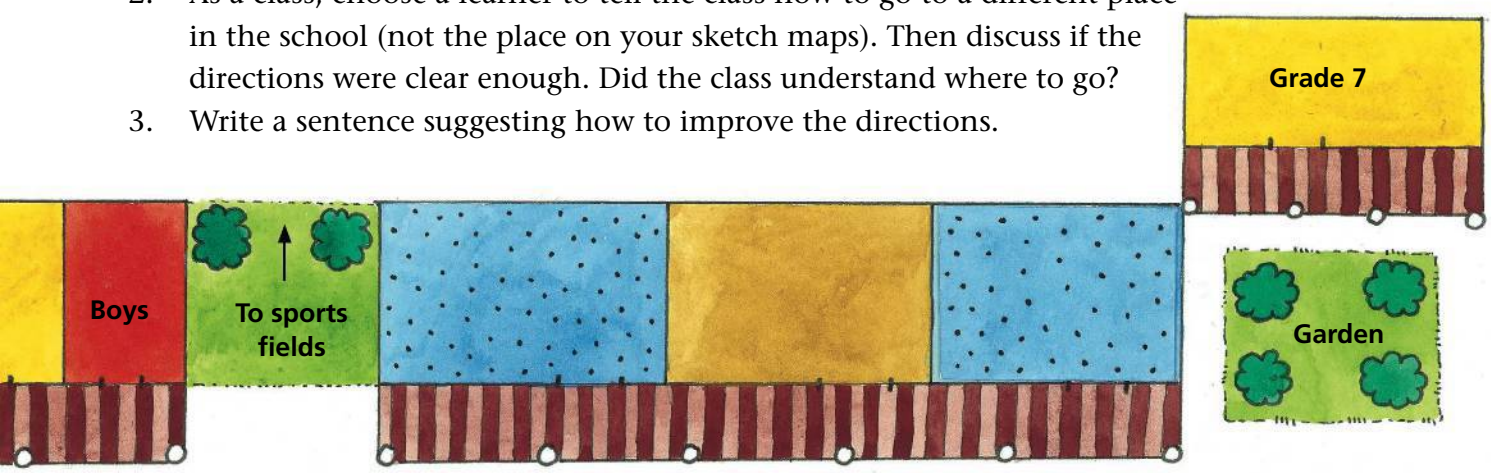
Give an estimate of distance

When you explain a route, you need to give the person an indication of roughly how far it is. When you made a simple sketch map of your school, you had to work out approximately how far one part of the route was to show it on your sketch. Use this information to practise giving directions in Activity 6.

If you don't know the way, don't be afraid to say so. You can always ask someone else for advice, or use a map rather than give incorrect directions.

Activity 6 Explain the route verbally

1. Work in pairs. Use the sketch map you drew in Activity 4 and explain the route to your partner. Remember to give your partner an estimate of the distance that he or she will need to walk.
2. As a class, choose a learner to tell the class how to go to a different place in the school (not the place on your sketch maps). Then discuss if the directions were clear enough. Did the class understand where to go?
3. Write a sentence suggesting how to improve the directions.



Formal Assessment Task

Project: Sketch a map of your local area

Total marks: 50 Time: 2 weeks

Instructions

In this project, you will draw a sketch map of the area around your home. If you live in an urban area, your map should cover at least two streets in all directions from your home. If your area is not very complicated, include more. Try to include all the types of places found in your area, for example, roads, open green spaces, small shopping areas, a post office, a police station, and so on. If you live in a rural area then you should include a larger area.

You will need at least two weeks to complete this project. You will learn more mapping skills during that time and you can use these new skills to help you.

Remember to:

- work accurately
- include plenty of detail
- use all four map conventions
- make sure that your map is to scale
- draw places accurately and in the correct position
- use colour, especially for the key.

You will be marked out of 7 for your sketch map, according to the rating scale below.

7	**Outstanding**	Excellent, includes every street name; all features are labelled or in the key; excellent use of colour and map conventions
6	**Very good**	Good, clear presentation in scale; uses all four map conventions, although not perfectly; key includes most possible features; uses colour intelligently in the key
5	**Good**	Well-drawn with a number of features shown; easy to use; uses at least three map conventions
4	**Satisfactory**	Usable with some inaccuracy; uses two or three map conventions
3	**Moderate**	Clearly a sketch map, but would be difficult to use; uses one or two map conventions
2	**Elementary**	Recognisable as a sketch map, but lacks detail; only one map convention
1	**Not achieved**	Not recognisable as a sketch map; does not use the four map conventions

Guidelines to follow when drawing your sketch map

1. Decide how large an area you will include. If it is an open, uncomplicated area, then you need to include a bigger area. If it is a complicated area, then include a smaller area.
2. Walk around your sketch map area. Make notes about elements such as:
   - different land uses, for example parks, factories, shops, sports facilities, grazing area, rivers and hills
   - different kinds of vegetation
   - buildings and other interesting structures
   - roads, including smaller and busier roads
   - public transport routes
   - emergency services if there are any in your area
   - public facilities like swimming pools and libraries
   - the names of places, shops and roads.
3. While you walk around your area, start sketching the whole area so you can see how it all fits together. You can always go back and check things later.
4. Also, while you are walking around, the first time or later, measure 100 metres between two points that you know, so you can create a line scale later (maybe 1 cm will represent 50 m or 100 m).
5. Now go home and start drawing your sketch map. First try to get the shape right, so that some streets are not too long and others too short – keep everything to the same scale. Also try to get the size right. If you can, work out what scale you will use and make sure your map fits on your piece of paper, or is not cramped up in the middle.

Record your observations of land use and different kinds of vegetation

People start a settlement in an area usually because two roads cross there, or there is a good water supply or minerals. As the settlement grows different parts of it start being used for different purposes. These different purposes are called land uses. Near the middle of a small settlement you would expect to find shops, a bank, maybe a post office and a hotel. Outside that area you might find agricultural use of the land, or perhaps manufacturing. This is how different land-uses develop in a settlement. Have a look at your school atlas or the map that your teacher gives you to see how it shows different land uses.

Geofact

The value of land in a settlement usually is highest in the centre and less expensive towards the outskirts.

Here are some photos of land uses. Use these ideas to help you identify and include different land uses in your sketch map.

Figure 1.8 The central area of a town has shops and a bank/post office/hotel.

Figure 1.9 There is more space for agricultural land use outside a town.

Figure 1.10 Residential land use is usually located around the town centre.

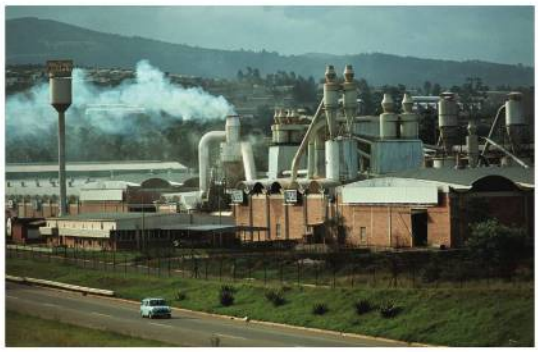


Figure 1.11 Manufacturing takes place in another part of town away from where people live.

Include symbols, key and scale on your sketch map

Important elements to include on your sketch map are a map key with symbols and a scale. Create symbols for the main elements on your map and show them in the key with the correct label. Apply the information you learnt in Units 2 and 3 to work out the scale of your map and insert a scale onto your sketch map.

Show the four cardinal compass directions on your sketch map

Use the information you learnt in Unit 2 about how to show compass directions and the four cardinal points, and include the cardinal compass directions on your sketch map.

Unit 3 Distance and scale

Map scales

In Unit 1, you used a street map. Imagine if an entire big city like Johannesburg was printed on one small sheet of paper. Everything would look a lot closer together and smaller, so the scale would be smaller. However, it would be difficult to find anything.

On most street maps, a distance of 1 cm on the map is about 400 metres on the ground. But on smaller scale maps that show a whole city on one sheet, 1 cm on the map might represent about 4 km on the ground. Therefore, the scale on the map of the whole city is 10 times smaller than the scale on a street map.

Figure 1.12 Maps that show big areas have a smaller scale than maps that show small areas.

When you draw maps of places, you need to show things smaller than they are. However, you need to be able to see on the map how far distances really are. Imagine packing lunch in the car and getting ready for a long journey, and arriving in 10 minutes, or going to a friend's house for tea and walking all day to get there. These are some of the reasons why you need to be able to calculate distances from maps.

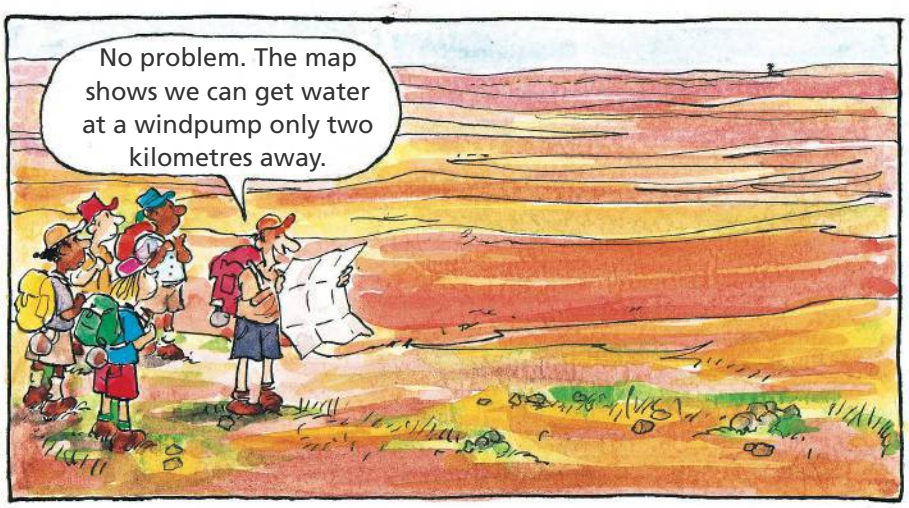


Figure 1.13 Distances need to be calculated correctly. The wind pump is actually 20 km away.

Activity 7 Work out the actual size

1. Imagine that there is a map drawn onto a page the same size as this one that you are reading. Work out how many times smaller or larger the map would be than the real item if it was a map of your:
   a) desk
   b) classroom
   c) school
   d) face.

Line scales and word scales (Revision)

key word

word scale a way of expressing a map scale using words

As you know, one of the map conventions is a scale. Maps show scale in many ways. For example, you can write a ratio scale as 1:100, which means that anything on the ground is 100 times smaller on the map. This way of showing scale means that you have to take measurements and then do calculations. However, an easier way is to use a line scale.

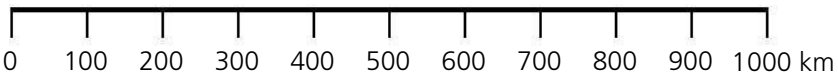
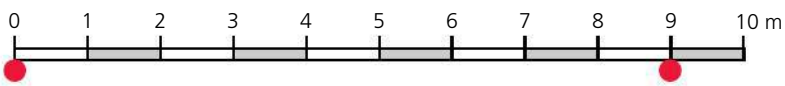
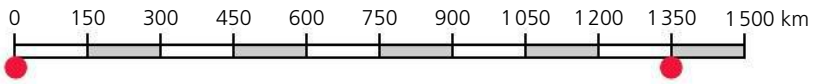


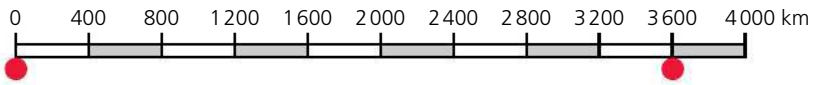
Figure 1.14 This line scale shows you that 1 cm on the line is the same as 100 km on the ground.

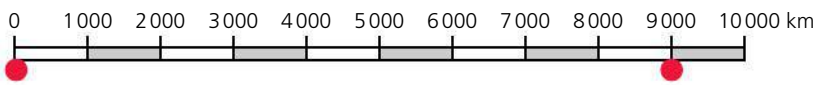
Activity 8 Work with line scales

1. Look through your atlas. Find at least five examples of different line scales. What distance on the ground does 1 cm on each scale represent? You may find some line scales that do not use 1 cm spaces. Ignore these for now.
2. Write down your findings in the format shown below:
   a) Map of (put the name of the place or the map title here): 1 cm on the line scale represents (your answer, for example, 1 km) on the ground.
   b) Map of (place name): 1 cm on the scale represents _____ on the ground.
3. Match the lines scales below with the places alongside that you think they would be used for.

a) 

b) 

c) 

d) 

1. The world
2. Your house
3. South Africa
4. Africa

Word scales

Question 2 in Activity 8 uses **word scales**. Instead of showing the scale with a ratio (for example 1:100), or a line scale, you can use words, for example, one centimetre on the map represents two kilometres on the ground. This description is a word scale. Sometimes you might see a word scale written in these words: 'One centimetre on the map equals half a kilometre on the

ground'. Can you see what is wrong with this description? The word 'equals' is wrong, because one centimetre can never be equal to half a kilometre. Therefore, you need to use the word 'represents' in a word scale.

Different scales for different maps (Revision)

Activity 8 shows that you need different scales for different maps. For example, to represent your house or village, you would need a large-scale map (for example 1:10 or 1:1 000). To represent a bigger area, such as a country, you need a map with a much smaller scale (for example 1:10 000 or 1:5 000 000).

Measuring indirect distances on a street map (string and a line scale)

In this section, you will learn how to measure distances on a map. Why is this skill useful? Perhaps you want to walk from your house to a friend's house or, instead of catching the bus, maybe you want to walk into town. If you were not sure how far that is, you could measure it on the map.

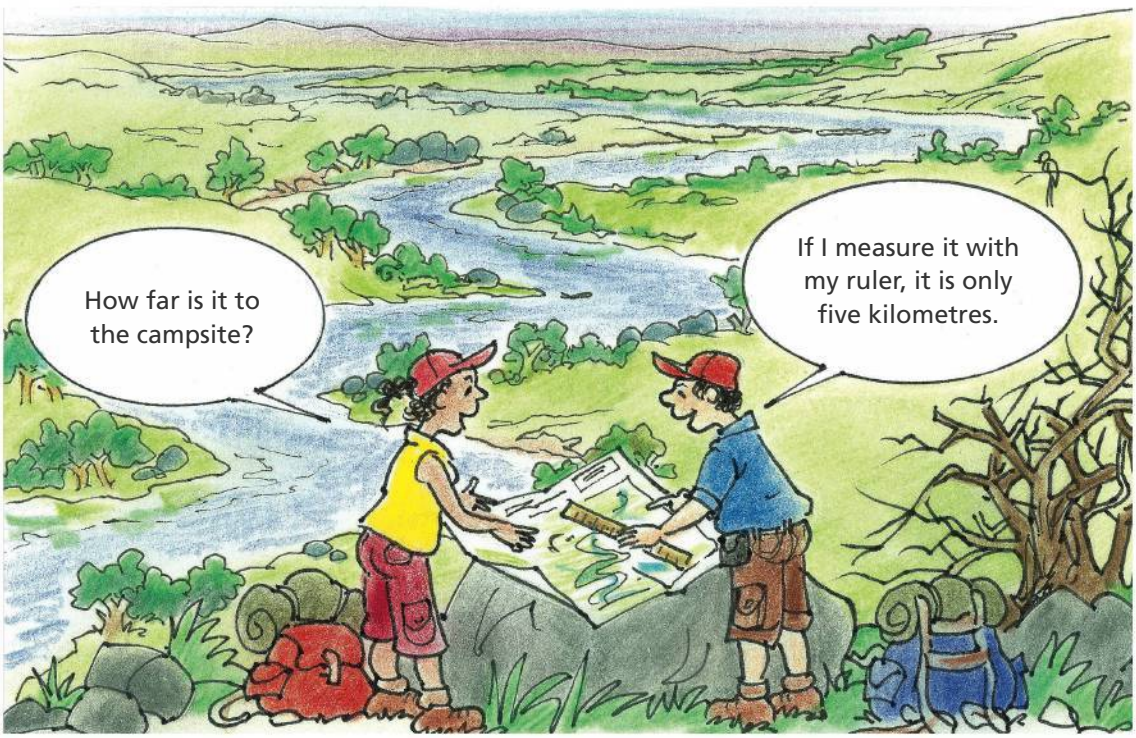


Figure 1.15 The distance is much more than 5 km. Why?

Measure curved distances

A **direct** line between two places is a straight line. This line is quite easy to measure on a map. But what if you want to measure an indirect distance, such as the distance along a river or winding pathway?

key word

direct going straight from one place to another along the shortest route

Stretch the string

Be careful to keep the tautness of the string the same when you lay it over the curved shape, and when you lay it along the line scale. Your measurement won't be accurate if the string is loose on one and tight on the other.

The simplest method of measuring curved distances on a map is to use a piece of cotton or string. Place it onto the curved shape that you are measuring. Mark a point on the string and hold it down at Point A. Work your way along the string from Point A to Point B. Make another mark on the string where it crosses Point B. Now lay out the string straight along the line scale. Read off the actual ground distance from the line scale.

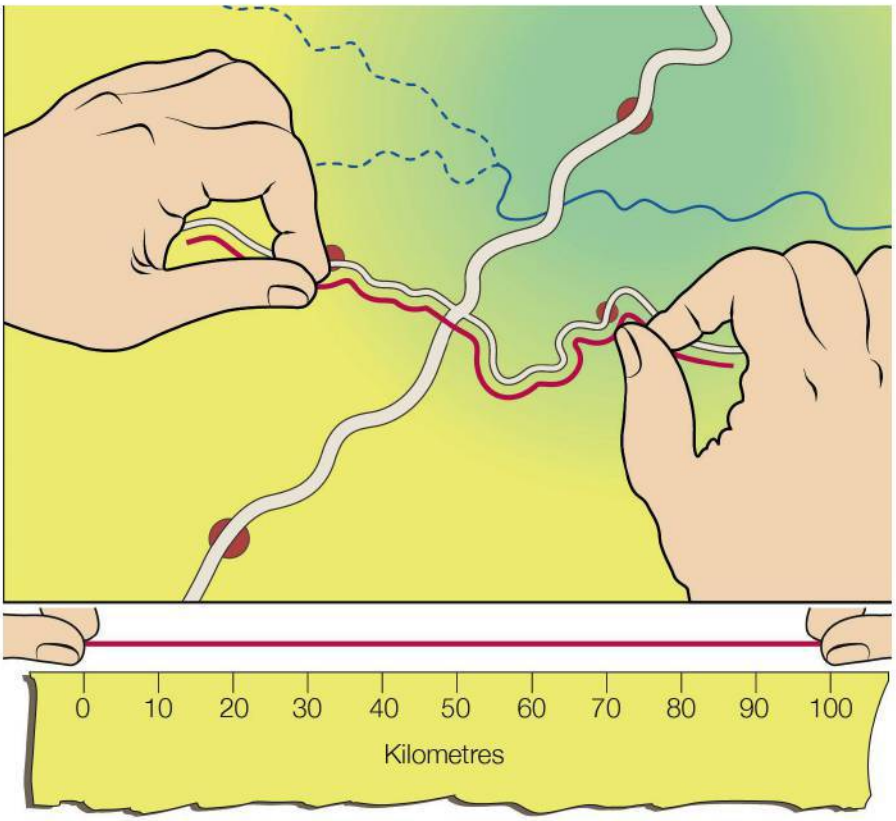


Figure 1.16 Measuring a curved distance on a street map

Geofact

The longest river in the world is the Nile, which follows a course of 6 650 km. But the straight-line distance from its source in Burundi to where it enters the Mediterranean Sea is 3 850 km.

Activity 9 Measure indirect (curved) distances

1. Use your atlas or the map that your teacher gives you to measure the distance along the coast from Durban to Maputo.
2. Use a **globe** to measure the distances between places. First, make sure that the globe you are using has a line scale marked on it somewhere. Then measure and write down the distances between:
   a) Los Angeles and New York
   b) Sydney and Cape Town
   c) Cairo and Cape Town.
3. If you paddled a canoe from Upington to Oranjemund on the West Coast, how far would you travel? What major natural hazard would you have to avoid along the way? Use your atlas to help you.

key word

globe a ball-shaped model of the Earth on a frame that allows you to spin it around on its axis

Calculating distances on maps (direct and indirect routes)

When you use a map, you don't always need to measure the distance exactly. Often, you only need an **estimate**, rather than an exact measurement. Estimating a distance on a map is a skill that you can learn. The more you practise estimating, the more accurate your measurements will become. However, before you can confirm your estimate, you need to know how to measure it accurately.

key word

estimate an estimate is a rough calculation or a good guess of the amount or value of something

Using a line scale to estimate distances on a given map

The straight distance from one point to another is known as a straight-line distance, or a direct distance. Often, the route from one place to another is not really straight. Measuring direct distances on a map is easier and more accurate than measuring curved, or indirect, distances. Measuring a straight-line distance is a useful and important skill.

Activity 10 Measure a straight-line distance on a map

You will use a line scale in this activity to measure a straight-line distance on a map.

1. Copy the line scale on your map onto the edge of a piece of paper, as shown in the diagram on page 16. You can also use a ruler with centimetre markings.
2. Place the zero point of the line scale that you drew (or your ruler) onto the first point on the map.
3. Line up your line scale or ruler so that it goes straight to the second point on the map.
4. Check that the zero point is still in the correct position on the first point on the map and then read off at the second point how far away it is. The line scale will make it easy for you to calculate the real distance on the ground. If you used your ruler, you will now have to place your ruler next to the line scale printed on the map and read off the distance from there.

Worked example: Line scales

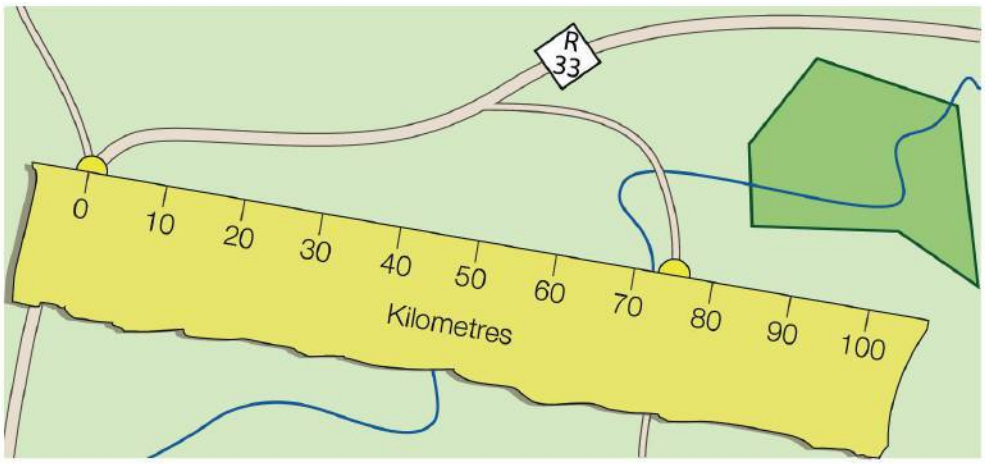
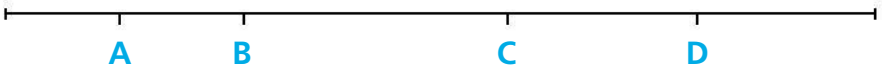


Figure 1.17 Use a line scale to measure distance on a map

This example shows the line scale drawn onto a piece of paper. The intervals on the line are at 1 cm lengths. You can see that each centimetre on the map represents 10 km on the ground. So, in this example, the distance between Town A and Town B is about 74 km.

Activity 11 Practise with line scales



1. The four points A, B, C and D marked on the line above represent places on a map. For each scale shown below, find the matching letter on the line and then measure and write down the distance from the left side of the line to that point.

   a) A: 

   b) B: 

   c) C: 

   d) D: 

2. Now use your atlas to work out and write the distances between:
   a) Cape Town and East London
   b) Lusaka and Harare
   c) Birmingham and London.

Check estimates with accurate measurement

Now you can estimate a map distance and to confirm it by measurement.

Activity 12 Estimate and confirm distances on a map

Figure 1.19 shows a map extract from the Durban Street Guide. The ratio scale for this map is 1:20 000, which in words is 1 centimetre represents 200 metres.

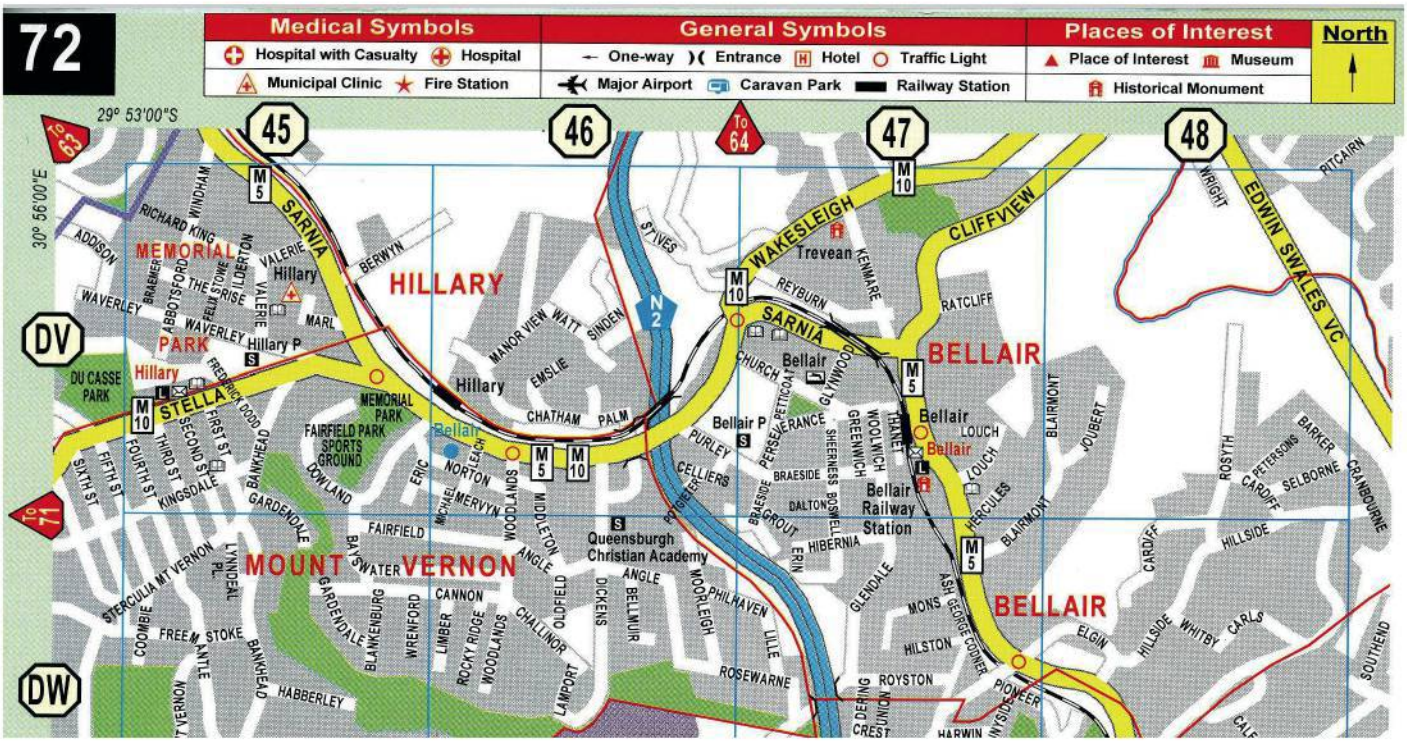


Figure 1.19 Section of a Durban street map (Extract from the *Durban Street Guide* 5th Edition, published by Map Studio)

1. Just by looking, estimate how far it is in a straight line from Hillary Railway Station to Bellair Railway Station.
2. Now measure the distance you estimated. Use a ruler or a line scale that you draw on a piece of paper. How accurate was your estimate?
3. Find the little red circle at the intersection of Stella Road and Sarnia Road in grid square DV 45.
   a) Estimate and then measure the direct distance between the red circle and Bellair Railway Station. How accurate was your estimate this time?
   b) Now estimate the curved distance along Sarnia Road between the same two places (red circle to Bellair Railway Station).
4. Use the string method to measure the same distance. How accurate was your estimate?
5. Set your classmates a challenge to estimate and then measure distances on this map, and any others. Who estimated the distance the best?

Unit 4 Current events

Places in the news on a world map

When important events happen somewhere in the world, do you know where those places are? The world map below shows some important events that took place in the first three months of 2011.

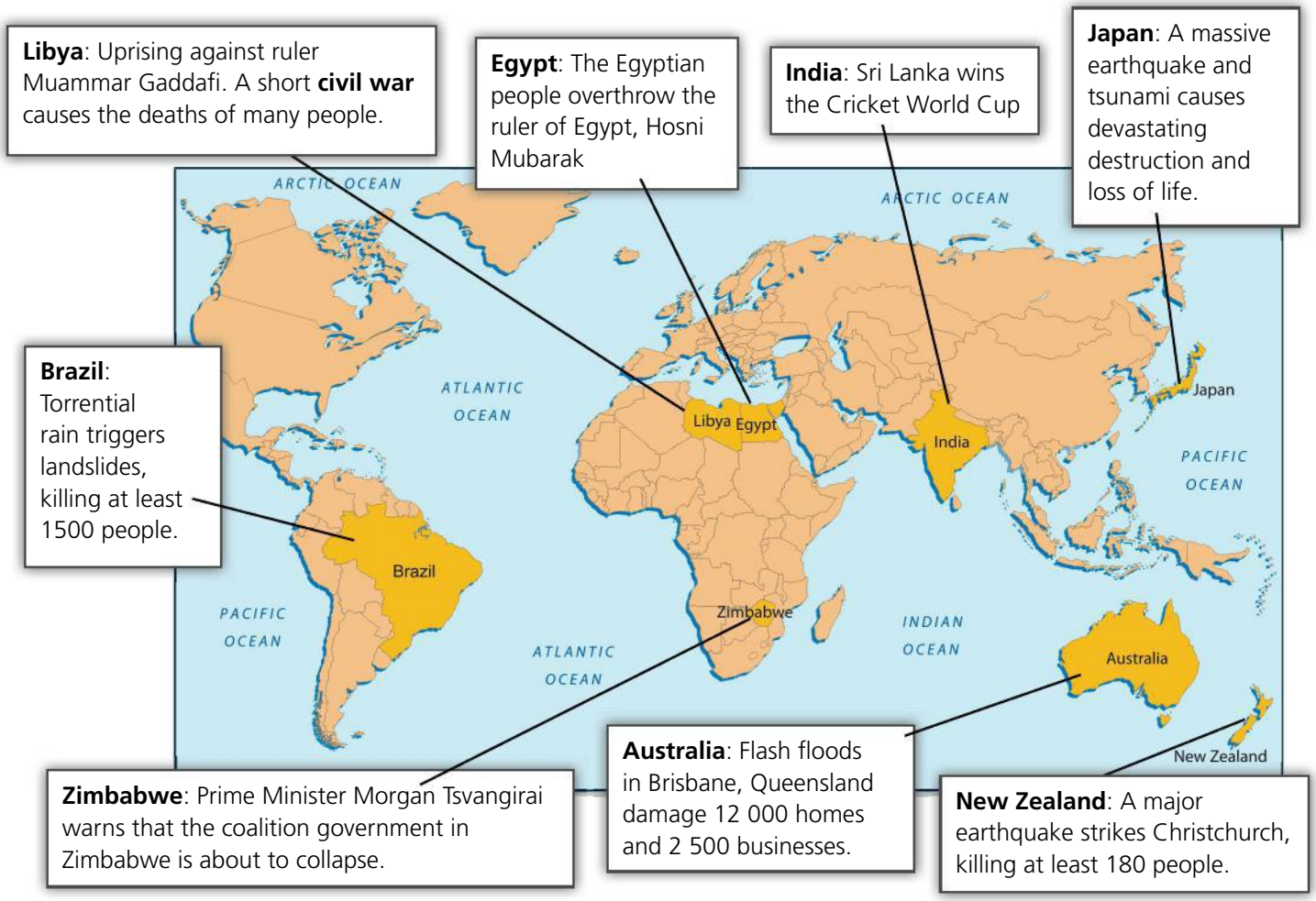


Figure 1.20 World map showing some events that took place in the first three months of 2011

key word

civil war a war between opposing groups of people in one country

Activity 13 Record your own world events

Do this activity as a class.

1. Each week in class, select and talk about any recent world events or topics of interest. Make a small card or label for each, like the ones shown on the map above, and stick the label onto a large world map in your classroom.
2. When you have completed question 3 in Activity 14 on page 19, write the grid references on a label and stick the label onto the relevant country on your map.

Latitude and longitude of places in the news

The map on page 18 shows labels and lines to places in which newsworthy events took place. In the same way that you used a grid reference to find places on a street map, you can use **latitude** and **longitude** to find places on a world map.

The lines on this globe are lines of latitude and longitude. The lines from the North Pole to the South Pole are lines of longitude. Lines of longitude meet each other at the poles. The other lines, which run horizontally around the globe (for example, the Equator), are lines of latitude. Lines of latitude do not meet each other – they stay the same distance apart all the way around the globe.

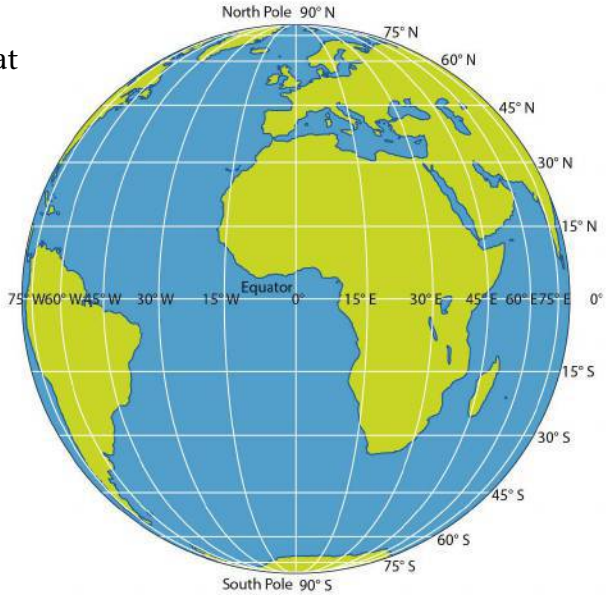


Figure 1.21 Lines of latitude and longitude on a globe

How to give a reference using latitude and longitude

Find Durban on the globe. Durban is very close to the 30° south line of latitude. When you give a reference for a place, you always start with the number of degrees north or south. For example, you can say that Durban is almost on the 30° south line of latitude and close to the 30° east line of longitude. So when you combine this information, you can say that the grid reference for Durban is close to 30° S, 30° E, but that is not quite accurate. Can you estimate a more accurate grid reference for Durban?

key words

latitude lines drawn on a map that show degrees north or south of the Equator

longitude lines drawn on a map that show degrees east or west of the Prime meridian, which is the zero degrees line

Activity 14 Use grid references

Use an atlas or the map that your teacher gives you.

1. Which South African cities are at or near these grid references?
   a) 33° S, 28° E b) 26° S, 28° E c) 34° S, 18° E
2. Work out approximate grid references for Bloemfontein and Polokwane.
3. Refer to the World map on page 18 and copy the table below. Use an atlas or the map from your teacher to fill in a grid reference closest to the centre of each country using lines of latitude and longitude that end in a zero (for example, Durban is close to 30° S, 30° E).

		Lines of latitude and longitude			Lines of latitude and longitude
1	Brazil		5	India	
2	Egypt		6	Australia	
3	Libya		7	New Zealand	
4	Japan		8	Zimbabwe	

Geofact

Lines of latitude never meet each other. Lines of longitude all meet at two places on Earth – at the North and South Poles.

Revision

Unit 1 Local maps and street maps

- Maps of local areas can be used to find homes, schools and other places of interest.
- A grid is made of squares on a map to make it easier to find places.
- An index at the back of a street map is a tool for finding the correct page quickly.

Unit 2 Sketch maps and explain routes

- Sketch maps provide an easy way to show people the route from one place to another.
- The four cardinal points are the main compass directions, north, south, east and west, and are usually shown on a map.
- we can use a map to explain a route verbally.

Formal Assessment Task: Project: Draw a sketch map of your local area

- Symbols, a key and a scale are used to give extra information on a map.
- Drawing a local sketch map includes making observations of land use and vegetation in the area.

Unit 3 Distance and scale

- Line scales and word scales are two different ways of showing the scale of a map.
- Different maps use different scales, for example small-scale maps and large-scale maps.
- Distances along a curvy line, for example a river, are called indirect distances.
- Distances along straight lines are called straight-line or direct distances.
- Estimated distances on a map must be confirmed by measurements.

Unit 4 Current events

- Events that happen in the world can be shown on a map.
- Latitude and longitude are ways of showing the location of places in the news and finding those places.

Term assessment

Getting started

1. Match the terms in Column A with the correct meaning in Column B. (8)

Column A	Column B
1. Grid reference	a) A rough calculation or a good guess of the amount or value of something
2. Grid line	b) An alphabetical list of words, objects or places with page numbers to help you find that item in a book
3. Index	c) Lines drawn on a map that show degrees north or south of the Equator
4. Estimate	d) A way of expressing a map scale using words
5. Latitude	e) Vertical and horizontal lines drawn on a map in a grid shape
6. Longitude	f) Using numbers and letters on the grid lines to refer to a specific place on a map
7. Word scale	g) A line that looks a bit like a ruler drawn on a map to show you how much smaller the map is than the real thing on the ground
8. Line scale	h) Lines drawn on a map that show degrees east or west of the prime meridian, which is the zero degrees line

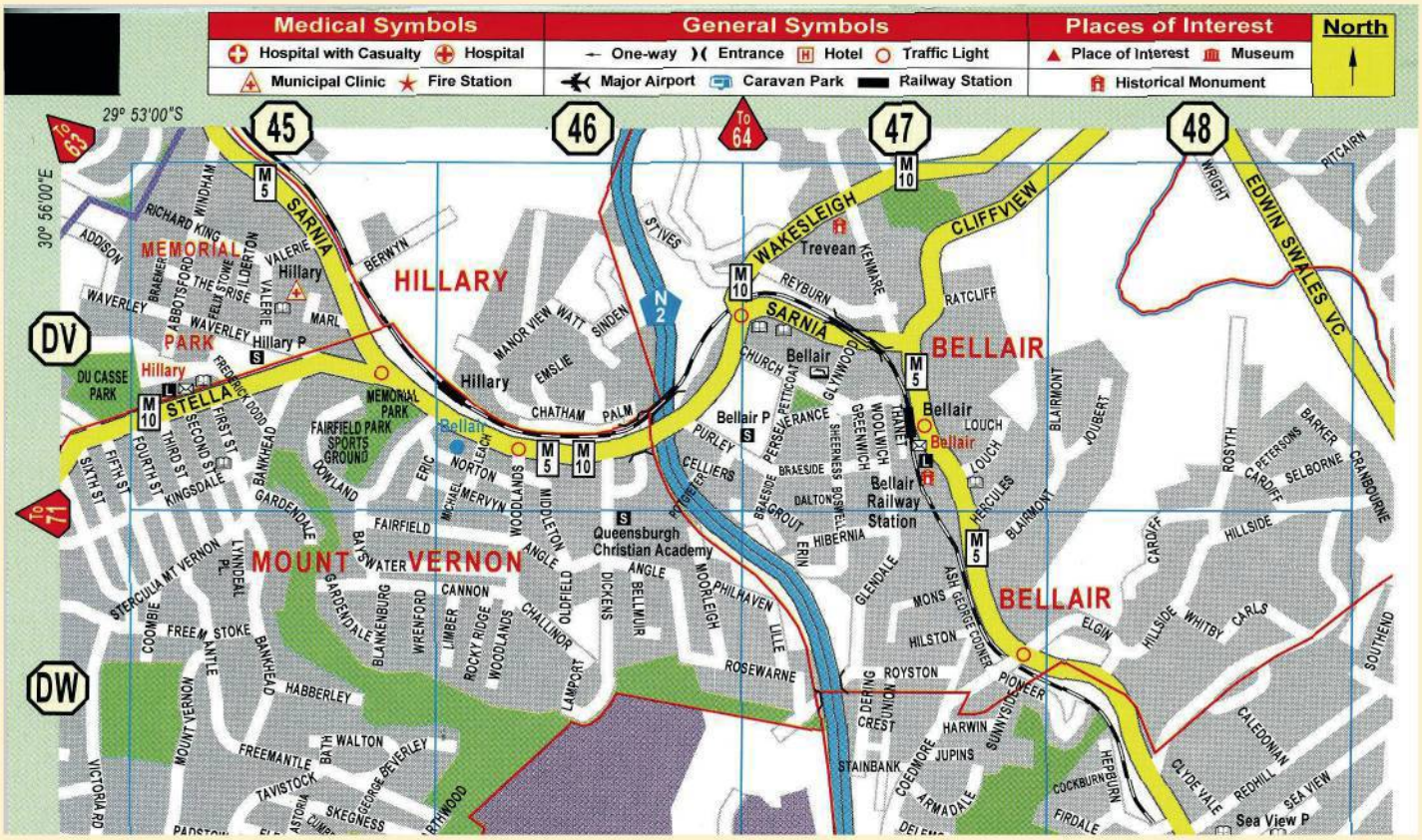
2. Answer True or False, or choose the correct word. (6)
   a) A grid reference is written with the number of degrees north or south before the degrees east or west. (True/False)
   b) An index in a street map book helps you to know in which direction to go. (True/False)
   c) If you point your right arm to where the sun rises and your left arm to where the sun sets, then you are facing (north/south).
   d) A scale on a map tells you how much (smaller/larger) things are shown on the map than they are on the ground.
   e) A curved distance can be measured using a piece of elastic. (True/False)
3. Two of the statements in question 2 above are false. Rewrite these false statements so that they are true. (4)

Check your understanding

4. Use your atlas for this question. Find a map of South Africa in your atlas. Use the line scale provided on the map to work out the distances between:
   a) Cape Town and Pretoria (2)
   b) Durban and Bloemfontein. (2)
5. Give the approximate grid references (using degrees) for:
   a) East London (2)
   b) Kimberley. (2)
6. Write down two major world events that happened in the last six to 12 months and the countries in which they happened. (4)

Challenge yourself

7. Use the section from a Durban street map below to answer the questions.



(Extract from the *Durban Street Guide*, 5th Edition, published by Map Studio)

a) The ratio scale for this map is 1:20 000. Draw a line scale at least 10 cm long showing this information. (4)

b) Find the intersection of Royston Road and Glendale Road in Grid Square DW 47. (2)

c) Find the Hillary Clinic in Grid Square DV 45. The symbol for a clinic is a red triangle with a cross inside it. (2)

d) Estimate the direct line distance between the two points you have just found in b) and c). (2)

e) Measure the distance that you estimated in d). How accurate were you? (4)

f) Find the two bridges that cross over or under the N2 national road and measure the indirect distance between them. (4)

8. If you changed the scale of a map from 1 cm representing 400 m, to 1 cm representing 800 m.

a) Would a person have to walk further/less/the same distance to go from one point to the other on the map? (1)

b) Give a reason for your answer. (1)

TOTAL [50]

Topic 2 Volcanoes, earthquakes and floods

Key concepts and content

- Look below the surface of Earth to explore the structure of our planet.
- Investigate why volcanoes erupt where they do.
- Understand why earthquakes occur and how they affect people.
- Find out what causes floods and what people can do when they occur.
- Develop an understanding of the natural forces at work on Earth.

key words

convection currents movement caused by heat inside Earth

molten thick, hot liquid rock

minerals natural substance found in rocks

Unit 1 Structure of the Earth

The core, mantle and crust

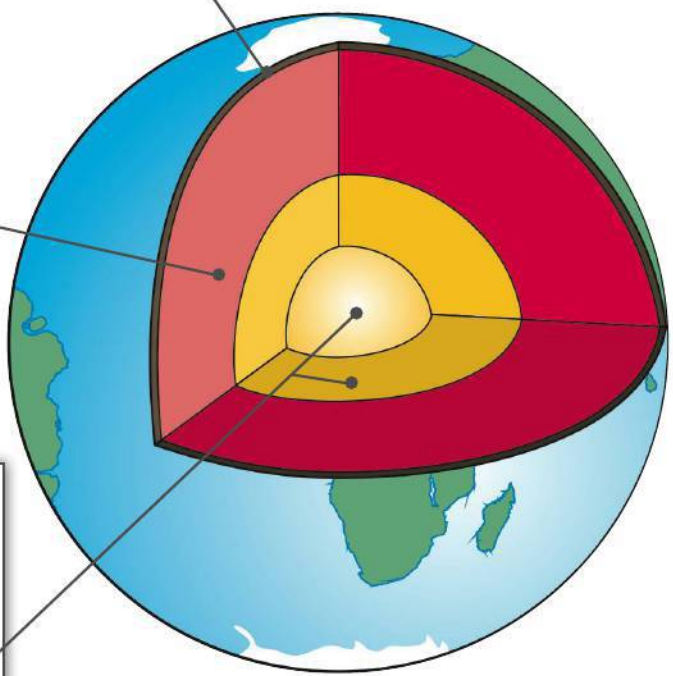
Imagine cutting planet Earth in half like an apple or orange. What would you see inside? Look at the drawing on this page to learn about the layers that make up the internal structure of Earth.

The crust:
- outer layer of the Earth (like the crust around a slice of bread)
- thinnest layer
- hard rock
- 6 to 60 km thick
- thinnest crust under deep oceans; thickest under high mountains
- temperatures approximately 1 200°C
- the Moho is the boundary between crust and mantle

Geofact

The centre of Earth is 6 371 km below the surface.

The mantle:
- 2 900 km thick
- layer between the crust and the core
- top layer of mantle made of hard rock
- remainder of mantle semi-molten rock
- temperatures of 5 000°C cause **convection currents** to move rock in mantle (see Unit 2, pages 26 and 27)



The core:
- central part of the Earth
- 3 400 km thick
- solid inner core (1 400 km)
- liquid (**molten**) outer core (2 000 km)
- probably made of the **minerals** iron and nickel
- very high pressure
- temperatures of 5 500°C

Figure 2.1 The internal structure of the Earth: The crust, mantle and core

Activity 1 Look into Earth's interior

1. Study the information on page 24 and complete the table below in your exercise book. Tick the correct option. The first question has been done for you.

	Crust	Mantle	Core
1. Earth's outer layer	✓		
2. Highest temperatures found here			
3. Thickest layer			
4. Thinnest layer			
5. Has an inner and outer section			
6. Convection currents cause rocks to move here			
7. Moho separates these two layers (two ticks)			
8. 2 900 km thick			

2. Answer the multiple-choice questions. Choose the correct option for each question. Write only the question number with the correct answer, for example: a) D.

a) Temperatures of approximately 1 200°C are found in the _____.
   A. crust C. outer core
   B. mantle D. inner core

b) The crust is thickest _____.
   A. under deep oceans C. under valleys
   B. under large deserts D. under high mountains

c) Mt Everest is the world's highest mountain (8 848 m, or 8.848 km). How much crust (km) lies under Mt Everest?
   A. 68.848 km C. 14.848 km
   B. 51.152 km D. 61.152 km

d) Rocks in the mantle can move because they are _____.
   A. solid C. semi-molten
   B. cool D. at temperatures less than 1 000°C

e) The inner core is solid because _____.
   A. it forms the surface of Earth
   B. very high pressure is found there
   C. it is 1 400 km thick
   D. molten rocks are found there

key words

geologist person who studies rocks and the movements and structure of the Earth

plates huge pieces of the Earth's crust, sometimes with a whole continent on the plate

plate tectonics the movement of large plates making up the Earth's surface

How the crust moves: Introduction to tectonic plates and plate movements

Geologists have studied the Earth and tell us that the Earth's surface is made up of giant slabs or pieces called **plates**. These plates can be thousands of kilometres wide with whole continents on them.

What are the Earth's 'plates'?

The map in Figure 2.2 shows the major plates that make up the Earth's surface.

What is the name of the plate on which South Africa lies?

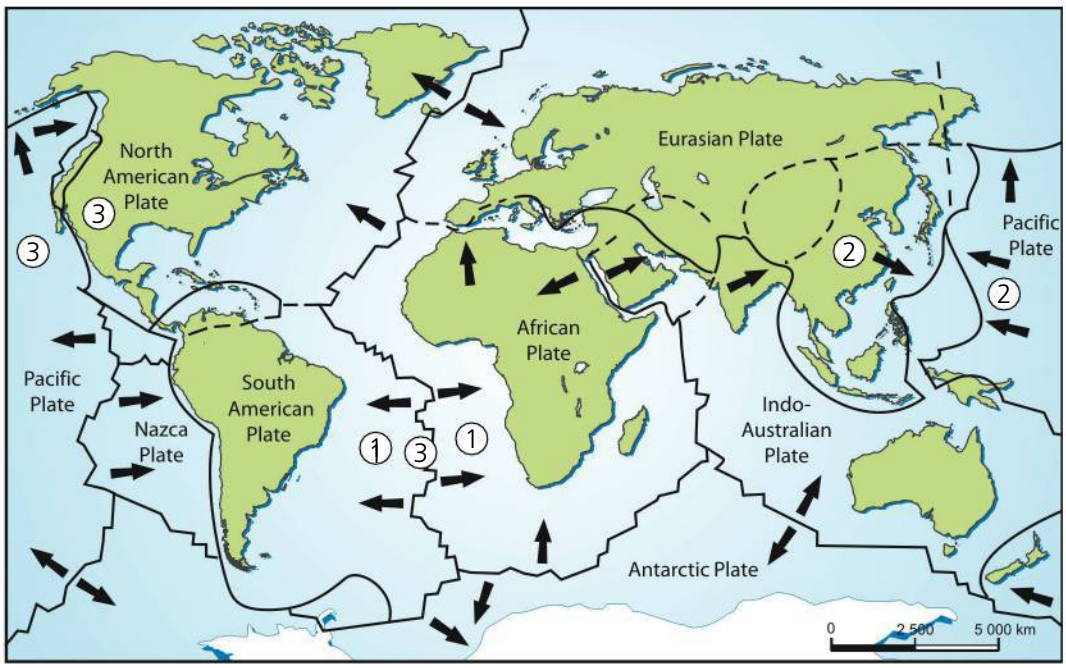


Figure 2.2 The Earth's surface is made up of many different plates moving in different directions. Look carefully at areas labeled 1, 2 and 3.

How do Earth's plates move?

Geologists have studied the places where plates meet and found out that these plates move.

What would cause massive, heavy slabs of Earth to move? The central core of Earth is very hot with rock temperatures over 5 000°C. This great heat causes convection currents in the rock, which move through Earth's mantle and provide the energy that causes plate movement in the crust. Scientists call this movement **plate tectonics**.

Types of plate movement

Plates move in different directions. Look at Figure 2.2 above to find the examples labelled 1, 2 and 3, and circled on the map.

Example 1
Some plates move away from one another in opposite directions, for example the South American plate and the African plate.

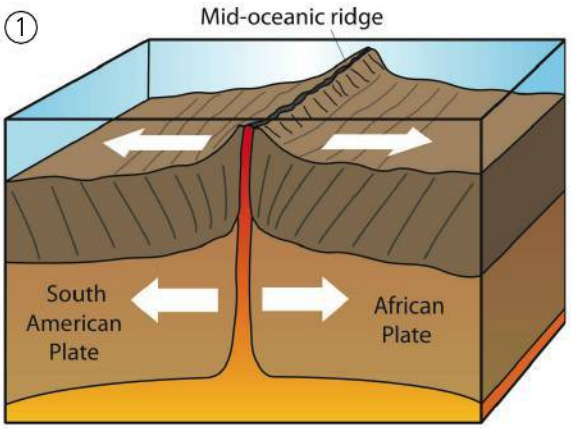


Figure 2.3 Where two plates move away from one another, 'new' land is constructed on the crust (① on Figure 2.2)

Example 2
Some plates move towards one another, for example the Eurasian plate and the Pacific plate.

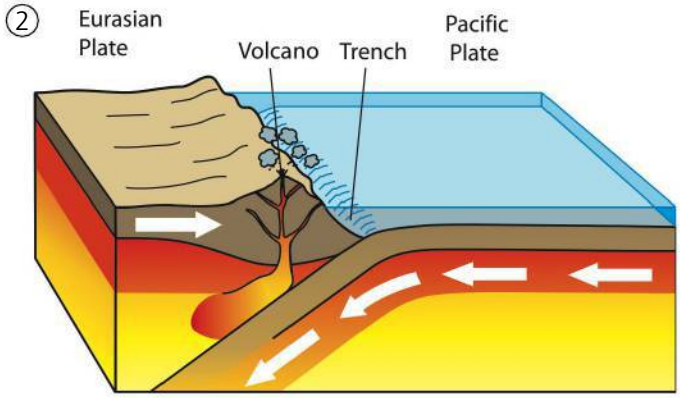


Figure 2.4 Where two plates move towards one another, land is 'lost' or destroyed as one plate goes under the other, back into the mantle (② on Figure 2.2)

Example 3
In certain places, plates slide past one another, for example the Pacific plate and the North American plate at the San Andreas **Fault**.

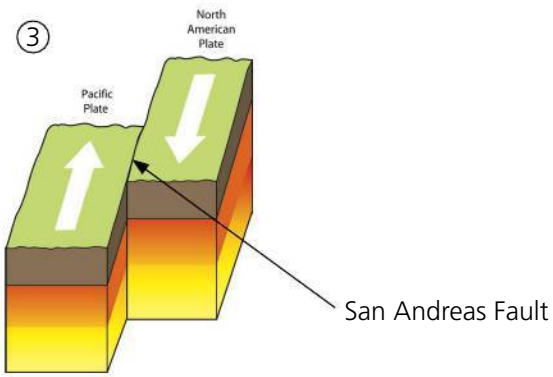


Figure 2.5 The San Andreas Fault, where two plates slide past one another (③ on Figure 2.2)

key word

fault a fracture (break) in rocks making up the Earth's crust

Activity 2 Find out about Earth's plates

Look at Figure 2.2 showing the plates that make up the Earth's surface.

1. Name the seven large plates (mostly named after continents and one after an ocean).
2. Why is 'new' land being 'constructed' between the plates mentioned in Example 1 above?
3. Why is land being 'lost' between the plates mentioned in Example 2 above?
4. Why is land not being constructed or lost between the plates mentioned in Example 3 above?

Unit 2 Volcanoes

key words

lava hot, molten ('melted') rock flowing out of a volcano

atmosphere layer of gases around the Earth

earthquake a violent shaking of the ground caused by sudden movements under the Earth's crust

magma molten rock deep inside the Earth's crust

The location of volcanoes around the world

Volcanoes have been on our planet for millions of years. A volcano is a type of mountain from which **lava**, gas and steam shoot out. Volcanoes have helped form the Earth, its oceans, rivers, lakes and **atmosphere**.

Look at the map of the world in Figure 2.6, which shows where most volcanoes and **earthquakes** occur. Earth's main plates are also included. Can you see a link between Earth's plates, volcanoes and earthquakes? Most volcanoes form where the plates meet. A fault occurs where the plates move away from or towards one another. **Magma** forces up onto the Earth's surface through these faults and erupts as a volcano.

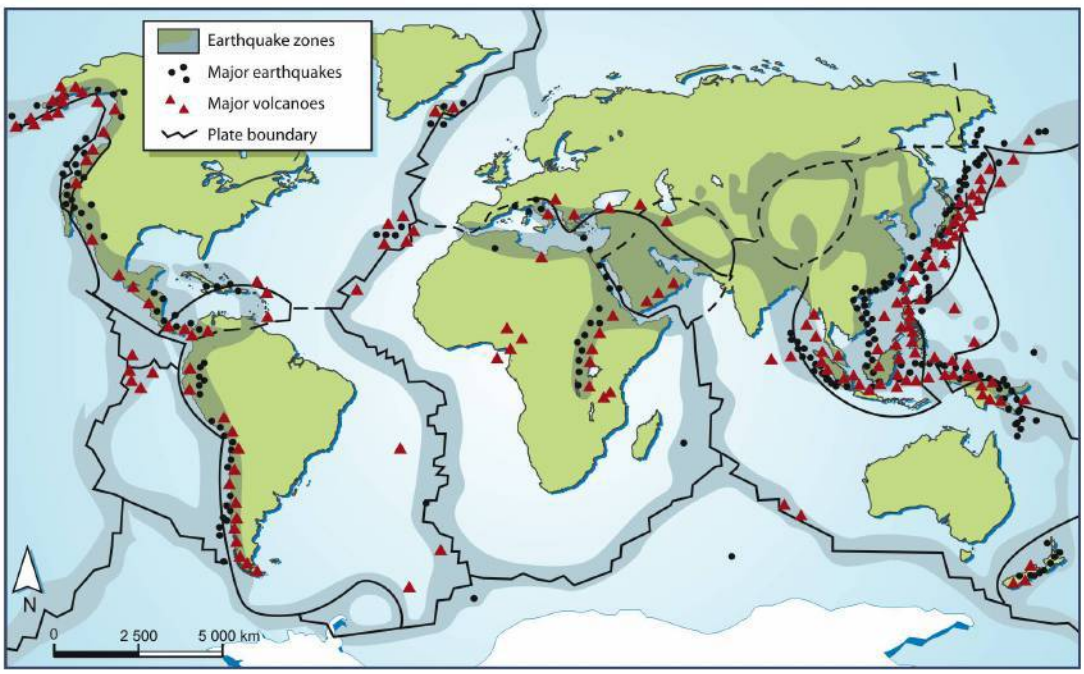


Figure 2.6 The location of volcanoes and earthquakes in the world – notice the plates as shown in Figure 2.2 on page 26.

Geofact

Molten rock is called magma when it is below the surface and lava when it is on the surface.

Types of volcanoes

There are different types of volcanoes. Some volcanoes erupt all the time while others remain inactive ('resting') for hundreds of years before erupting again.

- Active volcanoes erupt almost all the time.
- Dormant volcanoes are 'resting'. They have erupted in the past, but are currently still. They can be totally inactive or they can discharge small quantities of gas and lava.
- Extinct volcanoes have not erupted for many years. However, a volcano that has been 'sleeping' for hundreds of years may suddenly erupt violently.

Why volcanoes occur

Volcanoes occur when magma forces its way through faults and joints in rock and erupts as lava on the Earth's surface. The eruption forms a mountain made up of lava, **ash** and **cinders**. A volcano usually has a **crater** at the top. Figure 2.7 explains how volcanoes occur.

1. Magma chamber:
   - Huge underground pool of magma (molten rock) in Earth's mantle about 70 km beneath surface
   - Under great pressure due to high temperatures of 1 500°C
   - Supplies the volcano with magma and lava.
2. Magma:
   - Under this pressure, magma rises up vertical volcanic pipes at temperatures between 1 000°C and 1 200°C.
   - Magma also moves horizontally and at an angle along cracks in crust.
3. **Igneous rocks**:
   - Magma can cool underground and become solid, forming igneous rocks like granite.
   - Igneous rocks are made up of crystals and are very hard.
4. Batholiths:
   - Batholiths are huge pools of magma that cool and solidify underground.
   - Millions of years later, these batholiths can be exposed on the Earth's surface as granite domes, for example Paarl Rock in Western Cape.
5. Eruptions:
   - The volcano erupts on the surface through vents, shooting out lava, ash, gas and giant dust clouds to form a volcanic cone.
   - Eruptions can be violent, explosive and quick, or they can be gentler and happen over a period of many months.
   - Volcanic 'bombs' are lumps of rock shot into the sky.
   - Lava quickly solidifies to become rock (for example, basalt).
6. Lava:
   - Lava flows run from the volcano over land like hot rivers.
   - Lava can cover land, farms, roads and settlements for hundreds of kilometres.
   - Lava can cool and solidify in 5 to 10 minutes. If lava flows into the sea, it cools quickly to form new 'land'.

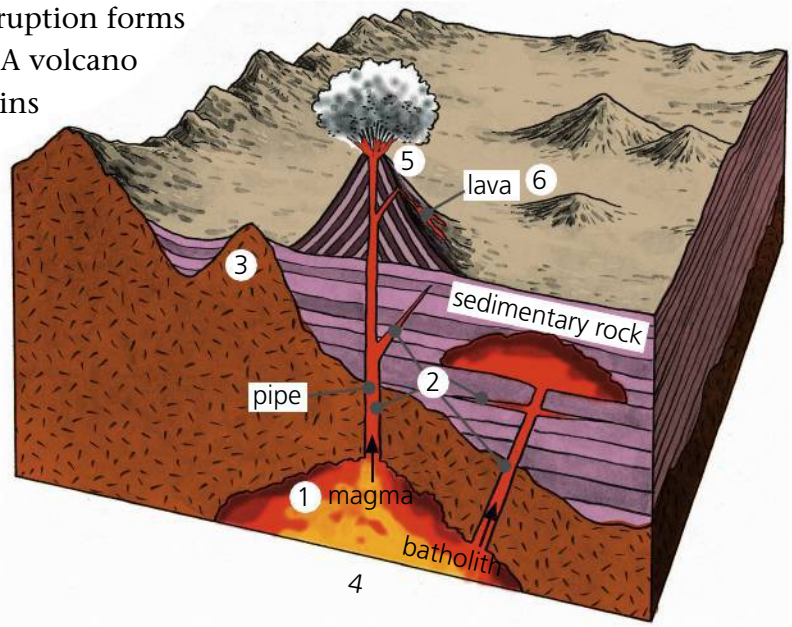


Figure 2.7 How volcanoes occur – read the text alongside.

Geofact

In 2010, a volcano in Iceland (Eyjafjallajökull) erupted sending a giant ash cloud into the sky. Strong winds pushed the ash cloud over Europe. This forced many airports to close and thousands of travellers were stranded. It is dangerous to fly passenger jets when there is volcanic ash in the sky as this could cause the jets' engines to stop working.

Figure 2.8 Ash cloud from the Iceland volcano in 2010 affected air traffic over Europe

key words

ash fine-grained material erupted by a volcano

cinders lightweight rocks full of gas bubbles that erupt out of a volcano

crater a funnel-shaped basin at the opening of a volcano

igneous rocks rocks formed from magma and lava that become hard

Mt St Helens
Washington, USA

1980: Massive eruption that blew the top off the volcano. Energy released equivalent to 500 atomic bombs! Lava flows, earthquakes and **landslides** killed 62 people. The mountain changed shape after the eruption.

Vesuvius and Etna
Vesusius: Naples, Italy

79 AD: Vesuvius erupted, burying the cities of Pompeii and Herculaneum. Tons of volcanic ash and mud buried people and houses, and 4 000 people were killed. Vesuvius has erupted many times since then.

Etna: Sicily, Italy

Many eruptions since 525 BC. The city of Catania was destroyed more than once. One **tsunami** set off drowned thousands. The worst eruption was in 1669, where maybe 100 000 died.

Paricutin
Mexico

1944: 'The volcano born in a cornfield while the owner watched.' The death toll was about 3 500 (not official). The lava flow buried the towns of Paricutin and San Juan de Parangaricutiro. The eruption lasted for nine years and built a peak 500 m high.

Geofact

Every continent on Earth except Australia has some form of volcanic activity.

key words

landslide movement of soil and rock down a hill slope

tsunami giant sea wave caused by an earthquake under the sea, or by a volcanic eruption close to the coast

refugee person who has to leave where they normally live because it is unsafe to stay there

typhoon tropical storm (strong winds with heavy rain) in the Pacific Ocean

pumice light sponge-like rock formed by erupting volcano

Figure 2.9 Famous volcanoes around the world

Case study: Famous volcanoes around the world

'None of us will ever be able to describe the noise, especially one great bang about noon, which is supposed to have been the loudest sound ever heard on Earth.... It was the very top of Krakatau going up into the skies ... the whole heavens seemed a blaze of fire and the clouds formed such fantastic shapes as to look startlingly unnatural; at times they hung down like ringlets of hair, some jet black, others dirty white ...'

Seaman RJ Dalby, on board a Liverpool clipper, 1883, Krakatau, Java (Indonesia)

Mt Pinatubo

Phillippines

1991: Close to Manila, the volcano erupted in 1380 and then again in 1991. A total of 200 people were killed, 100 000 were left homeless and 150 000 were **refugees**. Ash, lava and gas covered the airbase and settlements. The hazards were made worse by the arrival of a **typhoon** – ash and rain caused mud flows and floods.

Krakatau

Indonesia

1883: Famous eruption on Indonesian island. Volcanic ash and **pumice** shot 80 km into the sky. The blast was heard 5 000 km away (loudest sound known to people). About 200 000 people died. The volcano generated tsunami waves (35 m high) – 36 000 people drowned. The volcano has erupted since then.

Activity 3 Investigating volcanoes

1. Read the information on volcanoes (pages 28 to 31) and match the terms in Column A with their correct definitions in Column B. Write down the number with matching letter, for example 1–E.

Column A	Column B
1. lava	A. granite
2. magma	B. a volcano that has not erupted for a very long time
3. igneous rock (example)	C. molten material that erupts from a volcano onto the Earth's surface
4. batholith	D. volcano that has not erupted recently
5. extinct volcano	E. lightweight volcanic rocks full of gas bubbles
6. dormant volcano	F. huge underground pool of solidified magma
7. crater	G. volcanic cone formed from repeated lava flows
8. cinder	H. funnel-shaped basin at opening of a volcano
	I. molten material deep inside the Earth

2. Here is a list of places in the world where volcanoes frequently occur: Hawaii, Iceland, Japan, Indonesia, New Zealand, Chile, Italy, Philippines, West Indies and Mexico. Using an atlas, locate each place on the world map in Figure 2.6 on page 28 showing volcanoes. Explain why these places experience volcanic eruptions.
3. Read through the case studies on pages 30 and 31 about some famous volcanic eruptions. State if these statements are True or False and give a reason for your answer.
   a) Mt St Helens (USA) was a slow, gradual volcanic eruption over a long period of time.
   b) Paricutin (Mexico) was a sudden volcanic eruption that lasted only a few days.
   c) Vesuvius (Italy) has been an active volcano for many years.
   d) The eruption of Mt Etna (Italy) has never caused a tsunami.
   e) The eruption of Mt Pinatubo (Philippines) was made worse by a tropical storm.
   f) The eruption of Krakatau (Indonesia) was made worse by other natural hazards.
4. Look at Figure 2.10, and match the numbers with the correct labels listed above it.

Labels
Vent
Volcanic pipe
Lava flow
Volcanic cone
Magma
Volcanic bomb
Ash cloud

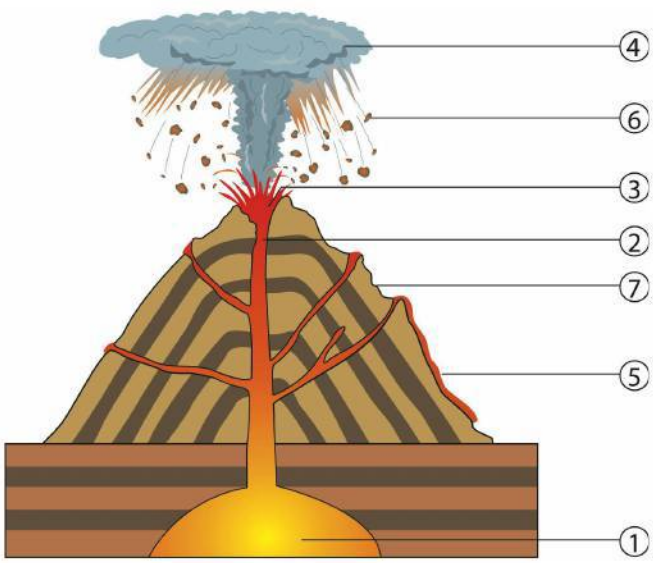


Figure 2.10 The parts of an erupting volcano

Unit 3 Earthquakes

Location of earthquakes around the world

Turn back to page 28 and look at Figure 2.6 to see where most earthquakes occur in the world. You will notice that there is a connection between earthquake locations and the plates that make up the Earth's surface. Explain to your partner in class why you think there is a connection between plate tectonics and earthquakes.

Causes of earthquakes

When two plates move towards or away from one another, friction and the release of pressure can cause earthquakes. Two plates sliding past each other can also cause earthquakes (for example along the San Andreas Fault in California, USA). The point under the ground where the earthquake originates is called the focus. The epicentre of the quake is the point where the shock waves reach the surface. Most earthquakes happen along faults that are cracks in Earth's surface. After the main quake, there are usually several **aftershocks** or smaller earthquakes. A tremor is a slight or mild earthquake that usually causes little or no damage. Earthquakes cause damage to buildings, roads and bridges, and falling buildings, **sinkholes** and **rockfalls** often kill thousands of people.

key words

aftershock a smaller earthquake after the main earthquake caused by Earth's interior rock settling after the main shockwaves

sinkhole hole in the ground caused when the surface collapses

rockfall rocks falling off a mountainside

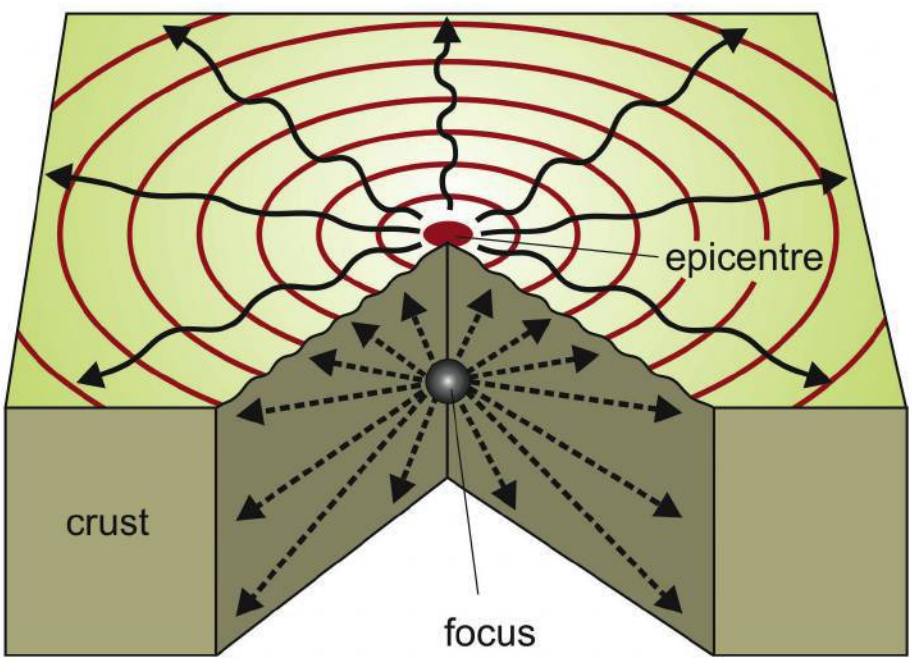


Figure 2.11 How earthquakes occur in the Earth's crust

key word

Richter Scale a scale of numbers (index) that indicates how strong an earthquake is

The Richter Scale

Geologists use the **Richter Scale** to measure how strong an earthquake is. The higher the number on the scale, the stronger the earthquake. Each level is 10 times higher than the previous one.

Geofact

South Africa is generally 'earthquake safe' as it is in the middle of the African plate. However, earthquakes do occur along fault lines. In 1969, a strong tremor in Tulbagh (Western Cape) killed 10 people and damaged historic houses.

Richter Scale number	Effects of an earthquake
0–2	Not felt
2	Normally detected only by instruments; not felt by people
4	Faint tremor causing little damage; windows rattle; felt by most people
5	Buildings damaged; windows break; people scared
6	Ground shakes; buildings collapse
7	Major damage; steel bends
8	Large buildings collapse; damage nearly total
9	Total destruction
9,5	Strongest quake measured

A seismograph is a scientific instrument, which measures movement of Earth's surface. The Chinese invented the first seismograph in 132AD. Seismographs tell us the strength of a quake on the Richter Scale. Today these instruments are computerised, automatic and electronic.

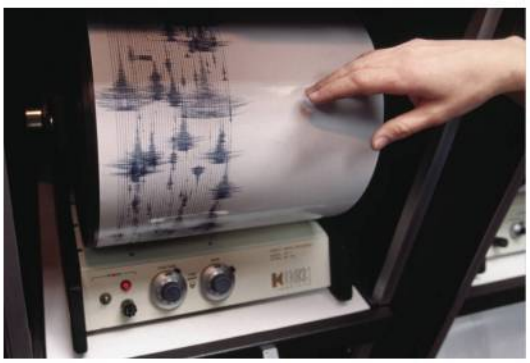


Figure 2.12 A seismograph records the strength of an earthquake

The world's most powerful earthquakes are listed below in Table 2.1.

Year	Country	Richter Scale	Consequences
1960	Chile	9.5	20 000 dead The most powerful quake ever recorded
1964	Alaska	9.2	130 dead 500 million (about R4,2 billion) damage
2004	Sumatra, Indonesia	9.3	More than 230 000 killed (largely due to tsunamis)

Table 2.1 The world's most powerful earthquakes

The Pacific Ring of Fire

The edges of the Pacific Ocean coincide with the edges of plates. The Earth's surface moves and is unstable along these plate boundaries. Earthquakes and volcanic eruptions occur along this boundary. This zone, shown in Figure 2.13, is known as the 'Pacific Ring of Fire'.

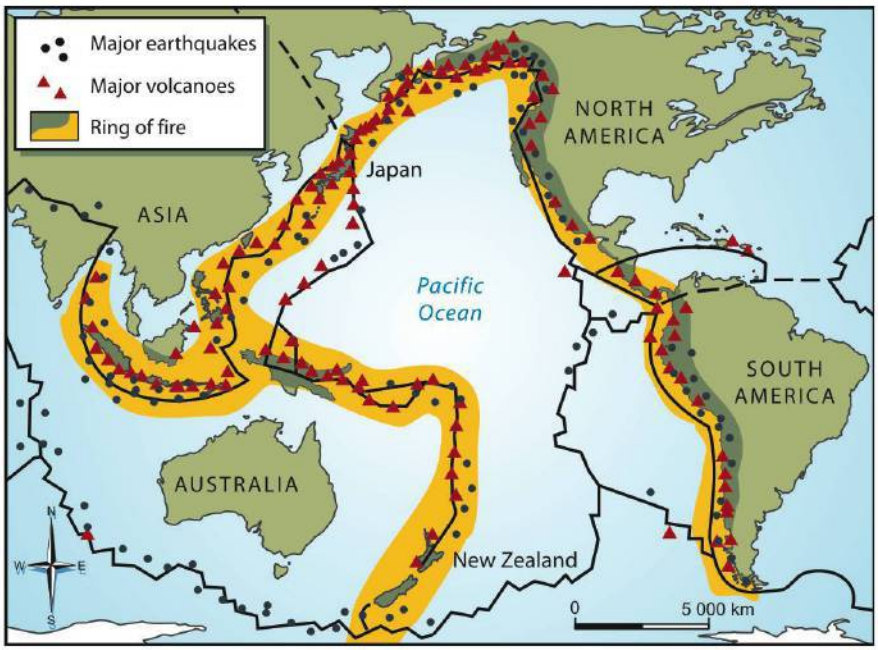


Figure 2.13 Pacific Ring of Fire – a zone in which 75% of all volcanoes and earthquakes occur around the Pacific Ocean

Activity 4 How earthquakes affect people

1. Look at Figure 2.14, which shows the damage caused by an earthquake. For each number on the diagram, list the ways in which an earthquake has affected this coastal city and its people. The information on page 36 will help you.

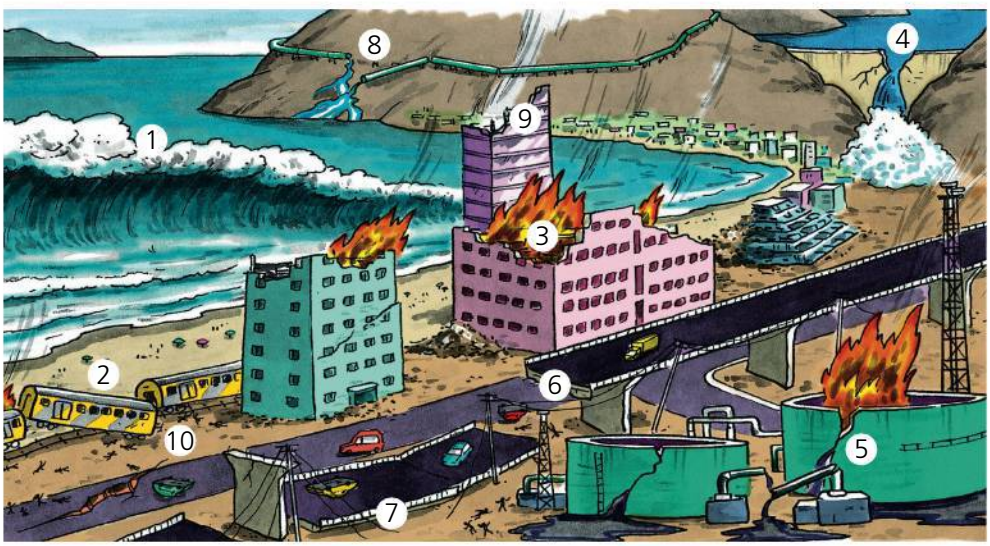


Figure 2.14 Devastation caused by an earthquake

Geofact

These cities face earthquake risks as they are built where plates meet: Los Angeles, San Francisco, Istanbul, Islamabad, Tokyo, Lima and Christchurch.

key words

sewage waste matter carried away in **sewers** and drains
sewer (see above) an underground drain to carry off waste water and excrement
cholera disease caused by infected water and food that affects peoples' digestive system
displaced forced away from where you live
infrastructure facilities and services like transport, communications and power supplies
sewerage a system of sewers
economic to do with the economy
economy to do with a country's money, how it is earned and how it is spent

Effects of earthquakes

Figure 2.14 on page 35 shows ways in which an earthquake can affect people. The effects of an earthquake include the following:

- Injury and loss of life: earthquakes cause injury and kill thousands of people. An earthquake in China in 1556 killed an estimated 830 000 people.
- Disease: after an earthquake, clean water supplies can be destroyed and dirt and **sewage** can lie around. These problems allow diseases like **cholera** to spread, which make people ill and can lead to more deaths.
- Displacement of people: people have nowhere to live as their homes are destroyed. These **displaced** people look for shelter in tent camps and sometimes have nowhere to sleep.
- Damage to **infrastructure**: roads, railway lines, pipelines and other services are damaged and destroyed. This damage affects the people living in a city after the earthquake. Services like water, electricity, gas, **sewerage** and telephone landlines are affected. Flooding is caused by broken dams and burst water pipes. The damage caused costs lots of money to fix. The Kobe earthquake in Japan (1995) cost the country about R500 billion.
- Fires: broken electrical wires and gas and fuel tank leaks can cause fires.
- Tsunamis: tsunamis can kill many people and can cause major damage to settlements and the environment.
- **Economic**: earthquakes damage a country's **economy**. After an earthquake, factories, shops, farms, harbours, mines and other businesses cannot function. A country's trade with other countries can be affected too.
- Medical: earthquakes put pressure on hospitals and medical and rescue services. Usually other countries and organisations like the Red Cross and United Nations help with medical services, food, shelter and rescue workers.

Tidal waves or tsunamis?

Geofact

Tsunamis have nothing to do with tides, so the term 'tidal wave' is actually wrong.

If an earthquake occurs under the sea or close to the coast, the shaking of the ocean bed can produce huge waves on the sea surface. As the waves approach land, they grow higher (up to 15 m) and can cause an enormous amount of damage, flooding and death. The correct word for these giant waves is a Japanese word, 'tsunami'. Tsunamis can travel across entire oceans and volcanic eruptions in coastal areas can also cause tsunamis.

Tsunamis in Indonesia (2004) and Japan (2011)

In 2004, an earthquake (9,3 on the Richter Scale) off the coast of Sumatra (Indonesia) triggered a giant tsunami that killed more than 300 000 people. The wave was 15 m high and moved at 800 km per hour. In 2011, an earthquake (8,9 on the Richter Scale) off the coast of Japan caused a tsunami 10 m high, which swept whole towns away and washed huge ships far inland. Thousands were killed and left homeless.

Why some communities are at higher risk than others

Earthquakes can affect certain groups of people more than others. In rich, developed countries, most buildings have been built to withstand an earthquake. Also, rescue and medical care is usually better in these countries. Buildings in poor communities may be badly built and collapse easily. Poorer countries cannot afford expensive 'earthquake proof' buildings and structures. Often, poorer people live in very crowded places. Sometimes communities wait for days after a devastating earthquake for help to arrive. Fire-fighters and ambulances are not available or are unable to get to these people. This results in more people dying. Earthquakes tend to cause more damage in urban areas like large cities and towns where there are more buildings and people than in rural areas. The time of day that an earthquake strikes can also affect the death toll. For example, the death toll will be higher early in the morning when everyone is rushing to work.

Geofact

In April, 2012, a year after the devastating 2011 tsunami in Japan, an unmanned Japanese fishing trawler was found drifting 8 000 km away off the west coast of Canada. It had been washed out of harbour by the tsunami and drifted across the Pacific Ocean.

Figure 2.15 Damage from the tsunami in Japan, 2011, caused by an earthquake measuring 8.9 on the Richter Scale.

Reducing the impact: Preparing for and responding to earthquakes

key word

hazard specialist person who studies the effects of hazards (for example earthquakes, volcanoes)

It is impossible to prevent or reduce earthquakes. However, it is possible to manage the effects of earthquakes. Engineers, architects and **hazard specialists** have studied these effects and come up with ideas to reduce the impact of earthquakes. These ideas include:

- buildings or bridges that 'sway' (move) along with ground movement
- buildings built on shock-absorbing rubber blocks
- buildings with fewer floors (less tall)
- buildings that are supported by a flexible frame (brace)
- overhead freeways and railway lines designed to withstand movement
- gas, water and electricity links that are 'earthquake' proof
- underground train and road tunnels with flexible joints
- early warning systems that use scientific instruments to predict earthquakes and tsunamis
- evacuation procedures to get people away from dangerous areas.

Figure 2.16 The San Andreas Fault, USA, where the Pacific Plate and the North American Plate slide past one another

Case study: Haiti earthquake tragedy

Port-au-Prince, Haiti:
12 January, 2010: Time: 16:53

At 16:53, the poorest nation in the western hemisphere was shaken by a massive earthquake measuring 7,0 on the Richter Scale. It was the worst quake to hit Haiti in over 200 years. The epicentre of the quake was 25 km southwest of the capital, Port-au-Prince (population: 2 million). Apart from the strength of the quake, it was also very close to the surface, making its effects worse.

Figure 2.17 Damage caused by the Haiti earthquake in 2010

The quake struck as many workers and students were leaving the crowded capital city at the end of the day. More than 250 000 houses and 300 000 offices and shops collapsed, crushing people inside and on the streets. Well-built buildings as well as poorly made homes collapsed. The National Palace, cathedral, government offices, hotels, hospitals, schools and the prison were all destroyed.

It is difficult to know the exact death toll, but it is officially over 230 000. Thousands of people have been buried in mass graves. One resident cried: '… buildings were falling down … thousands of people were in the streets, crying, carrying bloodied bodies, looking for someone to help them…' Haiti's First Lady, Elisabeth Préval said, 'I'm stepping over dead bodies … the general hospital has collapsed. We need support. We need help.' Hours after the quake and several aftershocks, people could hear buildings still crumbling down.

What caused this devastating quake? Close to Port-au-Prince, under Earth's surface, the Caribbean plate pushed against the neighbouring North American plate along a fault line. This triggered off a massive earthquake. Geologists estimate that there have been about 12 massive quakes in the Caribbean region in the last 500 years due to plate movement.

The days after the quake were made worse as Haiti does not have a public sewage system and many children are not **vaccinated** against diseases. The drinking water system was also destroyed. Survivors were crammed into refugee camps without **sanitation**. Cholera affected many survivors, sadly killing many. The International community, including the Red Cross, came to Haiti's aid offering medical teams and supplies, food, water, rescue experts and earth-moving machinery. The residents of Port-au-Prince, along with the world's help, need to start rebuilding.

key words

vaccinate to inject a vaccine as a protection against a disease

sanitation a system for draining away, treating and disposing of sewage

What caused the Haiti earthquake?

At Haiti, two plates, the Caribbean Plate and the North American Plate, slide past one another, as shown in Figure 2.18 alongside. These two plates move at a rate of about 10 cm per year. This movement is slowed down by friction, which causes powerful forces to build up in the rock plates. These forces are released suddenly in the form of the shock waves of an earthquake.

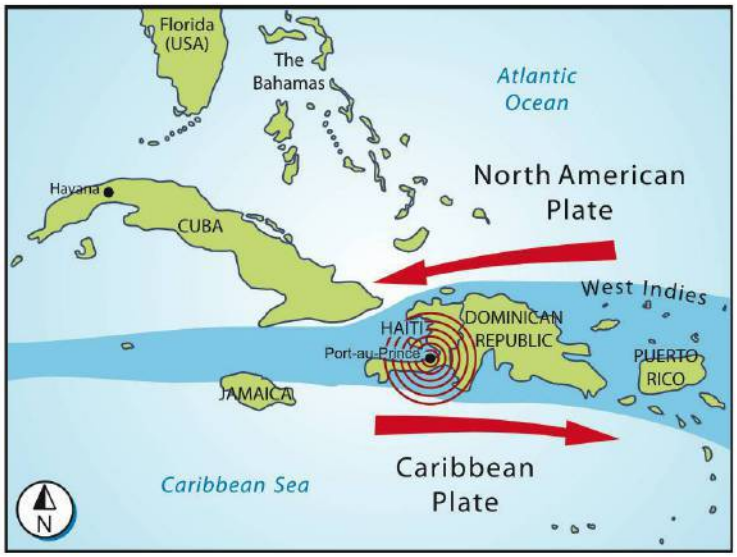


Figure 2.18 Plate movement caused the Haiti earthquake, which measured 7.0 on the Richter Scale.

Activity 5 Roleplay a Haiti quake reporter

Read the news article on page 38 about the Haiti earthquake on 12 January 2010 at 16:53 and answer these questions. Use an atlas and a dictionary if required.

1. Where is Haiti?
2. What happened in Haiti on 12 January 2010?
3. Explain what caused the earthquake.
4. Explain the meaning of the following words underlined in the news article on page 38:
   a) earthquake
   b) Richter Scale
   c) epicentre
   d) death toll
   e) aftershock
   f) plate
   g) geologist
   h) refugee camp
5. List five ways in which the earthquake affected the people of Haiti.
6. Suggest three reasons why the Haiti quake was so destructive.
7. There is an old saying: 'Earthquakes don't kill people, buildings do'. Write a paragraph to explain the meaning of this saying.
8. Identify five things the people of Haiti needed in the days after the earthquake.

Figure 2.19 Rescuers worked around the clock to save people trapped in the quake rubble.

Geofact

Darlene Etienne, a 16-year-old girl, was buried under broken buildings in the Haiti quake. Rescuers found her alive 15 days later! She was conscious and awake all the time.

key words

flood excess water covering land that is normally dry

flash flood sudden flood caused by heavy rain

tropical storm storm with heavy rain and strong winds, for example a hurricane

urban built-up area like a city or town

meteorologist scientist studying the weather and making weather forecasts

climate change the idea that the 'normal' climate (weather patterns) of Earth is changing

Unit 4 Floods

Floods are the world's worst natural hazards in terms of loss of life. The Huang He (Yellow) River in China is known as the 'River of Sorrow' as it has killed more people than any other natural feature on Earth. When the river flooded in 1931, over three million people were killed! A flood is a situation in which land that is usually dry becomes covered by lots of water. A **flash flood** is a sudden and quick rise in water level after a heavy rain storm.

Causes of floods

The following factors can cause floods:

- Unusually heavy rain: most floods are caused by rivers that burst their banks because of too much water. The extra water comes from heavy rainfall over a period of time or during storms. **Tropical storms**, (for example cyclones, hurricanes or typhoons), bring lots of rain, which causes flooding. Heavy rain can also cause lakes and dams to overflow, thereby flooding the surrounding land.
- Environmental factors caused by human activities, for example farming: if farmers (or their cattle) remove all the vegetation in an area and there is lots of rain, the ground will flood and the soil will wash away, as the plants are no longer there to protect it. Lots of rainwater can drain off roads and buildings in **urban** settlements like cities, flooding these areas. Fires can also lead to flooding by burning away protective plants and trees, leaving the ground bare. This lack of vegetation causes flooding because the rainwater washes away instead of soaking into the ground.
- Earthquakes can cause dams and water pipes to break, thereby causing floods. A tsunami (see page 36) also floods land along coastlines, and sometimes inland.
- Flooding along the coast is caused by storms with strong winds and heavy rainfall, as well as by tsunamis.
- Melting snow and ice can cause floods due to the extra water that runs off.

Meteorologists say that the Earth's climate is changing. It is thought that **climate change** is causing floods in places that are usually dry

Figure 2.20 Floods in Pakistan cause enormous damage, often killing many people.

Effects of floods

Floods cause many problems. Look at the mind map below. A mind map is a useful way of showing lots of information in a clear way, as well as a way to show how things happen.

key words

soil erosion top layer of soil being washed away

flood orphan child who has lost parent(s) in a flood

evacuation to be taken away from a dangerous area

refugee camp camp set up for people made homeless by flooding

famine shortage or lack of food

looting theft of goods from shops and from other people

Effects of floods

Environmental

- **soil erosion**
- rivers burst their banks
- land flooded
- trees, plants and animals die
- dams overflow, washing away land

Human

- injury and loss of life
- diseases, for example cholera and dysentery
- displacement of people, homes washed away, homelessness
- **flood orphans**
- **evacuation**
- **refugee camps**
- no safe drinking water
- **famine**

Economic

- damage to fields
- damage to buildings
- damage to infrastructure (for example roads, bridges, power lines and railway lines washed away)
- loss of property
- loss of crops and farm animals
- **looting** and theft
- high cost of rebuilding and repairing
- forced closure of farms, mines and factories

Activity 6 Follow up on flooding

Read the information about floods on pages 40 and 41.

1. Draw a table similar to the one below in your exercise book and list the points that follow under the correct heading. An example has been provided as a guideline.

Causes of floods	
Natural/environmental	**Human**
heavy rain	clearing forest to plant crops

Causes of floods:

- tropical storm, for example cyclone
- new housing estate and office development
- tsunami
- farmers keep too many sheep, which overgraze fields

2. Draw a table similar to the one below in your exercise book and list the points that follow under the correct heading. An example has been provided as a guideline.

Effects of floods		
Human	**Environmental**	**Economic**
drowning	soil erosion	goods in shops destroyed

- shops and banks close for business
- starvation
- government has to spend millions on rebuilding infrastructure
- river bursts its banks
- people die from cholera
- natural lake bursts its banks

Long-term effects of floods

The effects of a flood can be felt long after the flood has occurred.

- Environmental: the loss of fertile soil, as well as the death of livestock, can result in famine and starvation, especially in developing countries.
- Human: large-scale flooding can result in enormous costs if the government has to evacuate many thousands of people. The loss of their homes and jobs means that these people become dependent on the government for food and money.
- Economic: floods can result in financial losses, unemployment, famine and starvation. The cost of rebuilding damaged infrastructure, as well as importing food, can affect economic growth and increase living costs. Many people move to the cities to look for work, creating a growth in informal settlements.

Flooding risk: Why some communities are more at risk than others

Some communities are more vulnerable to floods than others, for the following reasons:

- Poor people may live in houses that are poorly built. Floods damage these houses more easily. People living in **informal settlements** are affected the worst.
- Poor people may not be able to choose where they live. They may build their houses close to river banks and in **low-lying areas**. When it floods, these places are at greater risk.
- **Subsistence farmers** are badly affected by floods. They usually cannot afford to build proper farm buildings to store their crops or house their farm animals. These farmers also cannot afford **insurance** against flood damage.
- People without access to TV, radio or the Internet do not hear or read about flood warnings. This lack of information gives them less time to prepare or evacuate.

Figure 2.21 Floods cause enormous damage in informal settlements, where houses are built close to rivers and in low-lying areas.

Reducing the impact: Preparing for and responding to floods

People can prepare for and limit the damage caused by floods by following these guidelines:

- **Channel** rivers in urban areas to direct floodwaters and make river courses deeper, wider and straighter to allow them to carry more water.
- Construct **levees** and flood-walls along river banks to keep water in the river.
- Use dams and reservoirs to control river flow and help prevent flooding.
- Use good farming methods to help prevent flooding. For example, control soil erosion, use contour ploughing, avoid overstocking the land with too many animals and avoid cutting down all the natural vegetation.
- Avoid living and carrying out farming activities along **flood plains**, river banks or marsh areas (not always possible), as they are dangerous places. However, this land is often the only land available to poor people.

key words

informal settlement houses built of wood, plastic and iron, often with no services like water, electricity or sewerage

low-lying areas land that is lower than surrounding land, and often wet and damp, and close to rivers

subsistence farmers farmers who farm to support themselves

insurance money paid if something is lost, stolen or damaged

channel to build cement river courses for water to flow in, or to change a river's course

levees ridges of earth along river banks to stop flooding

flood plain flat land along the sides of rivers that is covered in water when the river floods

- Look after wetlands (vlei areas and marshes), which are natural 'flood controllers' since they act like sponges and soak up extra water.
- Take out flood insurance to deal with losses.
- Monitor weather forecasts in order to warn or evacuate people in flood risk areas.

Figure 2.22 In urban areas, rivers are channelised to control flooding.

Figure 2.23 Flood victims in Mozambique being rescued during the floods of 2000. Notice the large areas of land under water where rivers have burst their banks.

Case study: Floods in 2000 – worst in living memory

An African legend says that rivers flood only when a mystical mountain gives birth to a dragon. However, in February and March 2000, more than a dragon was born. The floods that occurred after unusually heavy rainfall and the tropical storm Eline killed about 1 000 people in the region, but left close to a million people homeless in the worst floods in living memory. Experts said that this flood was a one-in-200-year event. Flood damage was estimated at R1 billion. The flooding affected South Africa's eastern provinces: Limpopo, Mpumalanga and KwaZulu-Natal, as well as Mozambique and Swaziland, as shown in Figure 2.24.

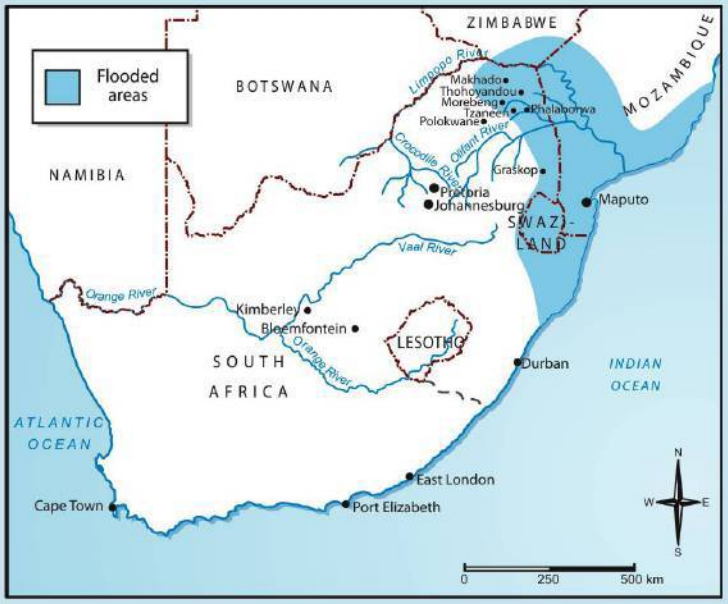


Figure 2.24 Map showing South Africa, Mozambique, Swaziland and the Limpopo River, with the flooded areas

What caused the flood?

The first two weeks of February 2000 saw heavy rainfall over Limpopo, Mpumalanga, Gauteng and North West Province. Total rainfall for February was 1 160 mm (almost 10 times the monthly average of 175 mm). Most of this water eventually flowed into the Limpopo River. Experts also say that increased **urbanisation** increased the water running off into rivers draining the areas. The heavy rainfall was 'normal' rain and had nothing to do with Cyclone Eline. Already swollen rivers burst their banks when additional rain from Eline fell days later.

Cyclone Eline brought very heavy rainfall to Mozambique and parts of eastern South Africa. This rain drained into the **tributaries** of the Limpopo River and eventually flooded large parts of southern Africa. Days after Cyclone Eline, another tropical cyclone, Gloria, added to the heavy rainfall, making the flooding worse.

key words

urbanisation the increase in the number of people living in towns and cities

tributary a smaller river flowing into a larger river

aid organisation organisation helping people in need, e.g. Red Cross

Effects of the flood

The floods caused many deaths and left many homeless. Farmlands and crops were washed away and swollen rivers destroyed roads and bridges. Tourists in the Kruger National Park had to be rescued. Many **aid organisations** helped to evacuate and look after people trapped by the flooding. Safe drinking water had to be trucked in. Many people became ill with dysentery, an illness that affects the intestines and causes diarrhoea.

Activity 7 Interpret flood data

Carefully go through the table of rainfall data below, which was recorded at different places shortly before the devastating floods of 2000.

Town	Rainfall (mm) for 22–25 February 2000	Total rainfall (mm) for February 2000	Normal rainfall (mm) (average for February rainfall over many years)
Graskop	222	1 000	281
Tzaneen	426	1 163	177
Letsitele	281	498	93
Phalaborwa	229	338	83
Makhado (Louis Trichardt)	268	669	108
Levubu	502	1 212	176
Thohoyandou	480	1 010	108
Morebeng (Soekmekaar)	347	674	140

1. Which place received the highest rainfall between 22 and 25 February 2000?
2. Name the four places that received more than 1 000 mm of rain in February 2000.
3. Which place received the most above-average rainfall in February 2000? To work this out, subtract the 'Normal February' rainfall from the 'Total rainfall for February 2000'.
4. Find out what the total annual rainfall is for the place where you stay.
5. Name two main tributaries of the Limpopo River.
6. Write a paragraph to explain why these two tributaries listed in your answer to question 5 contributed to the floods of 2000.
7. List three economic effects of the floods.

Geofact

Tropical storms are given peoples' names, like Eline and Gloria. Every year, meteorologists start at the beginning of the alphabet. They give the first storm of the season a name starting with 'A', the second storm a name starting with 'B', and so on.

Revision

Unit 1 Structure of the Earth

- The Earth is made up of three layers: the crust, mantle and core.
- High temperatures inside the Earth cause convection currents that make the Earth's crust move.
- The Earth's surface is made of huge sections of earth called plates.
- Heat from inside the Earth causes these plates to move.
- The Earth's plates move away from one another, move towards one another or slide past one another.

Unit 2 Volcanoes

- The Earth's core is very hot, which causes rocks to melt and form magma.
- A volcano forms when very hot lava shoots out of cracks in the Earth's surface.
- Most volcanoes form where plates meet along faults or cracks.
- Volcanoes can cause deaths and lots of damage.

Unit 3 Earthquakes

- Earthquakes occur where the Earth's plates meet.
- An earthquake under the sea can trigger a huge wave called a tsunami.
- Falling buildings, rockslides, mudslides and sinkholes caused by earthquakes kill many people and cause huge amounts of damage.
- People can try and prevent damage caused by earthquakes by changing the design of buildings and infrastructure.
- Case study: Haiti earthquake tragedy:
  - An earthquake in Haiti in 2010 killed many people and caused much damage.
  - The earthquake was caused by two plates moving past one another.

Unit 4 Floods

- Floods are caused by excess water flooding land that is usually dry.
- Most floods are caused by very heavy rainfall, often from tropical storms.
- Floods can kill many people and affect the environment and the economy.
- People can take certain measures to try to lessen the effects of a flood, including building various types of infrastructure and avoiding farming and living on flood plains.
- Case study: Floods in 2000 – worst in living memory:
  - In 2000, heavy rain and a tropical storm caused floods in South Africa and neighbouring countries.
  - Many people were killed and left homeless, and the damage was extensive and very expensive to fix.

Term assessment

Getting started

1. Match the terms in Column A with the correct definition in Column B. Write down only the number and matching letter, for example 1–C. (10)

Column A	Column B
1. Mantle	A. Cyclones, typhoons and hurricanes
2. Plate tectonics	B. The outer layer of the Earth's surface
3. Lava	C. Flat land along the sides of a river often used for farming
4. Tsunami	D. Movement of huge sections of the Earth's surface
5. Richter Scale	E. Molten magma that shoots out of a volcano
6. Epicentre	F. Loss of soil washed away during a flood
7. Cholera	G. A huge wave produced by an earthquake under the sea
8. Tropical storms	H. A disease from water that can kill people
9. Soil erosion	I. Point on the Earth's surface where earthquake shock waves are the strongest
10. Flood plain	J. Section of Earth's interior between the crust and core
	K. A scale measuring the strength of an earthquake

Check your understanding

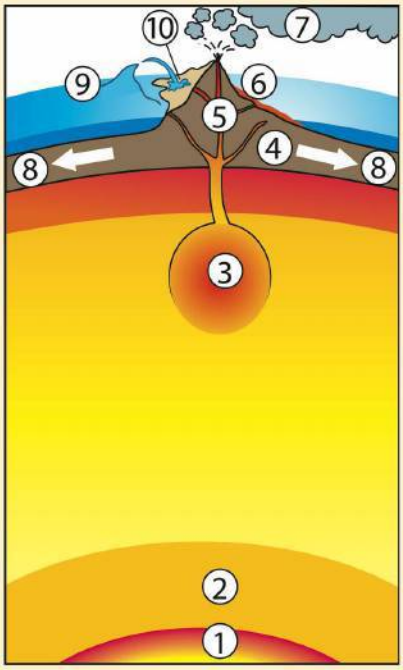


Figure 2.25 The Earth's interior structure and surface (question 2)

2. Look at the drawing of Earth's interior and surface in Figure 2.25. Match the numbers with the correct labels below. (10)

a) inner core	b) magma	c) volcano
d) crust	e) coastal flooding	f) ash cloud
g) lava flow	h) outer core	i) plates moving apart
j) tsunami		

Challenge yourself

3. In this topic, you looked at three natural hazards: volcanoes, earthquakes and floods. Choose the hazard that you think affects people the worst (only choose one). Use the writing frame below to explain and support your choice. Write full sentences and give examples and geographical evidence. (10)

Volcanoes, earthquakes or floods: Which is the worst hazard for people?

I think that _____ is the worst hazard for people. There are many reasons for this. The first reason is _____. _____. _____.

The second reason is _____. _____. _____.

A third reason is _____. _____. _____.

A final reason is _____. _____. _____.

I have now shown why I think _____ is the worst hazard for people.

Total [30]

Topic 3 Population growth and change

Key concepts and content

- Learn about demographics and the factors that affect population growth and life expectancy.
- Suggest ways to solve population problems.
- Work on projects about population.
- Express your views and listen to and understand other people's viewpoints.
- Discuss and debate population issues.
- Identify ways in which traditions and culture influence people.
- Explain how factors that affect birth rates and life expectancy differ from country to country.

Unit 1 Population concepts

Billions of people live in the world. Every year, the number of people on Earth increases. In other words, the Earth's **population** is getting bigger and bigger. Some parts of the world are very crowded, while other places have fewer people.

Figure 3.1 Many parts of the world are very crowded. This is a normal street scene in Mumbai, India.

Figure 3.2 Some places have few people. What could be the reason for a low population in this area?

Geofact

India has the second-largest population in the world after China.

Birth rates, death rates and population growth rates

Why is the world's population increasing? Why does the population increase faster in some places than in others? And why is it important to know how many people are in the world? Is it true that the world's population is growing faster than before?

Figure 3.3 Many countries have more births than deaths.

Birth rates

Work out what the information in Table 3.1 tells you.

key words

billion one thousand million

population the number of people living in a region, e.g. a country, province or city

birth rate the number of births In a year per thousand people

Country	Birth rate (per thousand)	
	In 2001	In 2012
Japan	9	8
China	12	12
South Africa	22	21
Niger	55	50

Table 3.1 Birth rates in four different countries in 2001 and 2012

You can learn this information from Table 3.1:

- For every thousand South African people alive on 1 January 2001, 22 babies would be born in that year. In 2012, South Africa's birth rate was 19 per thousand per year.
- The country of Niger in West Africa has a very high birth rate, so its population is probably growing quickly.
- China's population is increasing slowly. (China is a big country with a huge population that is now increasing slowly.)
- Only eight babies are born to every 1 000 Japanese people in 2012.

Death rates

Death rates tell you how many people in every thousand die in a given year.

key word

death rate the number of deaths in a year per thousand people

Country	Death rate (per thousand)	
	in 2001	in 2012
Japan	8	9
China	7	7
South Africa	12	12
Niger	18	14

Table 3.2 Death rates in four different countries in 2001 and 2012

Figure 3.4 Fewer people die than are born in most countries.

Table 3.2 tells you that for the years 2001 to 2012:

- the death rates in Japan were low, but increasing slightly
- the death rates in Niger were high, but decreasing
- South Africa's death rate was moderate, but decreasing slowly
- China's death rate was low.

Geofact

The symbol ‰ means 'per thousand'.

Population growth rates

In 2012, 252 people were born and 107 people died during every minute of every day. This means that the world's population was growing at the rate of 145 people every minute.

The population growth rate is different for every country. Table 3.3 shows the figures for one year.

Country	Population data per 1 000 in 2012		
	Birth rate	Death rate	Natural growth rate
Japan	8	9	–1
China	12	7	5
South Africa	21	12	9
Niger	50	14	36

Table 3.3 Natural population growth rate for four countries

Table 3.3 shows the **natural population growth rate**, which is the difference between the rates at which people are born and die. To find the natural growth rate of a country's population, use this formula:

Natural population growth rate = Birth rate – Death rate

The population growth rate of a country also depends on the rate at which people move into it or leave it.

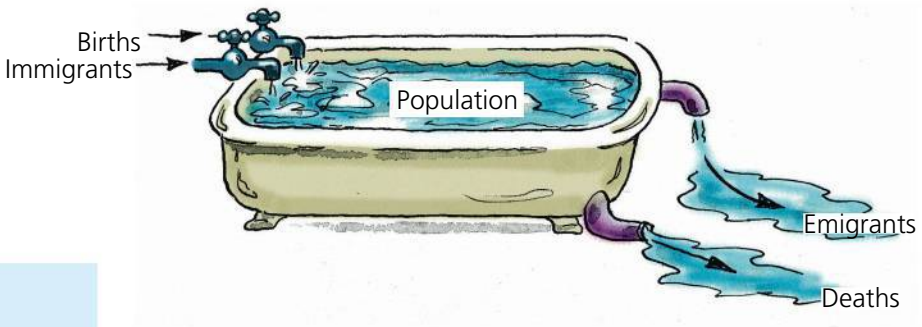


Figure 3.5 The number of people in a country can be compared to the amount of water in a bath. There are two inputs and two outputs.

Geofact

Niger and Uganda have the highest natural population growth rates: 36,3‰ and 35,8‰ respectively.

Use the formula below to find the total growth rate of a country's population.

Total population growth rate = Natural growth rate + Migration rate

Country	Population data per 1 000 in 2012				
	Birth rate	Death rate	Natural growth rate	Migration rate	Total growth rate
Japan	8	9	–1	0	
China	12	7	5	–0.3	
South Africa	21	12	9	–6.2	
Niger	50	14	36	0	

Table 3.4 Population data per 1 000

key words

natural population growth rate the difference between birth rate and death rate

total population growth rate the sum of the natural population growth rate and the migration rate

To work out a country's total population growth rate, add the migration rate to the natural growth rate. If more people leave a country than enter it, the migration rate will be negative, and will have a minus sign.

Activity 1 Birth, death and population growth rates

1. Answer the following questions on birth rates:
   a) Write a definition to complete this sentence: 'Birth rate is _____'
   b) Write and complete this sentence: 'South Africa's birth rate in 2012 was _____ per _____.'

c) How can you tell that birth rates are not the same all over the world?
d) How can you tell that the birth rate for a country can change over time?
e) How does the birth rate table suggest that birth rates in the world may be decreasing?

2. Answer the following questions on death rates.
   a) There is a mistake in each of these statements. Rewrite them correctly.
      A. The death rate is the number of deaths per thousand.
      B. China's death rate has been constant at 7 per year.
      C. Japan's death rate decreased between 2001 and 2012.
      D. Niger's death rate is decreasing and may become dangerously low.
   b) In what way did South Africa's death rate change between 2001 and 2012?
3. Answer the following questions on natural population growth rate:
   a) What is meant by Japan having a natural population growth rate of –1 per thousand in 2012?
   b) What is the size of Niger's natural population growth rate?
   c) Suggest a problem that a growth rate like Niger's could cause.
4. Work out the total population growth rates for Japan, China, South Africa and Niger.
5. Now answer these two questions:
   a) Why is the world's population increasing?
   b) Why does population increase faster in some places than in others?

Infant mortality rates

In 2011, over 5,5 million infants died. The infant **mortality** rate is the number of deaths of children under 12 months of age per 1 000 live births.

key word	
mortality	death, dying

Country	Mortality rates in 2012 (per thousand)	
	Infants	Under 5
Japan	2	3
China	16	19
South Africa	37	62
Niger	110	173

Table 3.5 Death rates for infants and young children for four countries

Table 3.5 shows that death rates for infants and for young children are different from country to country.

key words

average the value obtained by adding several values together and then dividing the sum by the number of values; for example, the average of 3, 8 and 10 is $(3+8+10=21) \div 3=7$

life expectancy the average number of years a person can expect to live

Activity 2 Infant mortality rates

1. How old is a person known as an infant?
2. If 5 379 000 of the world's infants died in 2012, work out:
   a) the **average** number that died per day (assume 365 days in a year)
   b) the average number that died every hour
   c) how many, on average, died every minute.
3. Use the map in Figure 3.6 to answer the questions below.
   a) Which continent had the lowest infant mortality rate?
   b) Name one country on that continent.
   c) Which continent generally had the highest death rates for infants?
   d) Name two countries on that continent where more than 90 infants out of every 1 000 die.
   e) Name of country in Asia with the highest infant death rate.

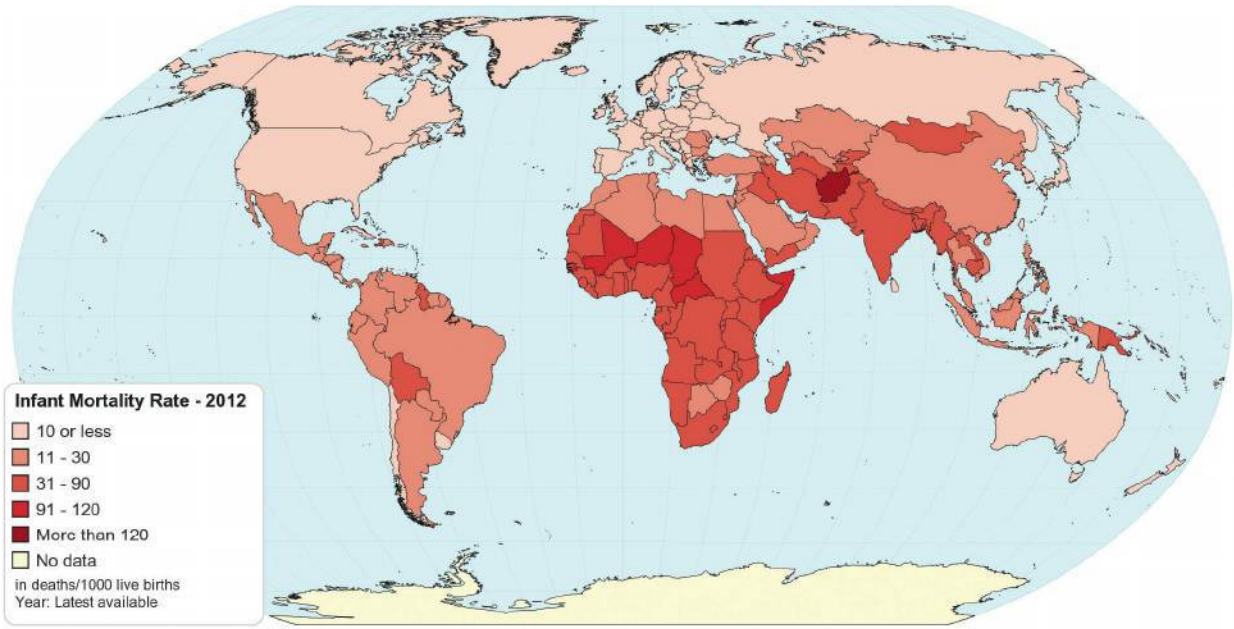


Figure 3.6 Infant mortality in 2012 – every country is affected in some way.

4. a) Suggest two causes for some countries having so many babies dying.
   b) What can be done to improve the chances of babies living to reach their first birthday?

Life expectancy

Life expectancy is the average number of years a person in a specific place can expect to live, based on data collected from that country. Figures for life expectancy can be given for whole countries or parts of a country. Usually the figures are for life expectancy at birth, but sometimes they can be for the age at which, say, a 20-year-old might expect to live.

People tend to live much longer in some countries than in others, for various reasons. Read through the factors in Figure 3.8 below that affect life expectancy.

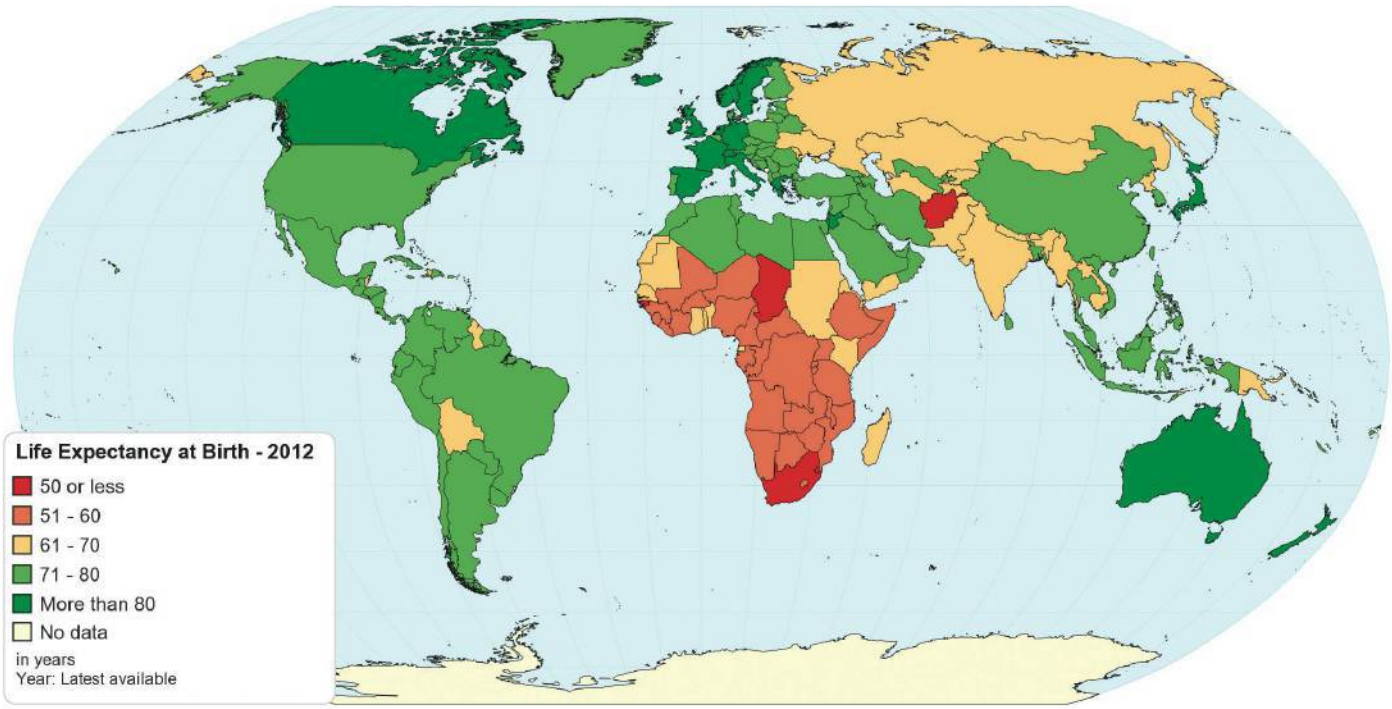


Figure 3.7 Life expectancy in 2012 varies among the different countries in the world

Activity 3 Life expectancy

1. Use Table 3.6 to answer these questions.
   a) Name a country with high life expectancy.
   b) What is the life expectancy of the average South African baby?
   c) How does life expectancy in South Africa compare with Niger?
2. Use the world map in Figure 3.7 to name:
   a) a continent with high life expectancy
   b) a continent with low life expectancy
   c) two countries in Europe with life expectancy of more than 80 years.
3. Work in pairs.
   a) Copy the factors that affect life expectancy on small pieces of paper.
   b) Talk about what the words mean.
   c) Arrange the papers in order of importance if you want to live a long life.

Country	Life expectancy at birth	
	In 2001	In 2012
Japan	81 years	85 years
China	71 years	75 years
South Africa	54 years	50 years
Niger	43 years	54 years

Table 3.6 Life expectancy at birth for four countries

smoking	nutrition
education	occupation
pollution	housing
disease	health

Figure 3.8 Factors that affect life expectancy

Unit 2 Factors affecting birth rates and death rates

key words

epidemic a disease that spreads through a population very quickly

virus a substance, smaller than bacteria, that causes disease

bacteria very tiny plants; some bacteria cause typhoid fever and pneumonia

antibiotic a medicine that destroys germs

As mentioned earlier, birth rates, death rates, infant mortality and life expectancy differ from country to country. Why is this so? What causes these differences? The reasons for this situation are varied.

Disease

Most people get sick from time to time, but usually get better quickly. However, some diseases spread quickly and kill many people, especially in poorer parts of the world where people have too little food and can't afford medicines. Diseases that spread very fast through a population are known as **epidemics**.

Widespread illnesses such as HIV and AIDS, tuberculosis, malaria and diarrhoea

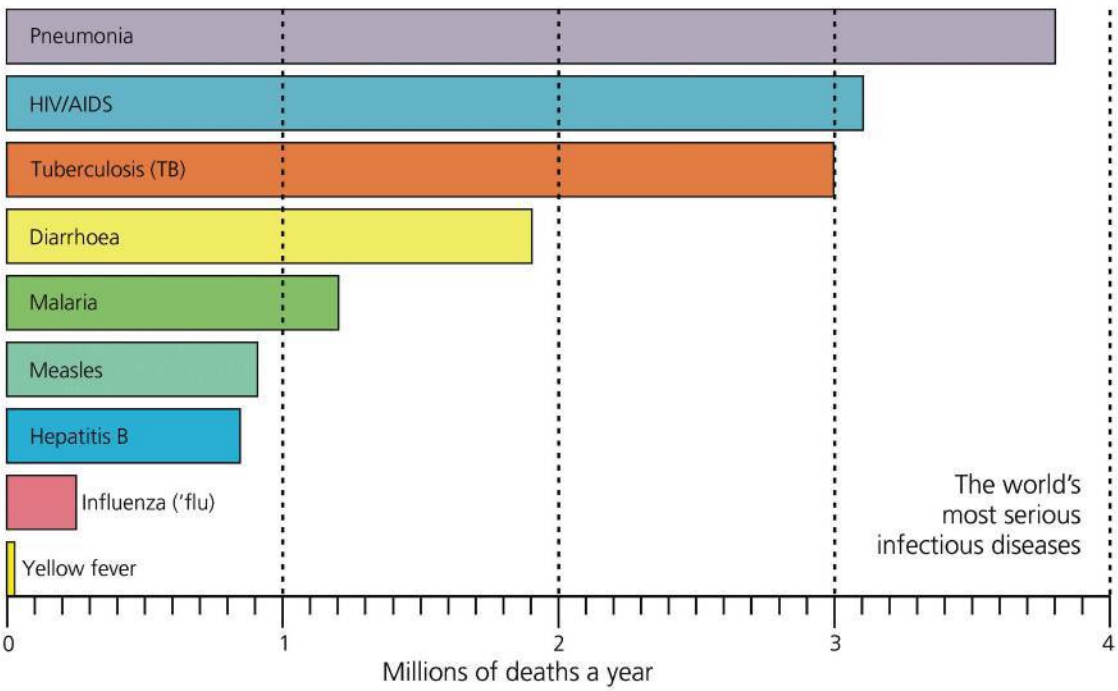


Figure 3.9 The world's most serious diseases: Many of these diseases are most serious in the poorer parts of the world.

Geofact

About 97% of all patients who are treated for pneumonia will recover.

Pneumonia

Pneumonia is a lung disease spread mostly by **viruses** and **bacteria** in the droplets released when people sneeze. Anybody can catch pneumonia, but children and old people are most at risk from this disease, especially if they do not get the **antibiotics**, which can cure 97% of patients.

HIV and AIDS

HIV spread from Cameroon in the 1950s to southern Africa and to most countries in the world. Here are some important facts:

- Infection with **HIV** usually leads to **AIDS**.
- HIV is highly **contagious**, and is transmitted from one person to another though body fluids such as blood and semen. Every day, more than 7 000 people are infected – nearly 300 an hour.
- The virus attacks the immune system, which makes the infected person more vulnerable to other diseases (like tuberculosis, cancer and pneumonia).
- HIV is not an illness, but rather a virus that makes the body susceptible to infection by illness. Therefore, it is not obvious that a person has HIV.
- 'Full-blown AIDS' is the name given to the range of diseases that eventually can't be controlled. Not all HIV carriers develop AIDS.
- The most common form of HIV transmission in Africa is unprotected sexual intercourse.
- Medicines are available to treat HIV and AIDS, giving infected people an almost normal life. Scientists are searching for medicines to prevent the spread of the HIV.
- Approximately 35 million people in the world now live with HIV and AIDS.
- In the 30 years between 1981 and 2011, some 30 million people in the world have died of HIV or AIDS-related causes.
- Although HIV and AIDS kills 2,5 million people a year, fewer people are now becoming infected.

Figure 3.10 Three out of five people who die from AIDS-related diseases die because they were tested too late.

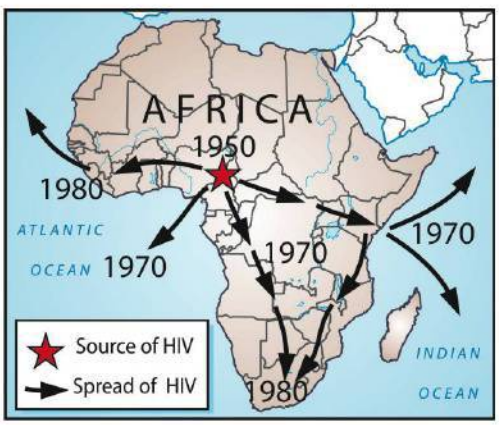


Figure 3.11 HIV and AIDS spread from West Africa to the rest of the world in 40 years.

Tuberculosis

Tuberculosis used to be a major killer worldwide, but it can now be cured with proper treatment or prevented with vaccinations. It is still common in poorer, developing countries. TB affects mostly the lungs. It spreads when carriers of the disease cough or sneeze, releasing the **pathogens** into the air.

Geofact

Medical treatment to control HIV works best if the infection is diagnosed early. Therefore, it makes good sense to have an HIV test.

key words

HIV the human immunodeficiency virus that can lead to AIDS

AIDS acquired immunodeficiency syndrome

syndrome a group of symptoms considered together as part of a disease

contagious spreading by contact with an infected person

pathogen a virus or any other agent that can cause a disease

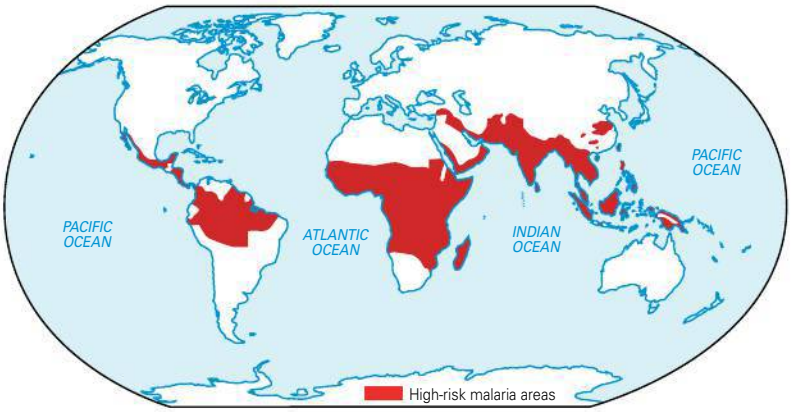


Figure 3.12 Malaria is a high risk in tropical areas.

Malaria

Malaria is an **infectious disease** caused by a **parasite** carried by mosquitoes. The number of deaths (around a million a year) is thought to be decreasing. Approximately 90% of malaria-related deaths are in Africa, and 70% of the victims are children. Insecticides are used to control the mosquitoes but in some areas mosquitoes are now resistant to them.

Diarrhoea

Diarrhoea is an infection of the intestines that develops when a parasite infests the body. This infection causes acute tummy pains and loose stools. Infected food or water can cause **outbreaks** of diarrhoea. This infection often occurs after floods or earthquakes, or where drinking water is not properly purified. Once again, poor and overcrowded countries are most at risk of diarrhoea and other related diseases such as cholera, dysentery and typhoid.

Pandemics of the past such as the Black Death in Europe and smallpox at the Cape

Pandemics are epidemics that have spread throughout the world, infecting many people everywhere. As you read through this section, keep an atlas open so that you can trace the spread of some of the terrible pandemics of the past.

Case study: The Black Death

The Black Death of the 14th century started near the Black Sea. It spread westward all through Europe and to parts of Asia. The bubonic **plague** virus was carried by rats hiding among grain on wagons and in ships. Fleas from the rats carried the virus and infected people by biting them. Between 1347 and 1351, two-thirds of all the people in Europe died from the Black Death. About 20 million people died.

Figure 3.13 Thousands of people died every day when the Black Death was at its worst.

The Black Death virus entered Britain in 1348 and killed 30% to 50% of all the people in that country. Over the next few centuries, the plague came back again many times and killed about 100 million people worldwide over about 200 years.

Case study: Smallpox

Smallpox was one of the worst diseases ever known. It started in Egypt or in India 3 000 years ago and slowly spread all over the world. Smallpox killed up to one-third of the population in some countries. Millions of people, including some kings and queens, died. Most survivors were left blind.

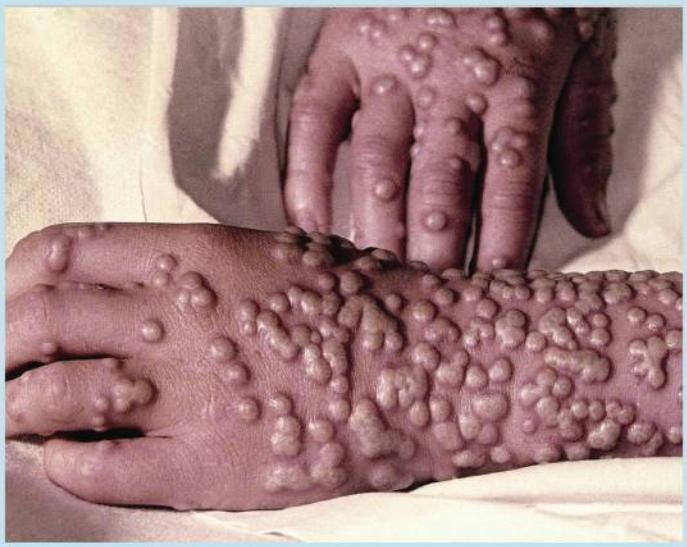


Figure 3.14 Smallpox starts with a **fever**. In a few days the body has a rash of pus-filled sores.

Smallpox killed half of the Native American population in the 1600s. In February 1713, a smallpox epidemic struck the refreshment station of the Dutch East India Company when a Dutch ship arrived at the Cape. The disease was carried in the sheets and clothes sent ashore to be washed by slave workers. About 25% of the Dutch farmers died as well as 90% of the Khoi people who had no resistance or traditional treatments for this disease.

Scientists have never developed an effective treatment for smallpox, but we can prevent it with an effective **vaccine**. Smallpox is the only disease that has been completely wiped out throughout the world. The last known case was diagnosed in 1977.

The influenza pandemic

The influenza pandemic started in an American army camp in 1918. In only 18 months it spread all over the world. It infected one-third of the world's population and killed 50 million people. It was known as the Spanish 'flu. In 1919, it suddenly disappeared.

Activity 4 Disease

1. List the nine diseases shown in Figure 3.9 on page 56. Next to the name of each disease, write the number of people who die from it annually.
2. Why is it possible for diseases to spread faster now than ever before?
3. Why can some diseases be prevented and cured more easily nowadays?
4. Think about what Figure 3.13 shows. Write a note or a short poem that says what you feel about the Black Death epidemic.

key words

infectious disease a disease that can spread quickly to other people
parasite an animal or plant that lives in or on another animal or plant
outbreak sudden beginning, surge
pandemic a disease that has spread all over the world
plague any dangerous illness that spreads very quickly
fever illness with very high body temperatures
vaccine a medicine made of the germs or virus that causes a disease; it is injected into the skin to prevent a person from getting that disease

Economic status

Economic **status** tells you a person's **income**. In population studies, economic status is an indicator that can help you to work out how well that person lives. All people are somewhere in a wide range of economic status. At one end of the range is a poor, underfed person in a poor country. At the other end, is a rich, well-fed person in a developed country.

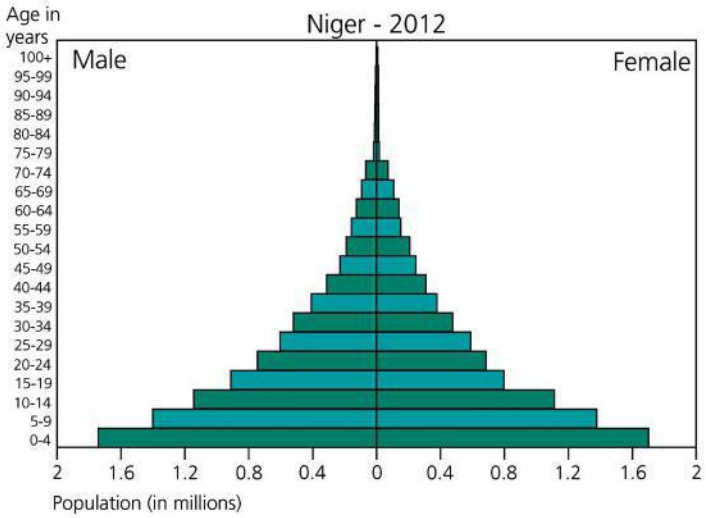


Figure 3.15 Population pyramid for Niger, 2012
(Source: *The World Factbook,* Central Intelligence Agency, US)

How rich or poor people are affects their birth rates and death rates. Let's compare a poor country and a rich country.

Niger is one of the world's poorest countries. Most people can't afford much education and most families are large. Many children do not get enough food, especially in times of drought when the crops fail (as they did in 2012). Many babies and children die. The average person does not live beyond 54 years of age.

key words

status rank or position compared with others
income money received from wages
population pyramid a graph that shows the number of people in an area by their ages and gender

The **population pyramid** for Niger in Figure 3.15 shows that:

- the country has a high birth rate, which means there are many young children
- many children die before they reach the age of five
- the death rate is high (the graph bars get shorter every year)
- very few people live longer than the age of 70 years.

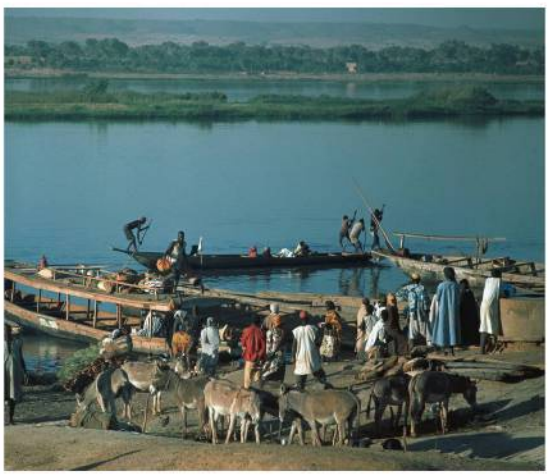


Figure 3.16 People in Niger are very poor.

2012	Niger	Luxembourg
Average income Rands/year	R3 020	R634 300
Population below poverty line	66%	0%
Can read and write	29%	100%
Underfed children 0–5 years	48%	<1%
Birth rate per 1 000	50	12
Infant mortality per 1 000	110	4
Death rate per 1 000	14	8
Growth rate per 1 000	36	11
Life expectancy, years	54	80

Table 3.7 Comparison of statistics for Niger and Luxembourg
(Source: *The World Factbook,* Central Intelligence Agency, US)

Luxembourg is the second richest country in the world. Most people in this country have good food to eat and get a good education. The birth rate is low, so families are small and can afford better education, food and doctors. The death rate is low and most people live to around 75 years of age.

Activity 5 Draw conclusions about economic status

1. Why do you think that people in poorer countries tend to have many children?
2. Explain how having large families may contribute to poverty and high death rates.
3. Look at the population pyramid of Niger (Figure 3.15).
   a) How does the pyramid show high death rates in young people (under 20 years)?
   b) How can you see that few people live beyond 70 years of age?
4. Look at the population pyramid of Luxembourg (Figure 3.17).
   a) How can you see that Luxembourg's birth rate has been decreasing?
   b) For how many years has the birth rate been decreasing?
   c) How does this graph show that very few infants and children die each year?
   d) How can you see that many people live beyond the age of 70 years?

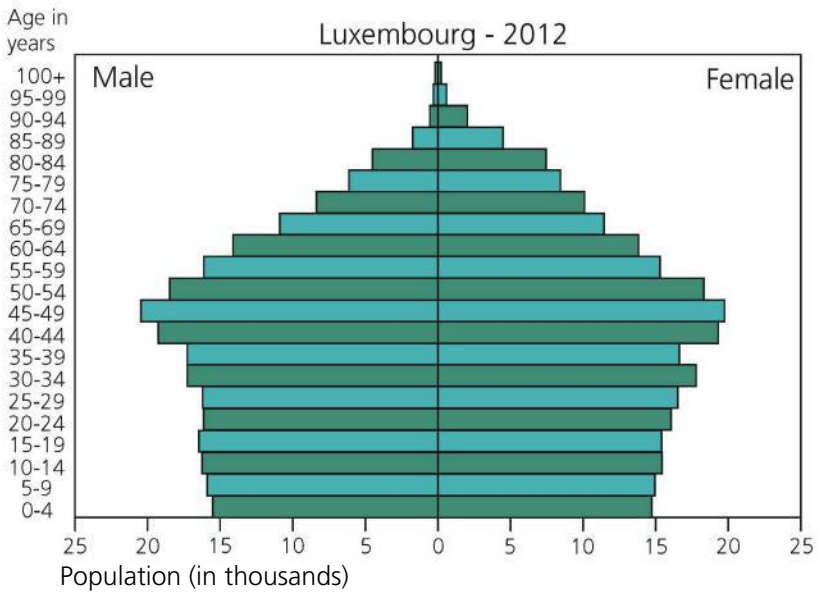


Figure 3.17 Population pyramid for Luxembourg, 2012
(Source: *The World Factbook,* Central Intelligence Agency, US)

Figure 3.18 Luxembourg is the second-richest country in the world.

Family needs, attitudes and beliefs

Do this activity as a class.

- List on the board the number of children in each learner's family.
- Work out the average number of children in each family.

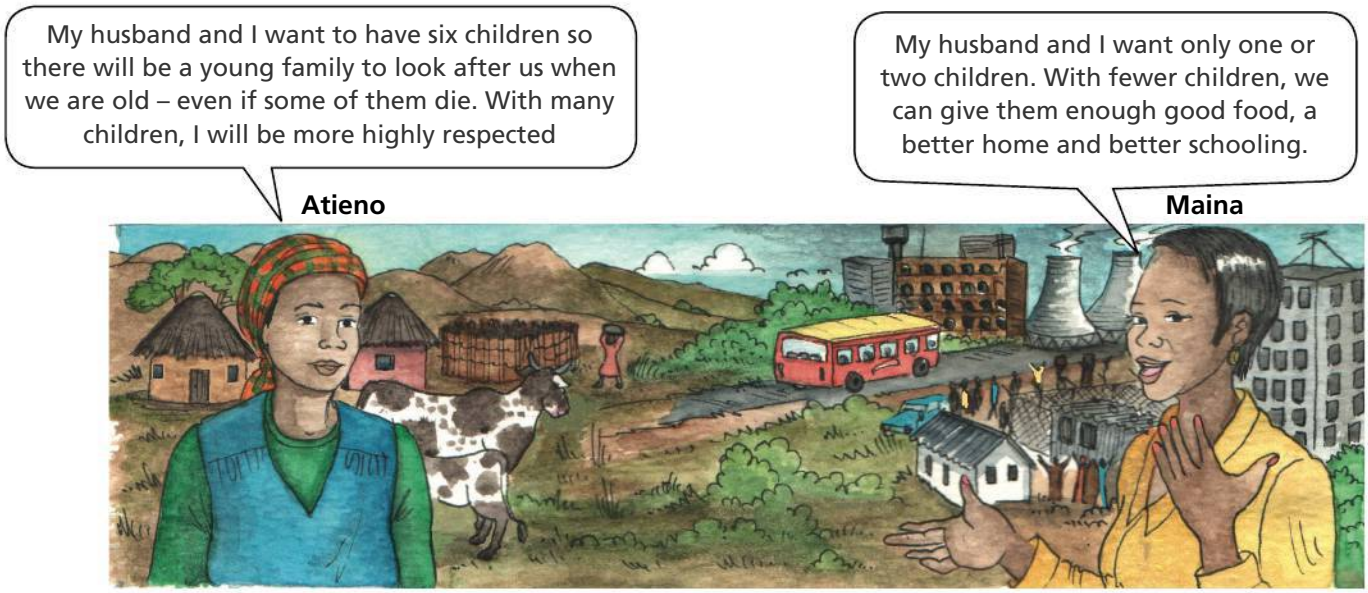


Figure 3.19 These two women have different needs and attitudes about large families.

Geofact

In Chad (in West Africa), women have an average of 6,6 babies (the highest in Africa), but people earn an average of only R1 600 a year (the lowest in world).

Activity 6 Analyse family needs and attitudes

Refer to figure 3.19 and answer the following questions:

1. a) What two reasons does Atieno have for wanting a large family?
   b) Who will benefit from the large family?
   c) Why does Atieno think that some of her children may die?
2. a) Why does Maina want a small family?
   b) Who will benefit from the small family?
3. More people these days think as Maina does. What do you think has caused this change in attitude?
4. Create two headings in your exercise book: 'Traditional attitudes' and 'Modern attitudes'. Then write each of these statements under the heading that you think is correct.
   a) My child deserves the best education I can afford.
   b) I need to have many children because some may get sick and die.
   c) It's not right to limit how many children you have.
   d) I prefer to have a small family so I can afford a better lifestyle.
   e) I want to focus on my career first, and then have my first child when I am 30 years old.

f) A woman needs more children to help with work in the house and in the fields.
g) I want to give my child as much love and attention as I can.
h) A woman must start having children as soon as she is married, even if she is a teenager.

People like Atieno and Maina have to make decisions about their own families.

The governments of countries in Africa and Asia also have to decide whether they will try to reduce birth rates. In South Africa, the deep belief in **ubuntu** is that one person's interest should not harm other people. Children suffer when parents do not limit their families.

Activity 7 Think about family planning

1. For thousands of years, people have believed that large families are a source of wealth. Do you believe this is true today? Give a reason for your answer.
2. Explain how people in poorer countries could benefit from choosing to have fewer children.
3. The poster in Figure 3.20 says 'Small families are better off'. Why is it sometimes a difficult choice?

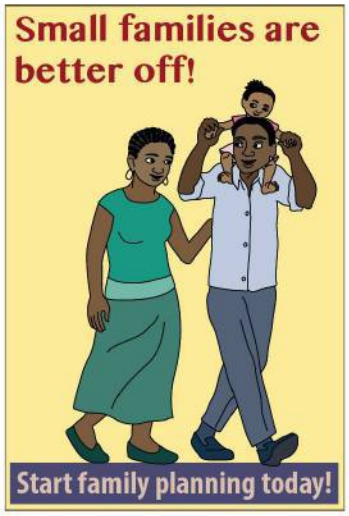


Figure 3.20 A poster to encourage people to have smaller families

Figure 3.21 A poster to encourage people to have fewer children

Conflict and wars

Conflict and war have existed for as long as there have been people on Earth. Conflict refers to fighting between groups of people, while war refers to organised fighting between countries that may go on for a long time.

Wars

Wars bring pain, suffering and death. In modern wars, it is not only the fighters in the armies, navies and air forces who die. Ordinary **civilians** are also hurt and killed. The death and destruction can continue long after a war is over. Some people die from war wounds. Others die later when unexploded bombs and landmines go off.

key words

ubuntu an African word meaning 'being caring for other people'; Ubuntu also means 'I am what I am because of who we all are'

civilians people who are not in the armed forces

When people talk about 'war', they are usually referring to battles between different nations. However, a civil war is fought between people in one country for control of power.

Figure 3.22 About 140 million people have died in wars during the past 100 years.

Wars	Total deaths
World War 1: 1914–1918	40 000 000
Russian Civil War: 1918–1922	14 000 000
World War 2: 1939–1945	62 000 000
China (to enforce Communism): 1949–1975	30 000 000
Korean War: 1950–1953	3 000 000
Vietnam Wars: 1957–1975	4 250 000
Iran–Iraq War: 1980–1988	1 000 000
Second Congo War: 1998–2003	4 600 000
Another 315 wars around the world between 1945 and 2012	41 400 000

Table 3.8 The number of people who have died in different wars

Activity 8 Measure the human cost of wars

Work in groups to draw a time line.

1. Figure 3.23 shows what your time line will look like at the beginning.
   a) On a big sheet of paper, draw a time line for the years 1900 to 2000. Mark in every 10 years and label the dates (1900, 1910, 1920, and so on).
   b) Show the number of men, women and children who died in the wars listed in Table 3.8 on your time line. Use a thick line of about 1 cm long for every million people who died. Make all the lines the same width. You may have to use more than one line to show high numbers.
   c) Give your time line a title.
2. Still in your groups, interpret the meaning of this statement: 'During a war, people die who might have lived. But after a war, people are not born who might have lived.'

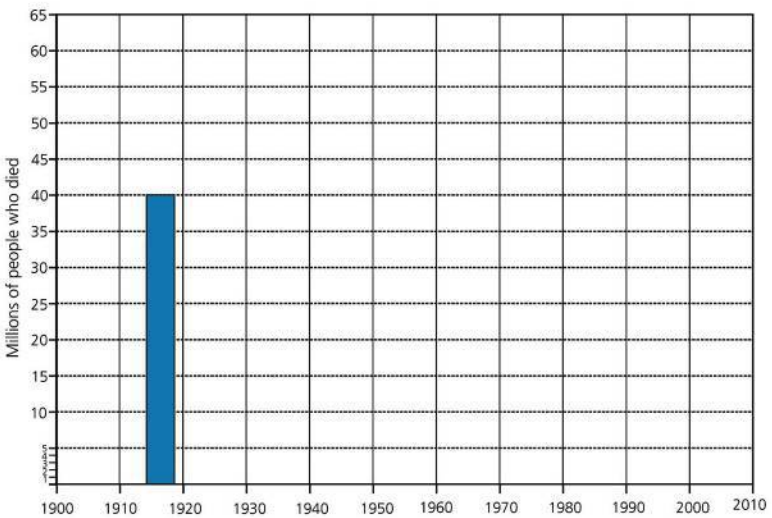


Figure 3.23 Write a title to say what your time line shows.

The population pyramid in Figure 3.24 illustrates the population of Germany in 1970. This pyramid shows the extent to which two wars affected birth rates and death rates.

- The pyramid shows the number and ages of males and females, year by year.
- Long horizontal bars show that there were many people in that age group.
- Read the notes next to the pyramid. Find note 1: See how many more women there were than men aged 75 to 85 in 1970.

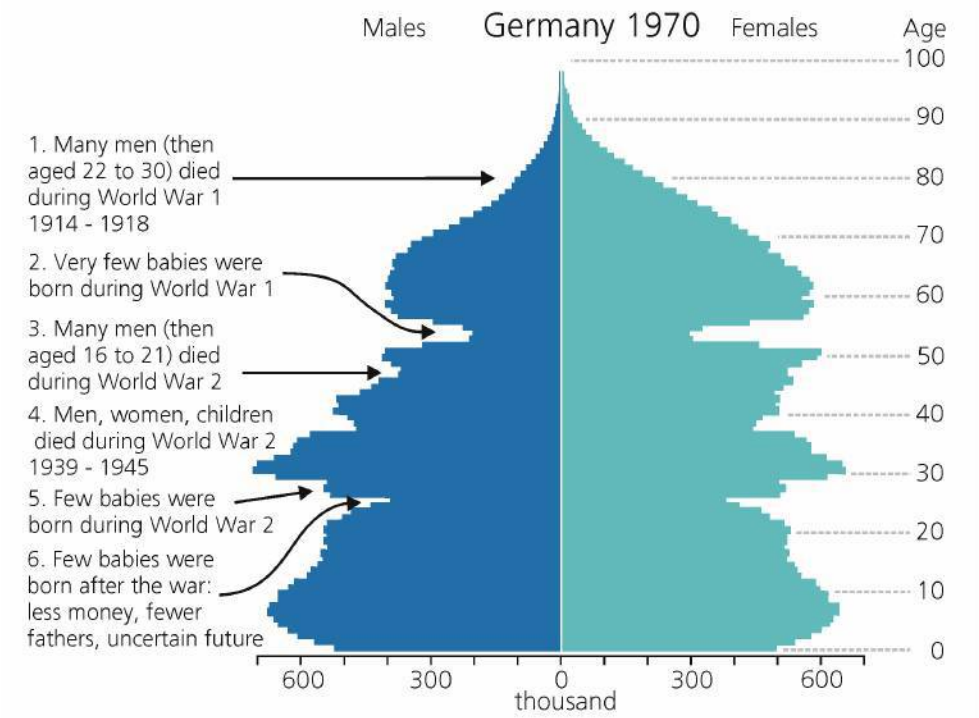


Figure 3.24 A population pyramid shows how war and conflict affect birth rates and death rates. (Source: Statistisches Bundesant, Wiesbaden, 2013)

Conflicts

In many places in the world, huge groups of people have been murdered because of their race, religion or tribe. This kind of large-scale murder is called **genocide**, which means the deliberate killing of a particular group of people by another group of people because they are of a different race, religion or tribe.

Activity 9 Conflict and war affect birth and death rates

key word

genocide the planned murder of a race or other group of people

1. Use Figure 3.24 to answer these questions.
   a) How does war affect birth rates? Give three examples to support your answer.
   b) Suggest a reason that fewer babies were born even after World War 1 was over.
   c) Note 2 shows very low birth rates during World War 1. How much lower were these rates than the birth rates 10 years earlier (higher up on the pyramid)? Choose from:
      i) a quarter
      ii) a half
      iii) two-thirds

Government policy (China)

Figure 3.25 China has more people than any other country.

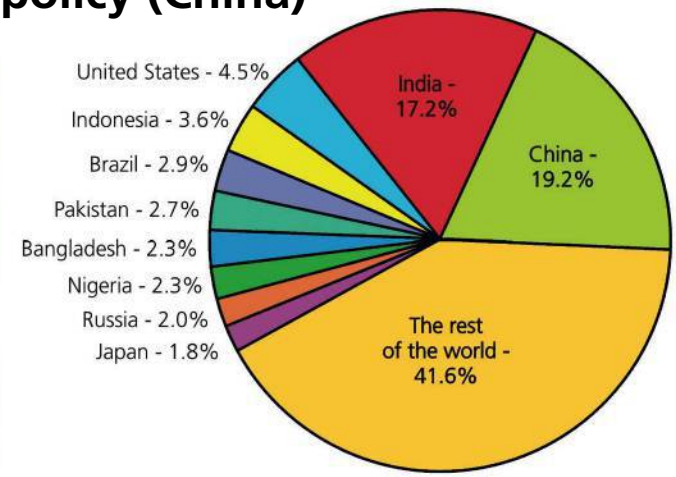


Figure 3.26 The 10 most populous countries in the world

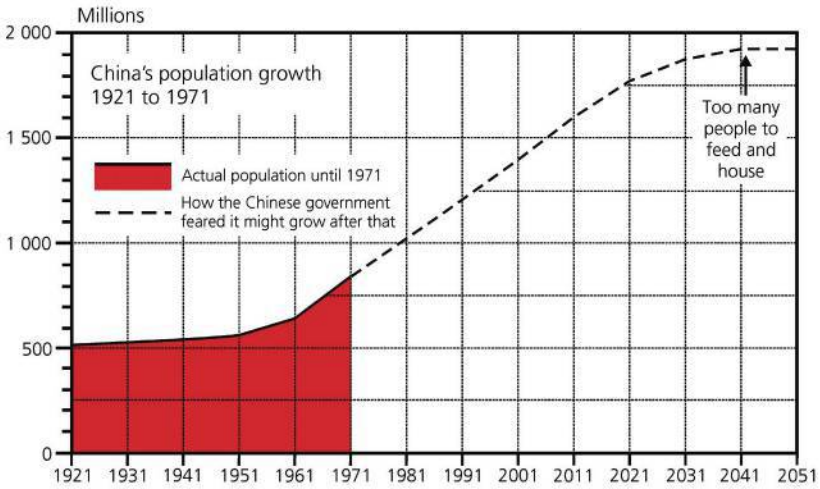


Figure 3.27 How China's population might have grown

With over 1,34 billion people (in 2012), China is the world's most **populous** country. Its population doubled in the 50 years after 1952. In the 1970s, the Chinese government realised that if the population growth was not controlled, it would get to nearly 2 billion by 2030. Such **overpopulation** would cause the following serious problems:

- shortage of food and water
- shortage of energy
- not enough land
- pollution.

Case study: China's one-child policy

China started its 'one child per family **policy**' in 1979.

Rewards for one-child parents	Punishment for two-child parents
• cash bonuses • more time off before the baby is born • better child care • better chance of getting a house	• up to half their income was taxed, or they would lose their jobs, or pay a fine • unborn baby was aborted • parents **sterilised**

Local officials of the Chinese Communist Party had to see that the policy was enforced. Sometimes they locked up pregnant women until they agreed to have their second baby aborted. Failing to have an abortion was severely punished.

Was the policy the success that China wanted?

There are three answers.

Some say 'Yes', for the following reasons:

- China would have had 420 million more people by 2012.
- The reduced population growth rate meant that the country can ensure more adequate supplies of food, water, gas, electricity and medical services.
- It reduced the growth in China's output of smoke and the gases that cause global warming.

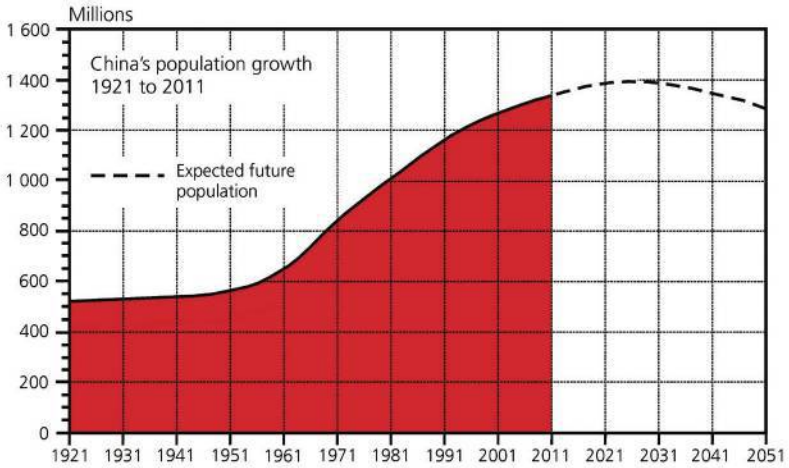


Figure 3.28 China has 400 million fewer births because of the one-child policy

Some say 'Partly', for the following reasons:

- The actual number of **abortions** was lower than the Chinese government claimed, because Party officials sometimes faked their reports to avoid punishment.
- Some families broke the rules where Communist Party control was weak.
- Rich people just paid the fine and had more than one child.
- Since 1979, millions of Chinese people have moved to the cities. They are now richer but find that food, rent and education are so expensive that they choose to have only one child.

Some say 'No', for the following reasons:

- Mothers chose to abort girl babies more often than boy babies. For every 100 girls born in China, 119 boys are born (130 boys in some provinces). This situation means that by 2020, more than 24 million Chinese men of marrying age will not find a wife.
- Many people believe the official practice of forced abortion is **morally** wrong and harmful, especially to women.
- When the present-day parents are old, there will be too few young working people to support them.

key words

populous full of people
overpopulation too many people for the land to feed properly
sterilise make a person (or animal) unable to produce offspring
abortion the forced birth of a baby before it is able to survive
moral knowing what is right and good
policy a plan of action

Activity 10 Debate government policy

1. Hold a class debate. Some topics are suggested below. The proposers and the opposers should give reasons for their beliefs or attitudes.
   a) Other countries should have a one-child policy like China.
   b) South Africa should place limits on the number of children a family can have.

Unit 3 World population growth

The world's population is growing faster than ever before. How fast is it growing? Where is population growing fastest? Explore these graphs and map to find out.

Pattern of world population growth from AD to present day

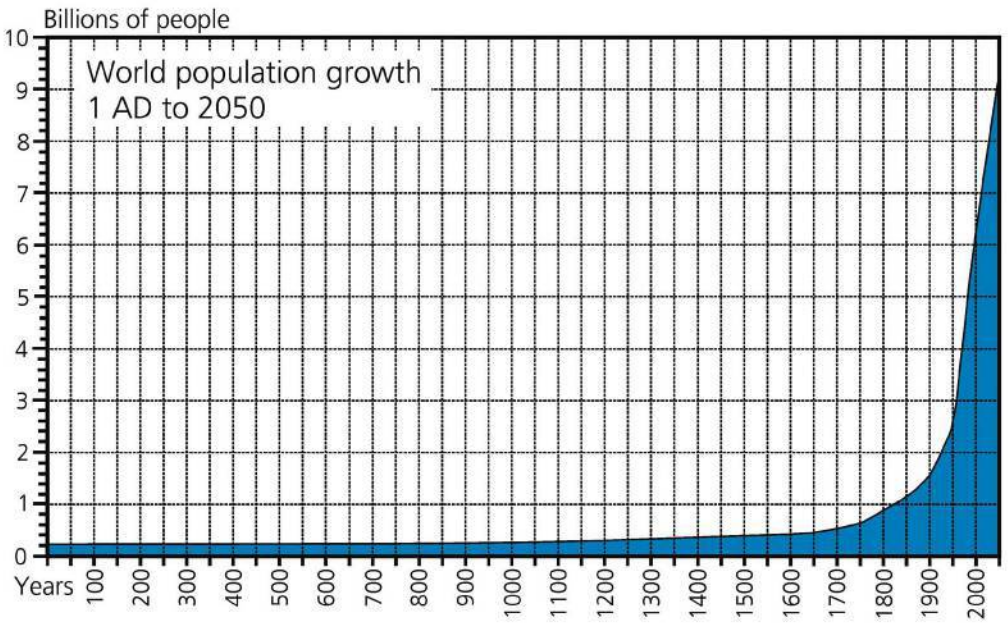


Figure 3.29 How the world's population has grown in 2 000 years

Activity 11 Reading a population graph

Use Figure 3.29 to answer the questions below.

1. Identify the year in which the world's population reached:
   a) 1 billion people
   b) 3 billion people
   c) 6 billion people.
2. What total global population does the graph show for these years?
   a) 1 AD (1 CE)
   b) 2050
3. a) Write the heading 'Population growth' in your exercise book. Write these dates underneath the heading: 100 to 400 AD, 1000 to 1600 AD, 1650 to 1800 AD, 1800 to 1900 AD, 1900 to 2000 AD.
   b) Next to each date, write words chosen from the list below that describe the population growth: Rapid increase, Very slow, Extremely fast, Extremely slow, Increasing steadily.

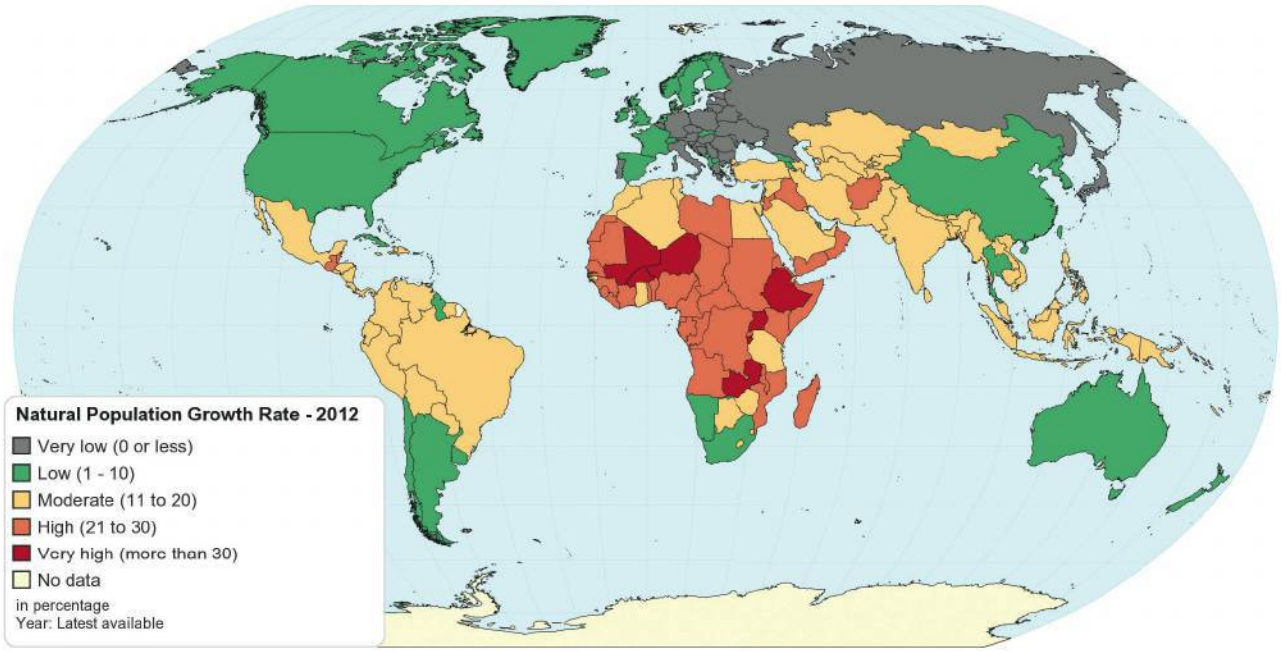


Figure 3.30 Population is growing fast in some countries, and not at all in other countries. (Source: Chartsbin, Australia)

Activity 12 Read a population growth map

1. Use Figure 3.30 to arrange North America, South America, Africa, Europe, Asia, and Australia in order from the lowest population growth rate to the highest population growth rate.
2. Use the map in Figure 3.30. Rewrite this paragraph by choosing the correct information.

   The world's population is increasing naturally at 11.4 per thousand (written as 11,4‰). Population growth rates are highest in [South America/Africa/Asia] and lowest in the continent of [Australia/North America/Europe]. As many as [7/27/37] African countries have high population growth rates of at least [11/31/51] per [person/thousand/country] per year. Russia and other countries in Europe have a [zero/moderate/low] natural population growth rate or even a [decrease/growth] in population.

Developments that have affected population growth

For thousands of years, the world's population grew very slowly. Then, quite suddenly, from about the year 1700, it started to increase faster and faster. Why? What happened to cause the sudden increase in the number of people on Earth, as shown in Figure 3.29? The graph in Figure 3.31 shows the events that caused the population growth.

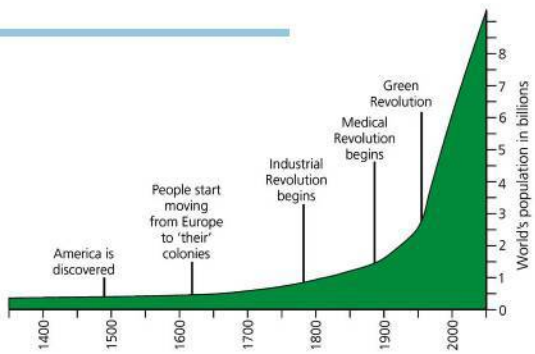


Figure 3.31 Events that spurred population growth

Increased food production

Four important factors caused increased food production.

- Over the past 400 years, farmers slowly increased the amount of food they could produce. They did this by using newly invented and mass-produced tools (see Industrial Revolution in Figure 3.32).
- Traders and migrants took the new tools and farming methods to other parts of the world.
- In the 1920s, farmers started to use farm machines (like tractors, planters and harvesters) and fertilisers. These tools and products increased the production of most cereal crops. With more food available, some people were healthier and had larger families.
- The Green Revolution in agriculture from the 1950s to the 1970s, brought the greatest increases in food production the world has ever seen. Scientists developed new **varieties** of cereals including maize, wheat and rice.

key words

(plant) varieties different kinds of plants that are in the same family

(crop) yield the amount (in tons) of a crop produced per hectare

irrigation the supply of water to cropland on a farm

The Green Revolution brought some advantages:

- Wheat, maize and rice **yields** were two to four times bigger than before.
- Farmers could afford tractors, better seeds, fertilisers and pesticides.
- More farmland got water from **irrigation**.

However, the Green Revolution also had some serious disadvantages:

- Some new crop varieties were not as sweet or as tasty as before.
- The special seed was very expensive.
- The new crop varieties needed lots of fertiliser, insecticide and irrigation water to produce good crops, which increased the cost of food.
- Bigger crops needed machinery, which added to the cost of the crop.
- Many farmers got into debt and left to move into the cities.

More food, but still more hungry people

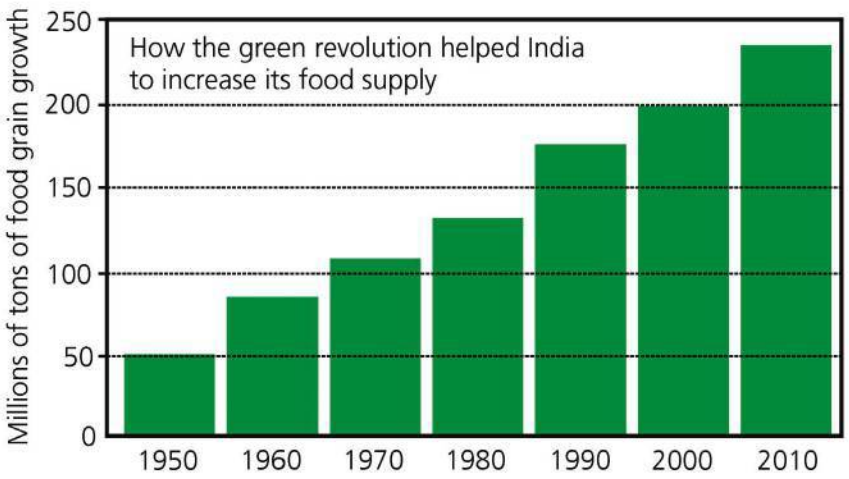


Figure 3.32 The Green Revolution gave India much more food – and it was grown on much less farmland.

The Green Revolution has greatly increased the world's food supplies. However, in 2012, over one billion people did not get enough food. One in seven people is hungry.

The world's farmers grow enough food to feed everybody, but not everybody can afford to buy the food they need. Many poor and unemployed people can't afford some of the new foods, no matter how much there is.

Activity 13 Increased food production

1. Which of the events in Figure 3.31 caused the increase in food production after 1950?
2. Work out the number of times India's grain crops in 2010 were greater than they had been in 1950?
3. Explain why there are still many hungry people in the world, even though enough food is grown.

Geofact

Vaccinations save 10 million lives a year but 17 million more lives could be saved with better health programmes.

Scientific developments

Due to the work of scientists, doctors and inventors, people now have a better chance of living longer. One reason for more people being in the world today is that they are dying later.

Figure 3.33 In the past, 35% of smallpox victims used to die from this disease.

Disease control

Doctors and researchers have found ways of monitoring patients who are at risk of heart attacks, some kinds of cancer and other diseases. Many young people who might have died are now treated. They go on to live useful lives, sometimes producing their own families.

Infection control

Throughout history, infectious diseases have kept death rates up and populations down. However, medical science has found medicines for many of the worst diseases.One of these diseases is smallpox. Although a British doctor, Edward Jenner, invented a vaccine in 1796 that saved many lives, smallpox was still a risk. In 1966, there were still 15 million victims in 50 countries. Nearly 2 million people died of smallpox that year. But, year by year, the vaccines were improved, and people with the disease were not allowed to travel until they were better. By 1980 smallpox had been **eradicated**.

key word

eradicate get rid of, wipe out, destroy, remove

Improved sanitation

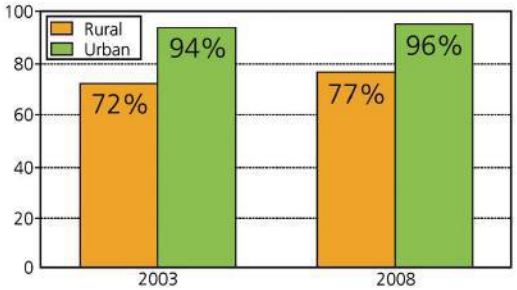
More and more poor people are crowded together in towns and cities. These conditions often cause infectious diseases and epidemics to spread quickly in these areas, due to shortages of fresh, clean water.

Approximately 750 million people worldwide do not have clean water. However, every year, richer countries are helping to improve the lives of poorer people in these ways:

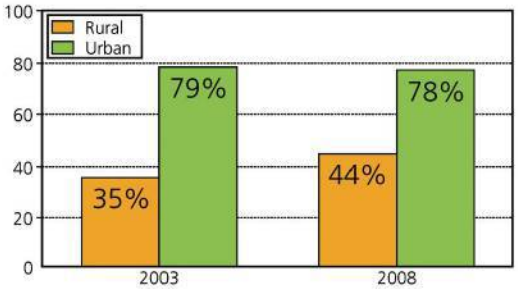
- They have improved the supply of clean water, so that millions of people no longer need to drink and wash in polluted water.
- They have improved the sanitation links, by building proper sewerage systems, which have sealed pipes that carry away sewage to be purified.

Other diseases that are now being controlled include:

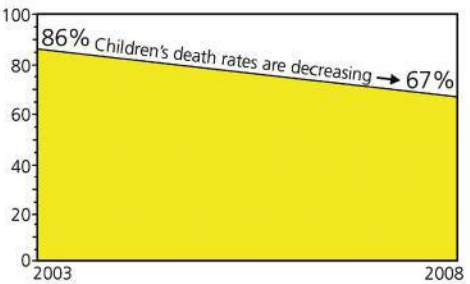
- Yellow fever: A vaccine has reduced deaths from tens of thousands to a few hundred a year.
- **Diphtheria**: Although once widespread, this disease is now rare.
- Tuberculosis (TB): Better medical treatment reduced deaths by 35% between 1990 and 2009, saving six million lives.
- Malaria: Various measures reduced incidences by 50% between 2000 and 2010, and the disease has been eradicated in some countries.



More people have clean water.



More people have access to sanitation.



Fewer children are dying.

Figure 3.34 How providing clean water and sanitation to rural and urban people has helped reduce the death rates of young children throughout the world

(Sources: Unicef and the World Bank)

The graphs in Figure 3.34 show how, in only five years, the provision of clean water and sanitation cut down child death rates. Millions of young lives have been saved.

Canned and frozen food

People all need good food to eat. However, food that is stored for too long starts going bad. Food also goes bad if takes too long to get from the farm to the market.

What makes food go bad? The bacteria and mould that grow on and in food cause food spoilage. These organisms are tiny, simple living things that are visible only through a microscope. There are thousands of different kinds of bacteria and moulds. Some kinds are helpful and even essential for human life, while others cause diseases and poisons that can make people sick.

Bacteria and mould growing on food (like meat, fruit and bread) causes the food to **decompose**. Long ago, our ancestors kept some foods fresh by drying them. In modern times, the two main ways of stopping food from decomposing are canning and refrigeration. Other methods also include drying and pickling.

key words

Diptheria an infectious disease of the throat

decompose to rot, decay

Refrigeration

Chilled or frozen foods can reach the market weeks or months later without being cooked. At low temperatures, mould and bacteria grow very slowly, which slows down food decay for long enough to get the food to market. People in Europe or Japan can buy fresh-looking beef from Argentina, mutton from New Zealand and fruit from South Africa and Canada.

Countries that are not able to produce the food they need import chilled and frozen food. Examples include:

- desert countries without enough pastures and orchards
- crowded countries without enough farmland to grow all the food they need
- countries recovering from floods and droughts
- countries where war interrupts food production.

Figure 3.35 Refrigerated trucks transport food across the country

Chemicals of different kinds are used to preserve foods by preventing bacteria and moulds from growing on and in them. Sugar, salt, vinegar and antibiotics all slow down food decay. However, for health reasons, some buyers avoid these foods.

Irradiation of fresh meat, fruit and vegetables involves using ultraviolet rays, X-rays and gamma rays to kill bacteria and viruses on the outside of the food (where most of them are). This process keeps the food fresh for longer.

Figure 3.36 Refrigerated containers on ships transport food around the world

Canned food

The cooking of food kills bacteria and moulds. Cooked food sealed in cans and jars can be stored for years without going bad. This method of preserving food makes it possible to send fruit, fish and meat from one country to another. This is one way to provide food to people who cannot produce all their food needs. Therefore, instead of being so **undernourished** that they become weak and die, these people survive to live longer.

key word

undernourished underfed, not getting enough of the right kinds of food

Activity 14 Scientific developments increase population

1. Write one sentence for each of the developments below to explain how it helps people to live longer, healthier lives:
   a) vaccines b) sanitation c) refrigeration.
2. How do each of these actions prevent the spread of contagious illness?
   a) Holding a handkerchief or tissue to your mouth and nose when you sneeze or cough
   b) Washing or cooking food before storing it
   c) Passing fruit under high-energy lamps before sending them to shops.

Improved health care

Two hundred years ago, most people believed that disease was caused by bad air. Since then, we have learned that diseases are caused by germs (the bacteria and viruses that spread disease). We have also learned many ways of preventing diseases and of treating patients who have a disease.

Geofact

People rarely used soap to wash their bodies until the late 19th century. Soap was usually made from animal fats and ashes, and was too harsh for bodies. A gentler soap, made with olive oil, was too expensive for most people.

Adapted from *The Dirt on Clean* by Catherine Ashenburg (2007)

Immunisation

Immunisation is a method of protecting people from getting certain infectious diseases. In 2010, 55% of South African infants under one year were **immunised** against TB, polio, measles and hepatitis B. Immunisation artificially stimulates the body's immune system to provide protection against specific serious infections. This is done by giving a vaccine. Two forms of vaccines are:

- a small dose of a live but weakened pathogen taken as a tablet
- a small dose of a dead pathogen that is injected into a muscle.

Cleanliness

Washing your hands, body and clothes helps to reduce bacteria, insects and fungi that can lead to illness. Until 150 years ago, people did not know that they could help prevent disease by:

- washing their hands with soap and water after using the toilet and before eating
- washing food before eating it
- cooking food thoroughly
- drinking water from clean, safe sources.

key words

immunise protect a person from a disease, for example with a vaccine

research organised hunting for facts or to develop new products

Medicines

Medicines reduce human suffering, improve the treatment of disease and return people to a healthy life. Many universities and laboratories are busy with **research** to find new medicines. Between them, at any one time, they are working on about 3 000 new medicines.

Surgery

Over the past 200 years, many new ways of operating on people have been developed. Some operations remove infected parts of the body like the appendix and tonsils. Other operations repair injuries.

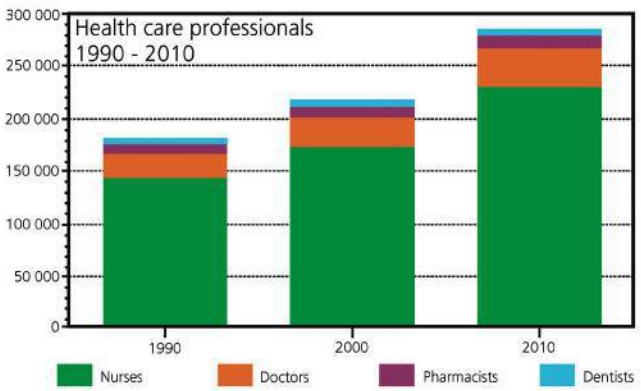


Figure 3.37 Increase in health-care professionals in South Africa from 1990–2010

Organ donation

Organ donation is the use of a dead person's organ transplanted into another person to save or improve his or her life. The world's first successful heart transplant was done in South Africa in 1967. Organs that can be transplanted include kidneys, livers, hearts, pancreases, corneas and bone tissue.

Health-care professionals

An important way to improve health care is to have more professional people caring for the population. For example, the number of health-care professionals in South Africa has increased faster than the population.

Activity 15 Evaluate improvements to health care

1. Explain the advantage of being immunised.
2. Describe how washing hands helps to control the spread of diseases.
3. Refer to Figure 3.37 on page 74 and answer the following questions:
   a) Name four different types of professional health carers.
   b) Approximately how many nurses did South Africa have in 2010?
   c) Approximately how many doctors did South Africa have in 2010?
   d) How does the graph show you that there were more doctors and nurses in 2010 than in 1990?
4. a) Think of a reason why some people agree with organ transplants.
   b) Think of a reason why other people don't like the idea.
   c) What is your **opinion**?
5. Read the case study below. Explain why the cure for stomach ulcers is a valuable discovery.
6. What does the case study show about the importance of continuing medical research?

key words

stress strain, pressure
opinion a view about something, what you believe to be true
transfusion the transfer of blood from one person to another

Case study: How the cure for stomach ulcers was found

About 10% of people suffer from ulcers in their stomach or intestines. These sores can be painful and sometimes these people need an operation. For many years, people thought that **stress** caused ulcers. Two Australian doctors challenged this idea. They found that small, curved bacteria caused stomach ulcers. After much work, they invented a medicine to eradicate these bacteria. The younger doctor was so sure that his medicine would work, that he swallowed a small cup of the bacteria. His research helpers were shocked. But he proved that the new medicine really worked. This medicine now cures millions of people from this painful disease. In 2005, the two doctors were awarded the Nobel Prize of R28 million for their discovery.

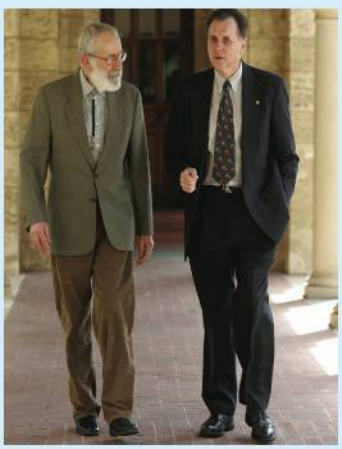


Figure 3.38 Drs Barry Marshall and Robin Warren who discovered a cure for stomach ulcers

Food supplements

In addition to the food they usually eat, some people can now take tablets or mixtures that give their bodies more vitamins, minerals or other substances. These substances may improve their health and resistance to illness.

Blood transfusions

Blood **transfusions** are a way in which people give some of their blood to save a patient who has lost a lot of blood in an operation or accident.

Formal Assessment Task: Research project or time line

Set out below are two plans for a task that explores ideas about population. Your teacher may give you other tasks to do. Before you start, make sure you know:

- whether it is a written or oral task
- the minimum and maximum length that you need to consider
- which items must be included in your task
- which optional extras you may include
- how your assessment task will be marked
- when the work is due.

Choose one task to complete: either research project (A) or time line (B).

A. A research project

Total marks: 50 Time: 1 week

Instructions

Carry out an enquiry to find out what people in your school or community think about a population topic. Before you start, decide on the following:

1. What question do you want to investigate? Here are some examples:
   - Which factors should parents take into account when they decide how many children to have?
   - Which factors make it unlikely that the Earth could sustain yet another doubling of its population?
   - Should a one-child policy be imposed on every family on Earth?
2. Whose views do you intend to research? You can choose from your friends, classmates, family, teachers, neighbours, younger people and older people. How can you get a balanced sample of opinions?
3. What questions will you ask? Design a questionnaire that each person either fills in or which you can use when you interview people.
   Here are some examples of the ways you can write your questionnaire:
   a) Choosing an answer:
      - Do you think that parents should be free to choose how many children they will have? Yes/No
      - How many children do you think it is best to have?
      - i) None; ii) 1; iii) 2; iv) 3; v) more than 4

   b) Rating statements: Invite people to give their views, for example:

Statement	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
The government should control population growth					
The government should punish people who have more than two children					

c) Ranking items:
   – What do you think should be the best ways to encourage parents to have only one or two babies? Show your order of preference with 1, 2, 3 etc.

Reward or penalty	Order of priority
More education about the value of small families	
For having only one baby: Lower taxes	
For having only one baby: Help with buying a house	
For having only one baby: Cash reward	
For having two babies: No reward or penalty	
For having more than two babies: Higher taxes	
For having more than two babies: No job promotion	

d) Open questions: These call for varied answers, sometimes in a sentence or two, for example:
   i) Name a country that punishes people for having more than one or two children.
   ii) Do you agree with this punishment?
   iii) Why or why not?
   iv) Can you name one country that allows couples to have only one child?
   v) Do you think that people everywhere should have smaller or bigger families?
   vi) Why do you think this?
   vii) Do you think that people in South Africa should have smaller or bigger families than they do now?
   viii) Why do you think this?

4. How will you do your research? You need to decide whether you will hand out your questionnaire or whether you will ask people the questions and write down their answers on the blank questionnaire. In addition to getting people's answers and ideas, remember to:
   – thank the people who have helped you
   – note down things about the person that might have affected their ideas, for example, their age, whether they are male or female, their home language, and so on.
5. How will you put all the answers together?
   a) Look at the answers you have collected before you analyse them.
   b) If your questionnaire had only items like those in a), b) and c) above, you can record the responses in squares on a table.

c) The answers to open questions (like 3.4 above) may be varied. It may help to draw a big table on a large sheet of paper for each question, so that you can start sorting responses into distinct groups. Later you may feel that you need to change the groupings to show distinct differences in people's opinions.

6. How will you present your findings? Different kinds of findings will need different kinds of presentation:
   a) Words (in sentences and paragraphs) to describe:
      – the aim of your task (what you wanted to find out)
      – how you set about it
      – the general trends you discovered
      – any exceptions to those trends
      – what conclusions you can make.
   b) Graphs to show any of your findings that are numerical.
   c) Maps if your findings vary from one place to another or from one community to another.
   d) Photographs or pictures to illustrate your findings.
7. What are all the answers telling you? As a conclusion, summarise what your questionnaire has shown. Can you see if some groups of people (for example. older people or people in another suburb) think the same way about your topic? Do the people you questioned agree or disagree on points? Do your findings suggest some way in which you (or your school or your neighbours) can improve conditions for other people?
8. In what way could you have improved your project? Before you hand in your project or deliver your presentation orally, look at it and ask:
   – Were some of your questions not clear?
   – What other questions could you have asked to get the information?
   – In what ways could you have made your presentation clearer?
   – Was your presentation attractive?

B. A time line

Total marks: 50 Time: 1 week

Instructions

Activity 8 explains how to draw a time line. You can adapt your time line by adding other information, for example:

- a world map showing where each of the events happened
- Geofact boxes with interesting facts that you have found about the wars
- pictures that illustrate the wars (people, battlefields, flags, damage, weapons).

You will be able to get this extra information from reference books in the library or from websites on the Internet. You can draw your own pictures, too.

Revision

Unit 1 Population concepts

- The population concepts of birth rates, death rates and growth rates are valuable measures of the health of a country and of its future.
- Infant mortality rates show what proportion of babies die. High mortality rates are common in poorer countries with less food and medical care. Few babies die in rich countries.
- Life expectancy is the average number of years a person will live. People in countries with less education, food and fewer doctors have shorter lifespans.

Unit 2 Factors affecting birth and death rates

- Diseases have increased death rates for thousands of years. Although there are medicines and vaccines to fight most diseases, many people still die from them.
- Pandemics have sometimes killed millions of people – even over half of all the people in a country. A new pandemic could strike the world at any time.
- Economic status indicates a person's income. Most people in rich countries can afford good food, education and healthy lifestyles. They have lower birth rates and death rates than poor people do.
- Families have needs and beliefs that can make them prefer to have larger families or smaller families. Usually people in cities have fewer children than people living in rural areas.
- Wars bring death to soldiers and also to people living in the towns and cities that are attacked and bombed. More than 200 million people have died in wars and conflicts in the past 100 years.
- Genocide is the planned killing of a particular group of people. Some 20 to 25 million people have been killed in genocide in the past 100 years.
- Government policy in China limits families to one child. This practice limits population growth, but it has disadvantages. Some think it is cruel.

Unit 3 World population growth

- The world's total population has been increasing faster and faster. The growth is greatest in Africa and Asia, but low in Europe and North America.
- With new crops and better farming methods, the world can produce more food to feed the world's increased population. But the poorest people can't afford to buy it.
- Scientific developments prevent and control many diseases. The use of vaccines, disinfectants, water purification and preserved food are examples of these developments.
- Health care (like greater cleanliness, medicines, better surgery and more doctors) caused death rates to drop so that people live longer.

Term assessment

Getting started

1. What are you talking about when you discuss population? (2)
2. Which of these situations will result in a rapid population increase? (2)
   A. High birth rate with a high death rate
   B. High birth rate with a low death rate
   C. Low life expectancy
   D. Low birth rate with high death rate
   E. Low birth rate with low death rate.
3. What is the natural population growth rate when the birth rate is 14 per thousand, and the death rate is 8 per thousand? (4)
4. Which of the statements A to E best completes this sentence? (2)
   The world's population started to increase very fast after _____ .
   A. the Green Revolution
   B. the discovery of America
   C. the smallpox plague ended
   D. the Industrial Revolution
   E. vitamins were discovered

Check your understanding

5. Give reasons for people saying that the world's population is increasing. (4)
6 Explain the meaning of this statement: 'South Africa's birth rate in 2012 was 21‰.' (6)
7. Using the words 'death rate' and 'birth rate', explain why the world's population is increasing. (6)
8. Give two reasons for the decrease in the world's death rate over the past 100 years. (4)

Challenge yourself

9. Suggest two reasons for the natural population growth rate being different from country to country. (8)
10. A number of different factors affect the birth rates and death rates of a country. List three factors and explain how each one affects birth rates and death rates. (9)
11. Most countries oppose China's one-child policy. Suggest a reason that would make it unacceptable in South Africa. (1)

Total [50]

Topic 4 Natural resources and conservation in South Africa

Key concepts and content

- Explain the concept of natural resources.
- Identify natural resources.
- Differentiate between the use and abuse of natural resources.
- Identify and extract information from maps, graphs, texts and photographs.
- Understand the concept and importance of conservation.
- Understand why it is important to care for our planet.
- Understand the interdependence of all living things.
- Evaluate the importance of wetlands and conserving water.

Unit 1 Natural resources

People cannot live without air, water, soil, trees or sunlight. These elements are natural resources. People cannot make natural resources, but get them from nature. We are totally dependent on natural resources. Everything we have or use is made of natural resources. South Africa has many natural resources, such as wildlife, plants, fish, minerals (for example coal, platinum, chrome and gold), and forests. We need to **conserve** our natural resources because our health, jobs and survival depend on them.

key word

conserve to protect from loss, damage, or harm

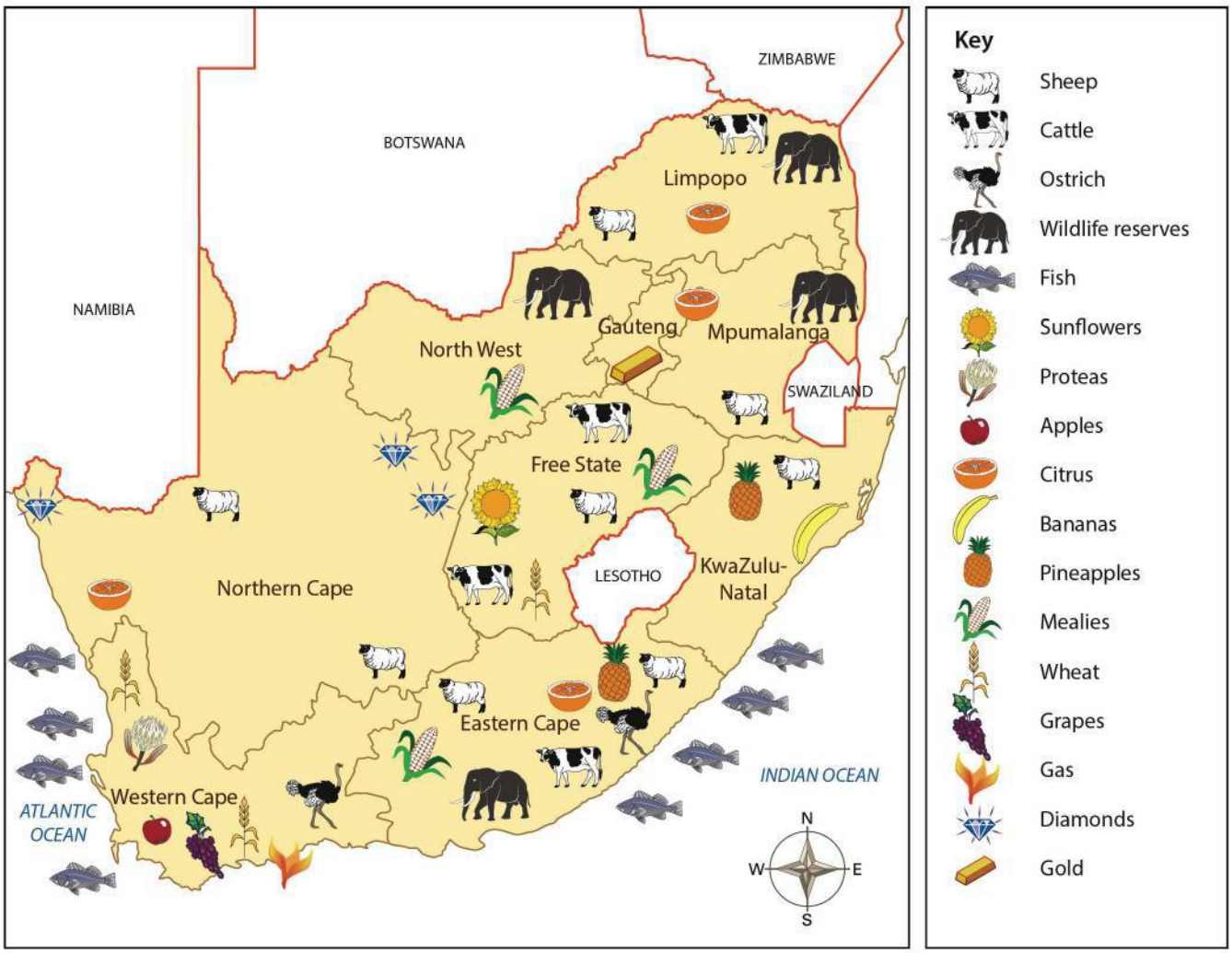


Figure 4.1 Natural resources in South Africa

Natural resources on Earth

Different places on Earth have their own groups of natural resources. Some countries have plenty of oil or diamonds. Others have rich soil and thick forests, or many plants and animals. Refer to the map indicating the main natural resources of South Africa in Figure 4.1. Natural resources can be divided into renewable and non-renewable resources.

Renewable resources

Many of the natural resources people need to survive are renewable. Renewable resources, such as sunlight, water and air, cannot be used up. However, pollution can affect their quality. Plants and animals are also renewable resources. Living things naturally reproduce themselves, but human activities such as hunting, fishing, **deforestation**, building and pollution can cause these resources to disappear forever.

key words

deforestation clearing of forests for agricultural, commercial, housing, or firewood use

polar ice caps the areas around North and South Poles that are permanently covered by ice

Non-renewable resources

Resources such as soil, minerals and oil can take thousands or millions of years to form. These resources are non-renewable because people use them faster than they can form.

Water

More than 70% of the Earth is covered by water. Of this, 97% is saltwater. Only 3% is fresh water, and most of this water is frozen in glaciers and the **polar ice caps**. Fresh water is a renewable resource, but the world's supply of fresh water is decreasing. In many parts of the world, the demand for water exceeds the supply.

Air

Air is essential for all living things. Air is a renewable resource, because plants, trees and tiny ocean creatures called phytoplankton create oxygen. The quality of air depends on how much pollution is discharged into the atmosphere. Polluted air can cause illnesses such as asthma, bronchitis and even lung cancer.

Forests

Forests are a renewable resource. In 1990, there were 8.4 billion acres of forest on Earth. Today, this figure has dropped by 35% due to deforestation caused by human activities. Deforestation reduces the amount of oxygen in the air and prevents harmful carbon dioxide from being removed. Most deforested land is used for agriculture, and some land has become semi-desert or desert.

Forests provide wood. Wood is used to make paper and furniture, as well as for building. In the less-developed world, firewood is an important source of energy. It is used for cooking and heating. Trees are very important to the environment because they help reduce air temperature, reduce noise pollution, decrease soil erosion, absorb carbon dioxide and give off oxygen.

Soil

Soil is a non-renewable resource, as it takes about 500 years to form a centimetre of soil. Most life on Earth depends on soil as a source of food. Plants, animals and people get food from the soil and it is home to many different forms of life. Although soil takes many years to form, it can be destroyed very easily. When soil is destroyed, crops cannot grow.

Geofact

Coal is formed underground from dead plants. In nature, it can take coal up to 200 million years to form.

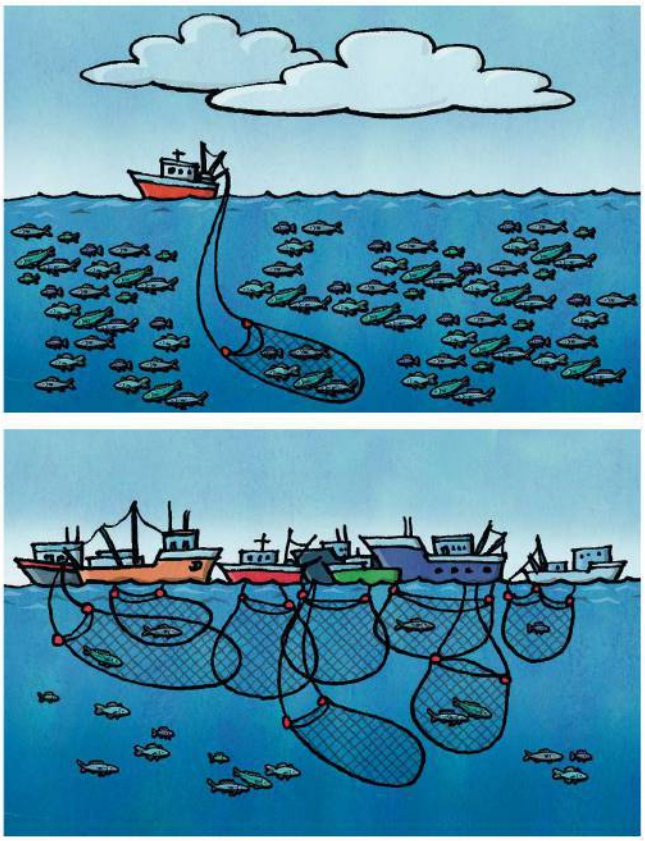


Figure 4.2 People are taking more fish from the oceans than can be reproduced.

Figure 4.3 People need to use the Earth's resources wisely.

Animal and marine life

Animals replace themselves by reproduction, so they are a renewable resource. South Africa is rich in animal life, but many of our animal **species** are **endangered**. Animals are endangered because of illegal hunting, **poaching** and **overgrazing**.

Resources that we get from the sea are called marine resources. Fish is a very important marine resource. It is a source of food and the fishing industry provides employment for many people. However, **overfishing** has reduced this resource. Humans are taking more fish from the oceans than can be reproduced.

Activity 1 Talk about natural resources

Carefully read the information on resources before answering these questions.

1. Choose one word from the list below for each of the following:
   a) The removal of forests
   b) Resources that cannot be replaced once they are used up
   c) Resources produced by the sea
   d) In danger of becoming extinct
   e) Protect resources so they are not used up
   f) Resources that can grow again or be replaced.

renewable	conserve
non-renewable	deforestation
endangered	marine resource

2. Say whether the statements are True or False:
   a) Renewable resources can be replaced once they are used up.
   b) Water and soil are renewable resources.
   c) Non-renewable resources are used up faster than nature can produce them.
   d) Reforestation replaces the trees that have been cut down.
   e) When something is extinct, it cannot be replaced and is lost forever.

Use and abuse of natural resources

The Earth's natural resources like food, water and forests are being used up very quickly. The world's population is growing rapidly, putting great strain on the world's natural resources. Therefore, we must use all resources wisely.

The following actions show some ways in which people are destroying the world's natural resources:

- Clearing land for farming and building destroys the plants and animals that live in these areas.
- Cars and factories use huge amounts of oil every day. They also release poisonous chemicals that pollute the air, water, and soil.
- The dumping of ore and other waste materials from mines on the surface leads to soil and water pollution.
- Deforestation and pollution have led to increased CO_2 levels in the air that we breathe.
- Hunting wild animals for pleasure or trade has resulted in many animals becoming endangered.
- Overfishing has endangered some species of marine life.

Many people are working to conserve natural resources. Scientists are working on ways to produce energy without causing pollution or using up valuable natural resources. Wind and sunlight are renewable resources that can be used to produce energy. You can use resources wisely by recycling glass, plastic and paper. Reusing or recycling these products has the benefits of ensuring their continued supply, using less **landfill space** and using less energy.

key word

species group of similar animals or plants
endangered in danger of becoming extinct
poaching illegal hunting and killing of animals
overgrazing to allow animals to graze to the point of damaging vegetation cover
overfishing catching too many fish in an area of the sea
landfill space the ground used for dumping waste material (rubbish)

Geofact

The average amount of waste generated per person per day in South Africa is 0,7 kg. This adds up to more than 35 million kg of waste each day.

Activity 2 Natural resources

1. List 10 natural resources found in the area where you live. State whether each resource is renewable or non-renewable.
2. Look at the pictures alongside of everyday items. For each picture, write down the natural resources that were used to make it. State whether each resource is renewable or non-renewable.
3. Think of five ways that people abuse the Earth's natural resources.
4. Everyone can help to conserve the Earth's natural resources. Think of three things you can do to help to save natural resources.

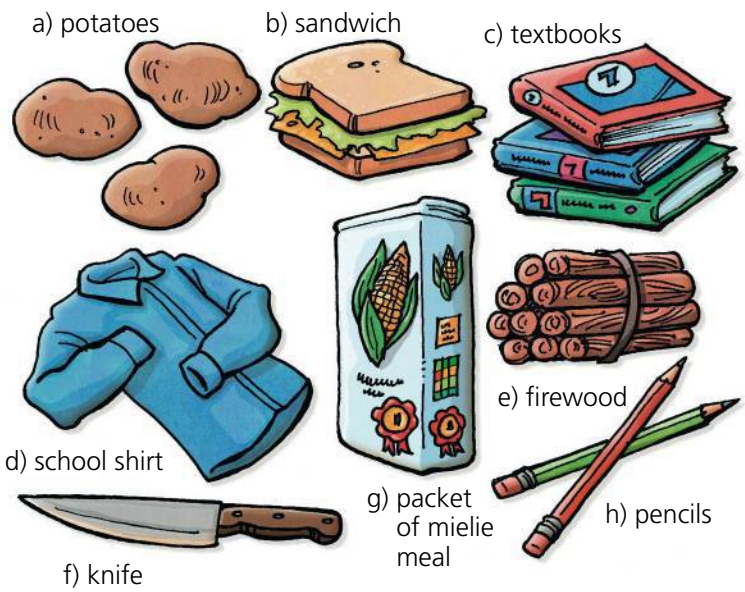


Figure 4.4 Items made from different resources

Unit 2 Management of resources

Concept of conservation – including reasons for conservation

Conservation is about meeting people's needs while making sure that we do not damage our planet. We need to protect and manage our natural resources and environment so that they are here for future generations to use and enjoy. All life depends on natural resources, which is why it is important to practise conservation.

South Africa has nearly 10% of the world's plants and 7% of its reptiles, birds and mammals. Our oceans have 15% of the world's marine species. Many species are found only in South Africa and nowhere else in the world.

Table 4.1 below shows the number of species in South Africa.

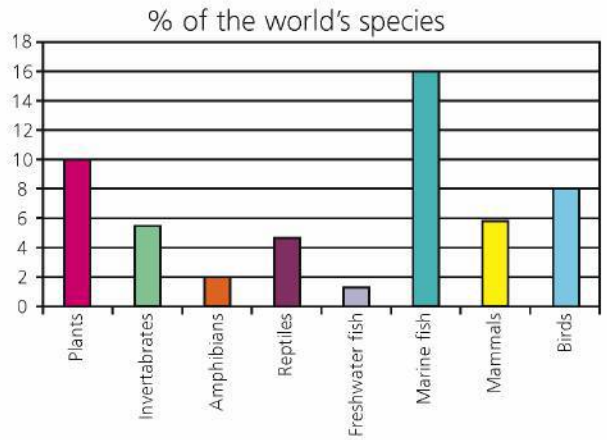


Figure 4.5 South Africa's species as a percentage of the world's species

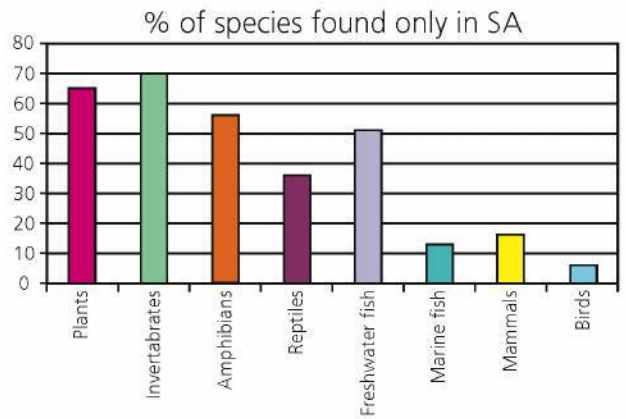


Figure 4.6 The percentage of species found only in South Africa

Group	Number of species in South Africa
Plants	23 456
Invertebrates (animals with no backbone, e.g. worms)	77 500
Amphibians (animals that can live on water and land, e.g. frogs)	84
Reptiles (animals that are cold-blooded, e.g. snakes)	286
Freshwater fish	112
Marine fish (fish from the sea)	2 150
Mammals	227
Birds	718

Table 4.1 Number of species of plants and animals in South Africa

The graphs in Figure 4.5 and Figure 4.6 show South Africa's species as a percentage of the world's species, and the percentage of these species that are found only in South Africa.

Approximately 10% of South Africa's birds and frogs, 20% of its mammals, 36% of its freshwater fish and 13% of its plants are **threatened**. The Cape Floral Kingdom is the smallest, richest and most threatened of the world's six floral kingdoms. The Cape Floral Kingdom is home to 9 000 plant species (38% of South Africa's plant species), of which 1 850 (over 20%) are threatened with extinction.

key word

threatened a species that could soon become endangered

The following actions by people threaten our plants and animals:

- Clearing the land for buildings, mines and factories destroys the habitat of plants and animals.
- Polluting the land, water and air kills many plants and animals.
- Taking too many fish out of the sea causes fish species, as well as marine animals that need to eat fish, to become endangered.
- Removing the forests destoys habitat.
- Clearing land to plant crops.
- Allowing invasive alien plant species to grow kills the plants that grow naturally in the area.

Geofact

There are 17 threatened mammals in South Africa, including the black rhino and giant golden mole. The riverine rabbit and wild dog are endangered. The blue antelope and the quagga are extinct.

Losing plant and animal species affects everyone. We lose clean water and air, food and shelter, and money that we could earn from tourists. We also lose the beauty of nature.

Activity 3 Analyse South Africa's plant and animal species

Use the graphs in Figure 4.5 and Figure 4.6 on page 86 to answer these questions.

1. a) What percentage of the world's plant species is found in South Africa?
   b) What percentage of the world's bird species is found in South Africa?
   c) What percentage of the world's marine fish species is found in South Africa?
   d) What percentage of plant species is found only in South Africa?
   e) What percentage of mammal species is found only in South Africa?
   f) What percentage of invertebrate species is found only in South Africa?
2. What percentage of our mammals are threatened?
3. Give an example of a mammal species of South Africa that is threatened or endangered.
4. Write a paragraph in which you discuss why you think it is important to conserve our plants and animals.

The values of conservation

Conservation has several values: ecological value, economic value and beauty value.

Ecological value

Ecology is the study of the relationships between all living (plants and animals) and non-living (for example, soil, water, air) elements on the Earth. From ecology, we know that all living and non-living things depend on each other.

> 'All things are connected, like the blood that unites one family. Whatever befalls the Earth, befalls the sons of the Earth. Man did not weave the web of life; he is merely a strand in it. Whatever he does to the web, he does to himself.' – Chief Seattle

Look at the diagram in Figure 4.7 to see how different forms of life are dependent on each other and on natural resources.

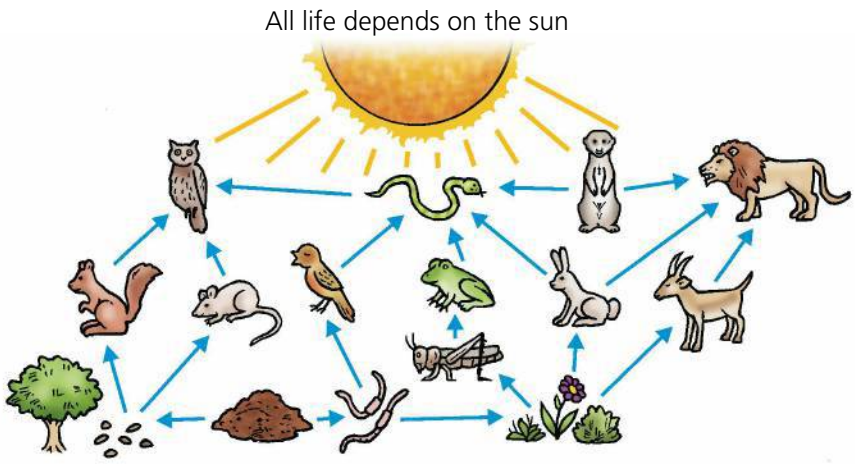


Figure 4.7 All life is interdependent

Economic value

The country's economy is dependent on natural resources. For example, industries such as forestry, fishing, agriculture and tourism depend on the natural environment. These industries will suffer if the natural resources are damaged. For example, overfishing of pilchards off the west coast of South Africa and Namibia resulted in a crash in other fish populations, and harvests dropped dramatically.

Beauty value

The beauty and peacefulness of the mountains, the sea and the bushveld attract people for recreation and relaxation. However, if we do not look after our environment, future generations will not be able to enjoy its beauty.

Conservation areas (including marine reserves)

South Africa has many different types of animals, plants and landscapes, and many sites of archaeological, historical and cultural significance. One of the best ways to preserve and conserve these elements is through establishing conservation areas.

Purpose and location

South Africa should conserve 10% of land biodiversity and 20% of marine biodiversity. Currently, the country conserves less than 7% of the land, and 21.5% of the coastline. There are different types of conservation areas:

- Scientific reserves are unspoilt and undisturbed areas that are used for scientific research. The only scientific reserve belonging to South Africa is the Prince Edward Island group (Marion Island and Prince Edward Island).
- Wilderness areas are large, undeveloped and uninhabited areas to which access is strictly controlled, and no vehicles are allowed. Examples are the Cederberg Wilderness Area in the Western Cape, the Baviaanskloof Wilderness Area in the Eastern Cape, and the Ntendeka Wilderness Area in KwaZulu-Natal.
- National parks are large natural areas of land or sea, or both. SANParks promotes the conservation of the country's natural and cultural heritage at local, national and international level, and plays an important role in promoting eco-tourism. National parks are managed mainly for ecosystem conservation and for recreation. National parks are scattered throughout South Africa.
- World Heritage Sites protect and preserve places that have cultural and natural significance to people from around the world. South Africa has eight World Heritage Sites:
  - Robben Island
  - the iSimangaliso Wetlands Park
  - the Cradle of Humankind
  - the uKhahlamba-Drakensberg Park
  - the Mapungubwe Heritage Site
  - the Cape Floral Kingdom
  - the Vredefort Dome
  - the Richtersveld Cultural and Botanical Landscape.
- Biosphere reserves are areas that have beautiful landscapes, a variety of fauna and flora, and their own culture. They are situated around existing conservation areas. These sites are used to find out and learn about conservation and sustainable development. Biosphere reserves try to find ways to make people more aware of their environment. This includes ways in which communities can make money from the resources available in their environment while still conserving it. The Vhembe region of Limpopo province became South Africa's sixth biosphere reserve in 2009.

Geofact

Every 20 minutes, the world adds another 3 500 human lives, but loses one or more entire species of animal or plant life.

Geofact

Protected areas cover less than 7% of South Africa. This is less than Botswana (18%), Namibia (14%), Zimbabwe (13%) and Mozambique (9%), and only 25th among countries in Africa.

Figure 4.8 Rock art at the Mapungubwe World Heritage Site

- Transfrontier Conservation Areas (TFCAs) are conservation areas that stretch across the borders of countries. These countries work together to conserve the plants, animals, landscapes and cultures that fall within these areas. Tourists can move across international borders in these conservation areas. The map in Figure 4.9 shows the location of South Africa's land conservation areas.
- National and cultural monuments are areas with unique or outstanding natural features. Examples include Kirstenbosch Botanical Gardens and Paarl Mountain.
- Marine protected areas (MPAs) help to conserve the plant and animal life of the sea, and help communities living next to the sea to use the sea's resources wisely. South Africa has 21 MPAs (see Figure 4.10 on page 91). There are different levels of MPAs. Some are no-take zones where nothing may be disturbed, caught or removed, such as at the De Hoop MPA in the southern Cape. Partial-take MPAs have rules about what activities may take place and where they can take place.

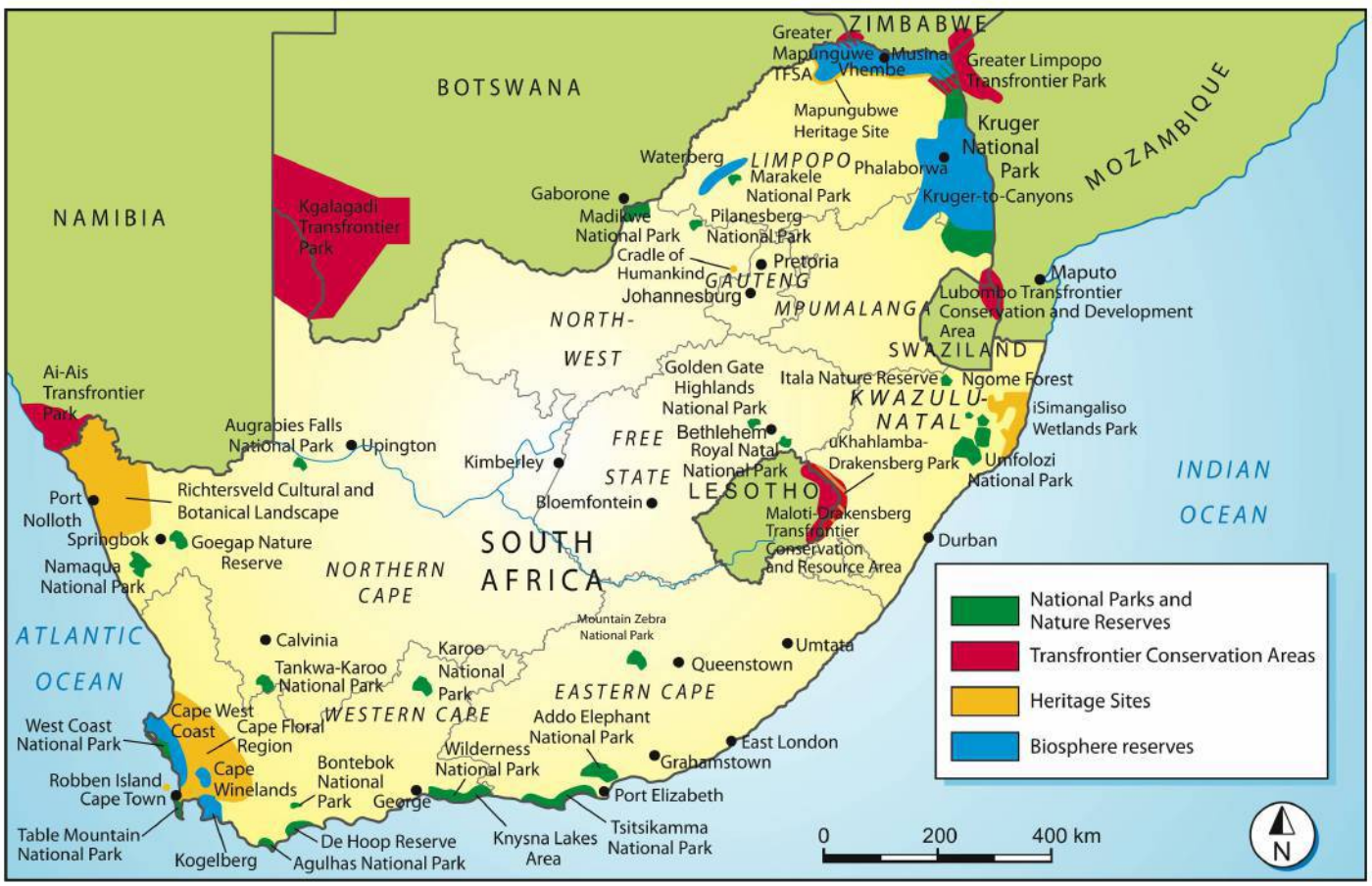


Figure 4.9 A map showing South Africa's national parks, Transfrontier Conservation Areas, World Heritage Sites and biosphere reserves

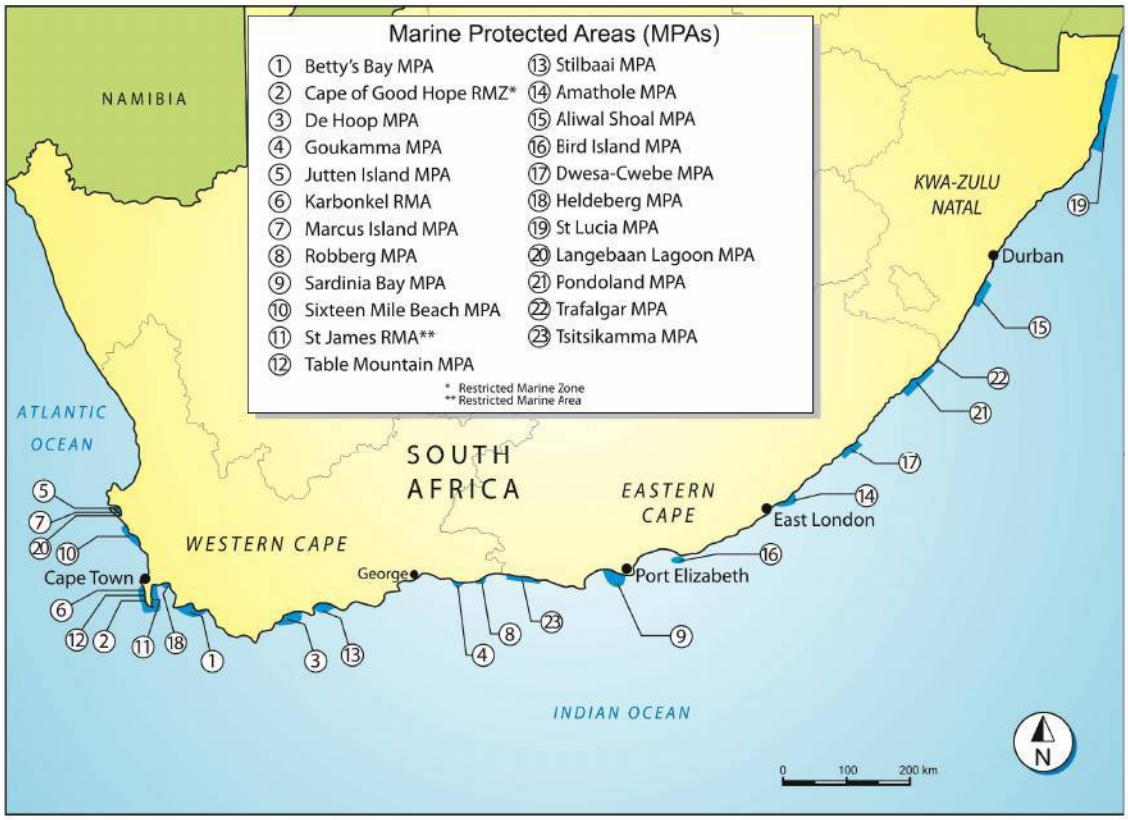


Figure 4.10 South African Marine Protected Areas

Activity 4 Focus on conservation

Refer to the maps in Figures 4.9 and 4.10 to answer these questions.

1. Give an example of each of these types of conservation areas:
   a) National park
   b) Marine Protected Area
   c) Transfrontier Conservation Area
   d) Biosphere reserve.
2. In which provinces are the following conservation areas found?
   a) Addo Elephant National Park
   b) Table Mountain Marine Protected Area
   c) Golden Gate National Park
   d) iSimangaliso Wetlands Park
   e) Kogelberg Biosphere Reserve.
3. Use the diagram in Figure 4.8 on page 88 to answer these questions.
   a) On what does all life depend?
   b) Name three animals that depend on grass to stay alive.
   c) Each of these species needs another species in order to live. State what each species needs: lion, snake, owl, bird.
4. Distinguish between no-take and partial-take MPAs.

Case study: Cape West Coast Biosphere Reserve

From 2000, the West Coast, stretching from Diep River in Milnerton, Cape Town in the south to the Berg River in the north, became a Biosphere Reserve. The aim of the Cape West Coast Biosphere is to develop the area in a way that benefits both the people and the environment, and to conserve the landscape, vegetation and species of the West Coast.

Figure 4.11 The Cape West Coast Biosphere Reserve

It is the only biosphere run by volunteers. It includes Dassen Island, which has the largest penguin colony and one of only two breeding sites in the country for pelicans, (the other breeding ground is in St Lucia). It also has the largest colony of gannets, based at Lamberts Bay. Yzerfontein harbour produces the largest amount of line fish in the country. This biosphere also has a nuclear power station and an oil refinery, and includes the fastest-growing residential area in South Africa (Parklands/Table View).

Groote Post vineyard and Darling Cellars are based in the biosphere. The World Sailboard Championships is annually held at Big Bay, and the Berg River estuary is one of the largest salt producers in the country (Cerebos). Refer to the map in Figure 4.12.

Figure 4.12 The West Coast Biosphere Reserve incorporates a varied landscape.

Figure 4.13 The Berg River estuary wetlands are home to a variety of birds.

The Cape West Coast Biosphere Reserve (CWCBR) undertakes many projects to make sure that the area is conserved, and that the people of the area benefit from this. Recent projects include the following:

- The development of a network of five trails, which allows visitors to enjoy the Cape West Coast region and, at the same time, creates jobs and helps the local community to develop skills. Local restaurants, theatres, vineyards and olive farms are part of the trails, and people from the area are employed as trail and tour guides, drivers and caterers.
- The Green Food Gardening Project includes food gardens, as well as indigenous herbs and plants. The products from the gardens are sold. This project helps the poor people in the area to find work and make money.
- The Landcare and Youth Educational Project helps young people to develop and respect South Africa's natural resources.
- A fynbos rehabilitation project uses local people to clear invasive alien bushes and trees that have overrun this area. Plant species that grew naturally in the area before the land was used for farming have been reintroduced.

The achievements of the CWCBR include the following:

- More than 100 jobs have been created for previously disadvantaged individuals.
- A state-owned protected area was created from 953 hectares and named the Blaauwberg Conservation Area.
- Proper conservation management is now taking place in a number of nature reserves in the biosphere.
- Buffelsfontein was made into a private nature reserve in 2003 and Jakkalsfontein was declared a private nature reserve in 2002.
- *!Khwa ttu*, a San Cultural Farm, was opened in 2006 for conservation tourism. This farm provides jobs for local people and helps to protect the San culture.

Activity 5 Cape West Coast Biosphere

Read the case study before answering these questions.

1. In which province is the Cape West Coast Biosphere Reserve?
2. Identify five attractions of this biosphere.
3. Describe the ways in which the Cape West Coast Biosphere Reserve developed the area so that both the people and the environment benefit.
4. Write a paragraph in which you discuss the importance of the Cape West Coast Biosphere to the area in which it is located.

key word

alien invasive plants species of plants that come from other countries, and then destroy the indigenous species of plants

Big Five five of Africa's greatest wild animals: lion, leopard, elephant, rhino, and buffalo

abseiling going down a rock face using a rope

Community conservation projects

The two community conservation projects that you will learn about are Working for Water (WfW) and Qhubeka Eco.

Working for Water (WfW)

Working for Water is a government programme that was founded in 1995. Its aim is to clear **alien invasive plants** while providing social services and rural employment. Alien invasive plants tend to use up a lot of water. Their removal frees water resources for both human needs and the environment. This programme works with local communities by providing jobs, and also with government departments and private companies. Since 1995, the programme has cleared more than one million hectares of invasive alien plants and provided jobs and training to about 20 000 people. WfW currently runs over 300 projects throughout South Africa.

Figure 4.14 Working on a Working for Water project

Figure 4.15 Qhubeka Eco's bicycle programme helps local communities and the environment.

The WfW programme was launched in Tsitsikamma in the Eastern Cape in 1996. The clearing work is mostly in the Tsitsikamma National Park, and workers come from local communities. These communities are among the poorest in the region and jobs are scarce. The project also provides health education and training for HIV and AIDS educators. Childcare centres are also available, with the result that more women are able to work. The project benefits the environment and the local people.

Qhubeka Eco

Qhubeka Eco provides bicycles to children across Africa in return for work done to improve their communities and the environment. This work includes planting trees, recycling waste and farming food. Qhubeka Eco provides bicycles to children who earn their bikes by growing trees (known as Tree-preneurs) and by recycling and trading recyclables for bikes (known as Green-preneurs).

This work also makes the children appreciate the need to conserve the environment. Qhubeka Eco projects contribute to conservation in Africa, as well as job creation, education, and community development.

Eco-tourism

Eco-tourism, also called 'green tourism', is a form of tourism that uses nature as its main attraction. It also aims to benefit local communities.
Eco-tourism includes:

- visiting places to appreciate the natural environment, scenery and wildlife, and to understand the culture
- creating jobs in an area while protecting natural resources and the local way of life.

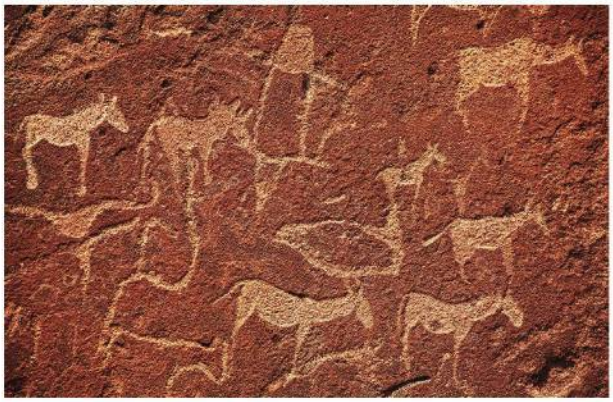


Figure 4.16 Rock art in Drakensberg Mountains

Eco-tourism may mean a visit to a Hluhluwe Game Reserve in KwaZulu-Natal, canoeing down the Orange River, viewing San rock art while hiking in the Drakensberg Mountains, or visiting the Kirstenbosch Botanical Gardens.

Figure 4.17 Canoeing down the Orange River

Examples of eco-tourism in South Africa

The African Ivory Route is a popular eco-tourism destination. Figure 4.18 shows the location of the main attractions of the African Ivory Route.

The African Ivory Route offers **Big Five** game viewing, bird-watching, hiking, horse trails, 4x4 routes and **abseiling**. Many places of cultural value also lie along the route. These places include examples of San rock art, the royal kraal of the Rain Queen Modjadji and archaeological sites such as Thulamela in the Kruger National Park, Mapungubwe in the north of the province (Limpopo) and Makapansgat Caves north of Mokopane. Lake Fundudzi (where legend has it that the python rules the underwater spirit world), the Holy Forest where the ancestors guard the Venda traditions, the Tshatshingo potholes and the Thathe-Vondo Dam and tea estates, are also found along this route.

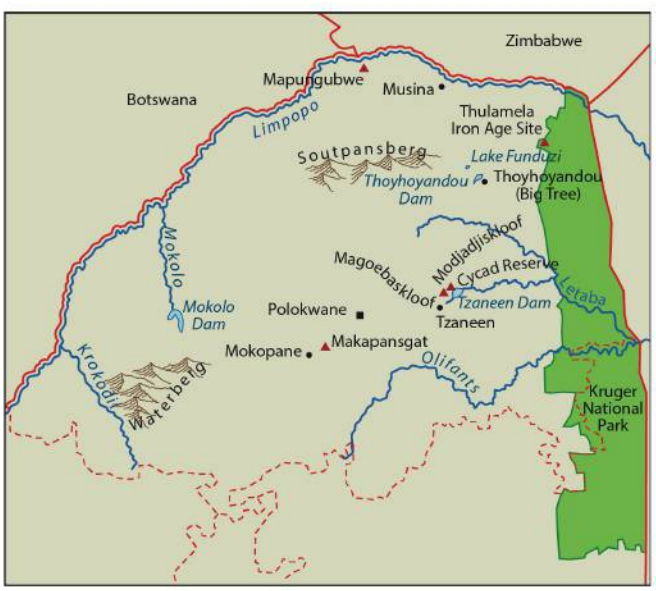


Figure 4.18 The African Ivory Route is a popular eco-tourism destination.

Five cultural camps are based in villages along the route, where tourists can see traditional dances, eat local food, and enjoy traditional music and storytelling. More than 50 local people work for the African Ivory Route.

In the Eastern Cape, Amathole Mountain Escape stretches from Stutterheim in the west to Adelaide in the east. The area offers hiking, mountain biking, fly fishing, rock climbing, abseiling, kayaking and 4x4 trails. Tourists can view a wide variety of game and birds, and visit battlefields. East of Stutterheim is Mgwali Village where tourists can experience African traditions in a village setting. Figure 4.19 shows the Amathole Mountain Escape.

Figure 4.19 The Amathole Mountain Escape

Activity 6 Explore eco-tourism

Read the information on eco-tourism and then answer the questions.

1. What is eco-tourism?
2. Copy and complete the table below by filling in two attractions and/or activities that are offered on the African Ivory Route and the Amathole Mountain Escape for each item in column one.

	African Ivory Route	Amathole Mountain Escape
Places of cultural value		
Natural attractions		
Things to do in the outdoors		

3. Take a careful look at the area in which you live. Compile a list of activities and attractions that could be offered to attract people to your area and teach them to appreciate your environment.

Unit 3 Water in South Africa

Who uses South Africa's water?

Activity 7 Water usage

Refer to the pie chart in Figure 4.20.

1. List the water-use activities, in order from the biggest uses to the smallest uses.
2. Copy and complete the table below to show which sectors are using water and the amount of water that they are using. An example has been done for you.

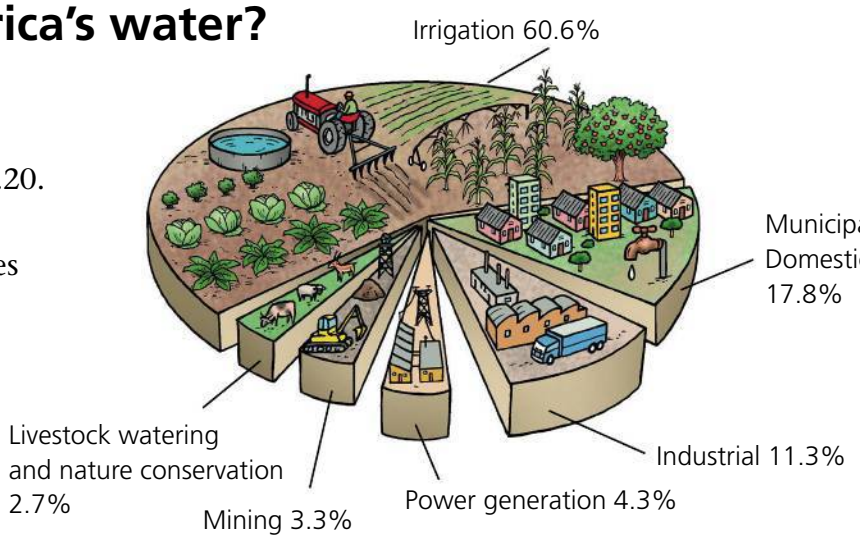


Figure 4.20 The pie chart shows that most of South Africa's water supply is used for irrigation (60.6%).
(Source: *EnviroTeach,* Volume 11, page 4, May 2004)

Sector	Activity	% of water usage
a) Mining industries	Mining	3.3%

3. Which sector uses the most water and for what purpose?
4. Which sector did you think was the highest water consumer before seeing this pie chart?
5. Here is a list of some ways in which water is used. Which sectors listed in the table use water in each of these ways?
   a) to water crops
   b) to cool machinery in factories
   c) to water gardens
   d) to cook supper for the family
   e) for animals to drink
   f) to cool the drills used by miners
   g) in cooling towers at power stations
6. How is water used in your local community? Say which three sectors you think use the most water where you live.
7. Which sector or sectors can reuse water? Explain how.

Availability of water and requirements in South Africa

South Africa is a dry country with most areas getting less than 490 mm per year, which is half the world average. Rainfall generally decreases as we move from our east coast to our west coast. Look at the rainfall map in Figure 4.21. You will notice that most of the areas with a rainfall above 500 mm per year lie in the eastern parts of the country, while the areas in the western part get less than 250 mm per year.

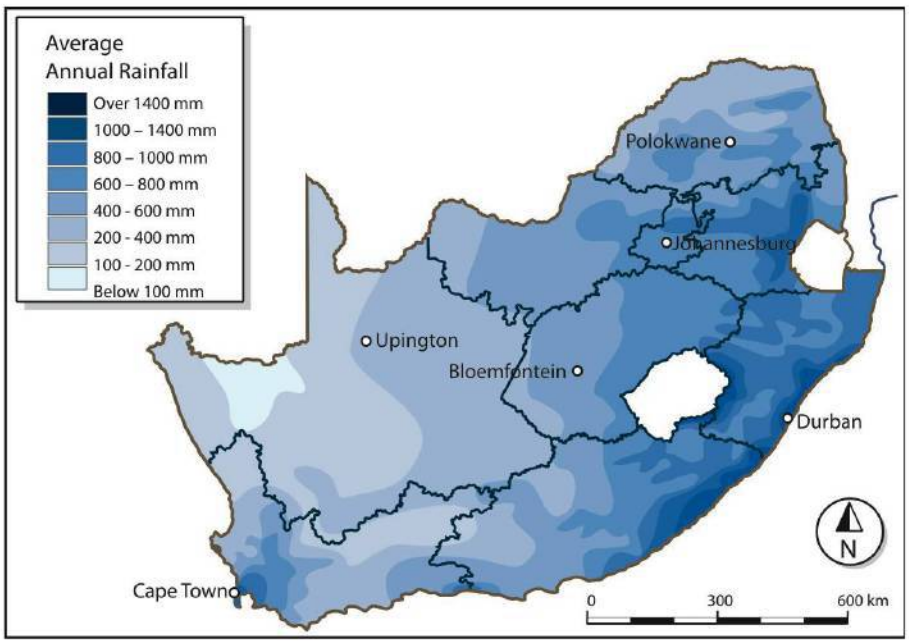


Figure 4.21 Rainfall map of South Africa

Only 9% of the rainfall reaches our rivers. Most rain evaporates before it reaches a river. South Africa often experiences droughts, and the country does not have enough water. In many areas, the demand for water is greater than the supply. In future, this demand will become greater because our population is increasing. Pollution by industries, mines, sewage and litter makes this water shortage worse.

River health and care of the catchment areas

A healthy river has clean water and indigenous plants and animals. In 1994, the Department of Water Affairs and Forestry started the River Health Programme. This programme studies the plants and fish in rivers to check the health of the rivers. Many of South Africa's rivers are very unhealthy.

The area drained by a river is its catchment area. We all live in a catchment area, so any litter or pollution that we create may end up in our local river and damage its health. As the water flows to the river, it takes any pollution or rubbish with it. As rivers flow towards the sea rubbish, polluted water, poisons from industries, and sewage enter them. This problem is worse in urban areas because of the industries and large numbers of people who live there. Therefore, we must take care not to pollute the land we live on, as this can affect our water supply and make it unhealthy.

In many catchment areas alien plants have replaced the indigenous vegetation. These plants use lots of water from the rivers and often kill the local plants, which leads to soil erosion. Programmes like Working for Water and Working for Wetlands help to keep our rivers clean and healthy. We need to protect and conserve our rivers , as they are our main source of water.

You can look after the health of South Africa's rivers and catchment areas if you:

- do not litter
- do not throw rubbish into rivers
- do not use rivers as a toilet
- remove invasive plants
- plant indigenous plants
- help to clean up rivers in your area.

Figure 4.22 A programme that helps to keep our wetlands healthy

Case study: Disappearing wetlands and why conservation is necessary

Wetlands are also known as vleis, swamps, marshes or sponges. They are important because they:

- serve as sponges by absorbing excess water and preventing flooding
- help to keep river flow constant
- provide habitats for a variety of plant and animal species
- provide habitats for fish and water birds
- help to absorb silt and cleanse water of pollutants
- provide resources such as drinking water, reeds for weaving and medicinal plants.

Figure 4.23 Wetlands provide habitats for many plants and animals.

Wetlands are at risk all around the world. These sensitive ecosystems are threatened when:

- they are drained for agricultural and residential development
- dams are constructed
- plants are removed
- waste water is pumped into the area by industries
- agricultural fertilisers seep into the ground
- chemicals from closed mines leak into water sources.

Figure 4.24 Wetlands are at risk from development and pollution.

Over 50% of South Africa's wetlands have been destroyed. Action needs to be taken urgently to conserve and rehabilitate the country's wetlands.The Working for Wetlands programme protects wetlands and creates local employment for people living in poverty. The programme has encouraged government and industry to invest in the conservation of wetlands to benefit both people and nature. In 2009 alone, Working for Wetlands rehabilitated 95 wetlands across the country and created employment for more than 1 500 people.

Figure 4.25 Wetlands are at risk from chemicals seeping into the areas from mines.

The Bushbuck Ridge project, which is one of the Working for Wetlands programmes, employs 41 people per year. The project aims to rehabilitate three wetlands in the Sand River catchment area. An important aim of the project is to protect food gardens in the wetlands from erosion. The project includes improving culture and employment, for example by using wetland plants to weave baskets and by growing indigenous crops. The project has improved income, food and education levels in the area, and created awareness of wetlands and their importance. Both people and nature have benefitted.

Figure 4.26 Removing alien invaders allows the indigenous plants to grow back.

Activity 8 Conserve wetlands

1. Look at the comic strip in Figure 4.26 and use the information to help you answer these questions:
   a) What are alien invader plants?
   b) What are indigenous plants?
   c) What are wetlands?
2. Why do we need to remove alien invader plants?
3. What are the threats to our wetlands?
4. Write a paragraph in which you discuss why is it important to conserve wetlands.
5. Write a paragraph to explain how the people and nature benefitted from the Bushbuck Ridge project.

Geofact

Every year World Wetlands Day is celebrated on 2 February.

Responsible use of water resources – agricultural, industrial and domestic users

Water is a vital but scarce resource. Without water there can be no life. South Africa is very rich in natural resources – except for water. The country has frequent droughts followed by periods of good rainfall. The eastern half of the country is much wetter than the western half. The increasing demand for water, and decreasing water quality, make careful water management very important in our country. It has been estimated that, by the year 2025, South Africa's population will have doubled, and there will be insufficient water for domestic use, agriculture and industry.

Geofact

To grow, process, package and transport one kilogram of maize to market takes 900 litres of water. Every slice of bread uses about 40 litres of water.

Water use refers to the use of water by agriculture, industry and domestic users. All South Africans need to use water responsibly, which means that we should not waste it or pollute it.

Responsible agricultural use

The agricultural sector uses more than 60% of South Africa's water. Most of this water is used for irrigation. Unfortunately, a lot of water is wasted because it does not reach the roots of the plants where it is needed. This wastage is caused by the type of sprinklers that are often used, and because much of the water evaporates. If farmers use drip irrigation and irrigate when evaporation is lowest (in the evenings or early mornings), they can save lots of water. Farmers also need to be educated about the best crops to grow on their farms. Some crops need less water than others. Pesticides and fertilisers can pollute the groundwater. Farmers must be trained how to use these pesticides and fertilisers properly so that they have as little effect on the water as possible.

Responsible industrial use

Industries discharge pollutants into water. Water pollution can result from accidents such as oil or chemical spills, from mines, and from industrial processes that pump waste water into streams, rivers and the sea. In some places, illegal dumping of waste water takes place. Industries need to control the amount of water they use, and the waste they discharge into water sources. Industries should recycle water whenever they can. They should also make sure that they do not pump any waste material into the sea or rivers. Industries should treat their waste water to get rid of poisons and chemicals. The National Water Act says that waste water that is produced must be recycled as much as possible, or it must be treated to get rid of the pollution. Industries can also change the way they produce goods to a cleaner production method that uses less water.

Figure 4.27 Industries discharge chemicals into the water, which pollutes it.

Responsible domestic use

We are responsible for leaks and water losses in our own homes. Here are the three Rs of saving water, the environment and money.

- Reduce daily usage of water.
- Reuse water whenever possible.
- Repair leaks.

The future of our country lies in our hands. We need to understand the water environment and how we all fit into it. All of us – farmers, industries and domestic users – need to become 'water wise'.

To be 'water wise' means that we will:

- have the utmost respect for water and all life
- use water carefully and not waste it
- avoid polluting rivers with liquid and solid waste
- pay for water services
- take action to solve any water problems
- conserve water, and thereby conserve the natural environment.

South Africa has a limited supply of water and the quality of this water is being threatened by pollution and the destruction of river catchments. Water is a vital resource, so we must all act responsibly in our daily lives and look after the available water resources.

Activity 9 Saving water

Look at the table below, which shows how urban families use water in their homes in South Africa.

Use	Percentage
Garden	35%
Bath/shower	20%
Toilet flushing	30%
Laundry	10%
Drinking/cooking	5%

1. List the uses from the biggest to the smallest use.
2. What is most water used for in an urban family's home?
3. Draw a bar graph to show how urban families use water.
4. How do you think a rural family's water use would differ from that of the urban family?
5. Give five examples of ways in which you can save water in your home.

Revision

Unit 1 Natural resources

- Everything people have or use is made of natural resources. We need to conserve our natural resources because we depend on them.
- Natural resources can be divided into renewable resources and non-renewable resources.
- The Earth's natural resources are being used up very fast.

Unit 2 Management of resources

- Conservation is about meeting people's needs while making sure that we do not damage our planet.
- We need to protect our natural resources and environment for future generations to enjoy.
- Conservation areas include scientific reserves, wilderness areas, national parks, biosphere reserves, World Heritage Sites, marine protection areas, Transfrontier Conservation Areas, and monuments.
- Eco-tourism is a form of tourism that uses nature as its main attraction. It also aims to benefit local communities.

Unit 3 Water in South Africa

- South Africa is a semi-arid country.
- Our population is increasing and, unless we conserve water soon, the country will not have enough water.
- Pollution by industries, mines, sewage and litter makes this water shortage worse.
- Wetlands are important as they provide habitats for many species, clean the water of pollutants, and provide resources to communities.
- Over 50% of South Africa's wetlands have been destroyed.
- Water is a vital resource, so we must all act responsibly in our daily lives and look after the available water resources.

Term assessment

Getting started

1. Give a definition of each of the following terms:

a)	Natural resources	(2)	e)	Eco-tourism	(2)
b)	Renewable resources	(2)	f)	Wetlands	(2)
c)	Non-renewable resources	(2)	g)	World Heritage Sites	(2)
d)	Conservation	(2)	h)	Marine protected areas.	(2)

Check your understanding

2. Write a short paragraph about why we must conserve wetlands. (5)
3. In what ways can you help to conserve water? (3)

Challenge yourself

4. Read through the information below and study the graph on water footprints, and then answer the questions.

Your water footprint is the total amount of water that you use in your daily life. It is the 'direct' water use in your home plus the 'hidden' water used to produce the things you use. People use large amounts of water for drinking, cooking and washing, but even more water is used to make food, clothes, paper, pots, and everything else people use every day, whether it is grown or made. Besides taking direct action to save water at home, you can also find out how much hidden water goes into making the things that you use and the food that you eat. Fresh foods like fruit and vegetables use much less water than meat and dairy products, or foods that have been made in a factory.

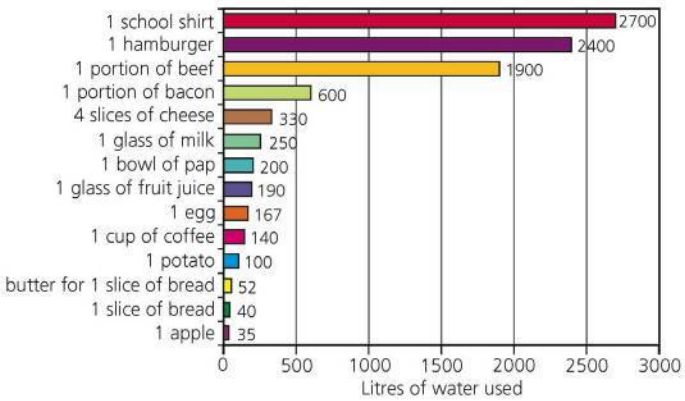


Figure 4.28 The hidden water content of different products (Source: *Envirokids,* volume 30(1), 2009)

a) Does an apple or an egg use more water? (1)
b) How much more water does it take to make one hamburger than a bowl of pap? (2)
c) Vusi is making a special Saturday morning breakfast. He is having a bowl of pap, a slice of bread and butter with an egg and a portion of bacon. He will drink a glass of fruit juice with his food. Calculate the total amount of hidden water that is needed for Vusi's breakfast. (3)
d) Water is used in many ways to get food to your table. For example, to get bread to your home, water is needed for growing the wheat, for the farmer's home where the wheat is grown, for making the packet that the bread comes in, for transporting the wheat to the mill and the flour to the bakery, and the bread to the shop, for making the packet in which the flour is packed, and for baking the bread. Explain the ways that water will be used for making apple juice. (4)
e) Do you think a bar of chocolate or an orange will use more hidden water? Explain why. (4)
f) Suggest ways in which you can change your diet to save water. (2)

Total [40]

Topic 5 The kingdom of Mali and the city of Timbuktu 14th century

Key concepts and content

- Learn about trade across the Sahara Desert.
- Find out about camel caravans and the goods they transported.
- Discuss the spread of Islam.
- Learn about the Kingdom of Mali and its significance to Africa.
- Find out about Mansa Musa and his achievements.
- Read Leo Africanus's eyewitness stories about his travels.
- Explore evidence that Timbuktu was an important centre of trade and learning.
- Understand why Timbuktu is a World Heritage Site.

Unit 1 What is history?

In this topic you will learn about a very old part of Africa's history. But what is history, and why is it important to people today?

History is the study of how the world has changed and developed over time. History helps you to understand that what people did long ago made a difference to how you live today. But how do you know what happened long ago?

key words

sources written documents, pictures, places or persons that you get information from

generation people in a family who are of a similar age

There are a number of ways to find out about the past. You get your information about the past from different **sources**:

- Writing and pictures: Books, newspapers, letters, photographs and paintings.
- Oral histories: Stories, poems and songs that people pass on from one **generation** to the next.
- Archaeology: Examination of old objects and buildings that tell you what life was like long ago.

In this topic you will use all these different kinds of sources to find out what life was like in the ancient African kingdom of Mali about six hundred years ago.

Source: Different sources of information about the past

Activity 1 Thinking about history

History is explained above as 'the study of how the world has changed and developed over time'. Complete the following sentences to explain how you understand history. Use your own words.

1. When you study history, you learn about …
2. It is important to learn about history because …

Unit 2 Trade across the Sahara Desert

The Sahara is the world's largest hot desert. It covers most of North Africa and is almost as big as Europe or the United States. Since ancient times (around the 5th century), people from West Africa have crossed the desert to trade with North African countries, and with people living along the Mediterranean Sea. Early trade was mainly in salt, mined in the Sahara Desert, and gold, mined along the Niger River.

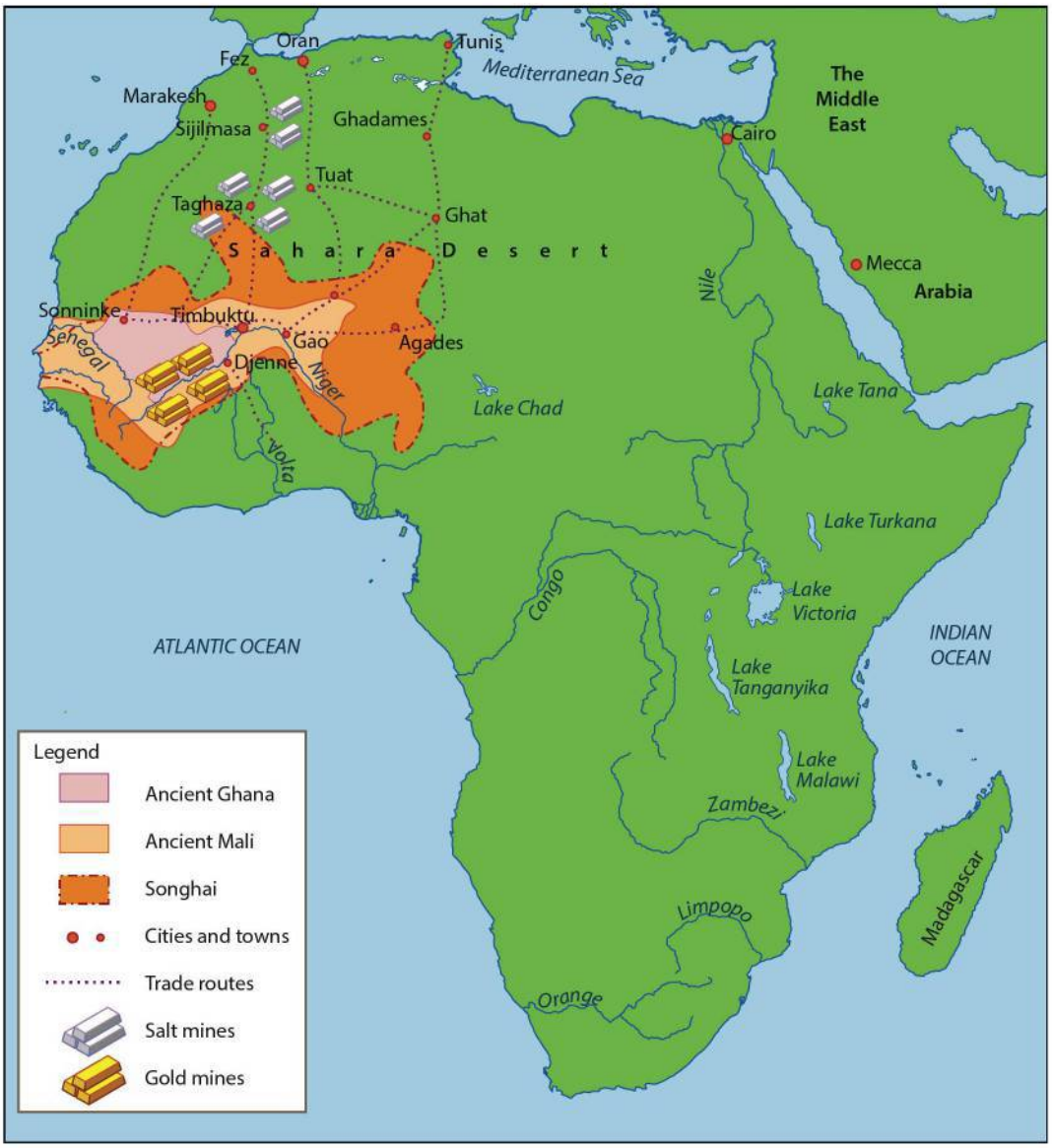


Figure 5.2 Map showing trade routes across the Sahara Desert and the three ancient kingdoms

Although travel across the Sahara Desert was difficult, the traders used camels for transport. Camels are so well **adapted** to desert conditions that, even today, they are still used to transport people and goods across the Sahara.

Did you know?

In ancient times, salt was so valuable that it was traded gram for gram for gold.

key words

adapt change to fit a new situation

Trade across the Sahara led to the establishment of three great kingdoms in West Africa between the 3rd and 16th centuries:

- Ghana (not the same country as Ghana today): 300–1200
- Mali (not the same country as Mali today): 1250–1450
- Songhai: 800–1600.

Find these countries on the map in Figure 5.1.

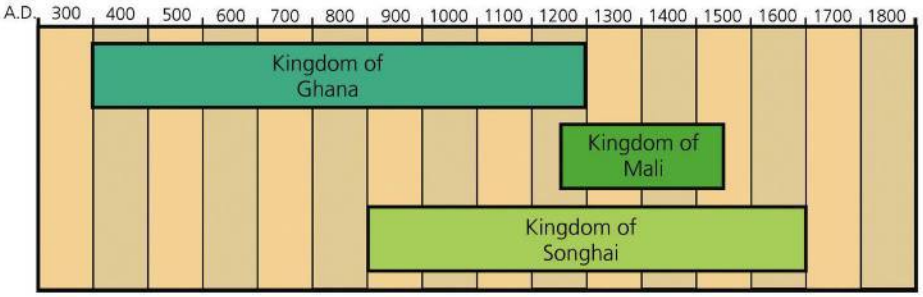


Figure 5.2 The three ancient kingdoms of Ghana, Mali and Songhai on a time line. This time line shows for how many years each kingdom existed and that they existed at the same time. These are not exact dates, but they tell us more or less when these kingdoms existed.

(Design by Paul Glenshaw, National Museum of African Art Smithsonian Institution)

Camel caravans as the means of transport

Did you know?
Camels are called the 'ships of the desert'.

In ancient times, people used oxen, horses and donkeys to transport people and goods in the Saharan regions. But, by the 5th century, travellers and traders from Egypt brought camels into the desert. Camels soon became the most widely used form of transport in the desert, for the following reasons:

- They could carry the same load as oxen, but for a much greater distance.
- They had no problems walking in soft sand.
- They could cope well with extreme heat and cold, and needed very little water.

key words

oasis (plural: oases) place in the desert with water and trees where travellers can rest

Traders travelled with groups of camels that carried goods or people. These groups of camels were called camel caravans. Successful traders might have had more than a thousand camels in their caravans. Traders often travelled in groups, and would take slaves with them to cook and look after the camels.

As the salt trade became busier, traders created important camel caravan routes throughout West Africa and the Sahara, linking **oases** where travellers could rest and get water. Cities and towns soon formed at these oases. The caravan routes connected African cities with Europe and the Mediterranean Sea.

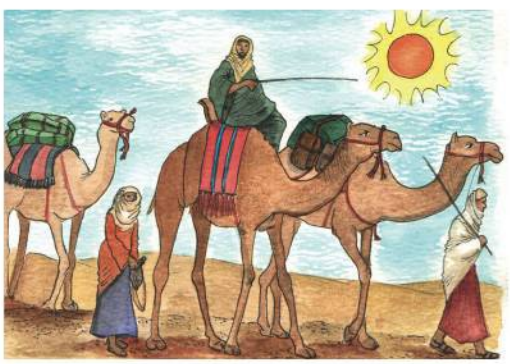


Figure 5.3 Camel caravans still transport goods across the desert today.

Travel by camel caravan was slow and risky. Some of the main dangers were:

- sandstorms
- heat
- a lack of food and water along the way
- losing the way
- attacks by thieves.

Source A: A traveller describes the Sahara Desert

'For there is no visible road or track in these parts, nothing but sand blown hither and thither by the wind. You see hills of sand in one place, and afterwards you will see them moved to quite another place.'

(Ibn Battuta, a Muslim traveller from Morocco, describing his journey through the Sahara in the 1300s)

Figure 5.4 Ibn Battuta

Activity 2 Write about desert trade

Write the answers to these questions in your exercise book.

1 Name the three great ancient West African kingdoms and state the number of centuries each one existed.
2. Identify the kingdom that existed at the same time as both other kingdoms.
3. State the number of years that the kingdom in question 2 existed by itself.
4. List five reasons why people use camels to transport goods across the desert.
5. Describe three dangers facing the camel caravans crossing the Sahara in ancient times.
6. Explain why oases were important resting places in the desert.
7. Why do you think salt was so important? Give reasons to support your answer.

Did you know?

Today, the great camel caravans of Timbuktu still journey for 14 days and about 800 kilometres to the salt mines of Taudenni.

Goods brought from Europe and North Africa

Several major trade routes connected West Africa below the Sahara with Mediterranean countries and the Middle East. This area was called the Sahel.

The Sahel stretched from north of the forests of Central Africa to south of the Sahara Desert. It was a busy contact point between North Africa and communities south of the Sahara. The three great kingdoms of Ghana, Mali and Songhai developed in the Sahel in West Africa.

Today, we have **evidence** of Arab documents, written around the 8th century, which contained information about ancient Ghana. From these documents, we also know that Muslim traders from North Africa crossed the Sahara into West Africa to do business. These North African traders brought salt, cloth, horses, dates, spices and camels into West Africa. In exchange, traders from south of the Sahara offered gold, nuts, timber and ivory, as well as ostrich and peacock feathers.

key word

evidence things that show that something exists or is true

Figure 5.5 Traders used cowrie shells as money.

As trade expanded into the Mediterranean regions, traders brought silk, silver, copper, iron, jewellery and luxury goods from the north into West Africa.

An indication of the area and distance covered by the Muslim traders is that people used cowrie shells from the Maldives as money in Mali, and gold from Mali turned up in the Maldives, 9 000 kilometres away and across the Indian Ocean.

Later, slave traders bought people from West African kingdoms, and took them to North Africa to work for wealthy Muslim families.

In the next topic you will learn more about slavery in West Africa before the arrival of Europeans, and the start of the transatlantic slave trade.

Activity 3 Arrange lists in order of importance

1. Read through the information about trade across the Sahara Desert again.
2. Separate the goods that were brought to West Africa into two lists. One list must contain the goods brought from the north, and the other list must contain the goods that came from the area south of the Sahara.
3. Arrange the items on each list in order of importance, from most important to least important (in your opinion).
4. In a sentence, write down why the top item in each list was so important.

key word

indigenous people who have always been in an area

The spread of Islam across North Africa and into West Africa via traders in the 9th century

Trans-Saharan trade increased the spread of Islam across North and West Africa. The Muslim faith soon began to spread from the Arabian Peninsula, across the Red Sea, into nearby areas of Africa.

Egypt was the first African country to come under the influence of Islam, which then spread to other parts of Africa. The **indigenous** Berber people of North Africa west of the Nile River valley became almost entirely Muslim.

For nearly 1 000 years prior to the arrival of Islam in North Africa, the Berbers had been travelling across the Sahara Desert, trading with people who lived south of the desert, in the Sahel.

Alongside the establishment of Islam in North Africa, trade across the Sahara grew rapidly. Because many traders were Muslim, the Muslim faith began to spread into West Africa. Muslim traders settled among the local people, built mosques, and **converted** many locals to Islam. It was at this time, around the 8th century, that Muslim **scholars** began to write down West African history. These Muslim scholars also became advisors to local kings on trade, law, and government matters.

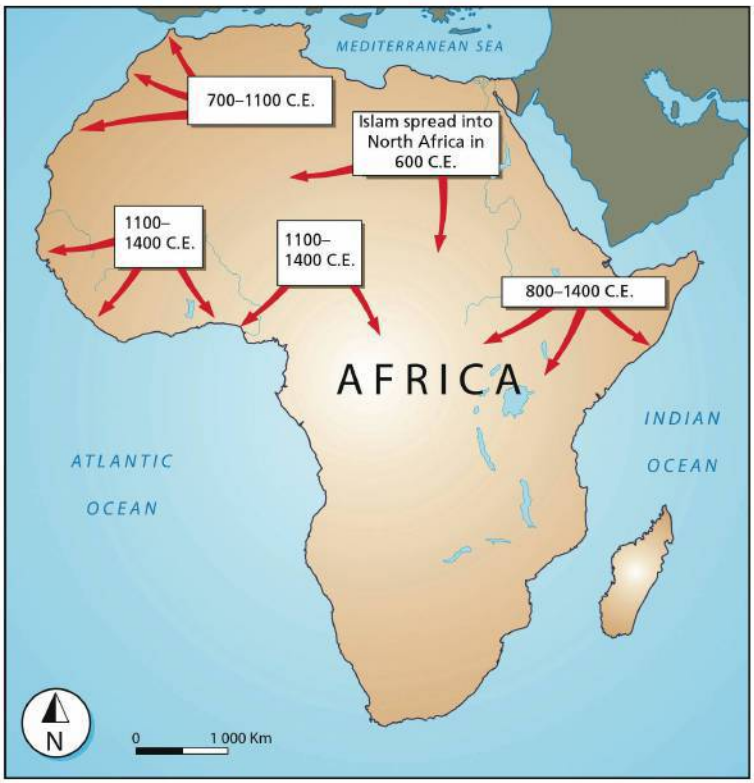


Figure 5.6 Map showing the spread of Islam into North and West Africa

By the time the kingdom of Mali was established in 1235, Muslims played an important role in government affairs. The founder of Mali, Sundiata Keita, was not a Muslim, but the kings who came after him converted to Islam. The most famous king of Mali was Mansa Musa, who ruled from 1307 to 1332. He made Islam the state religion and went on pilgrimage from Mali to Mecca.

key words

converted changed from one belief to another

scholars people who study a subject and know a lot about it

Activity 4 Draw a map

1. Redraw the map above into your exercise book and label the following places:
   a) Sahara Desert
   b) Arabian Peninsula
   c) Sahel
   d) Niger River
   e) Mediterranean Sea
   f) Mecca
   g) Red Sea.
2. Find the places on your map where Islam took root and write down this list of places in your exercise book.
3. Next to each place, write down the century in which Islam was established there.
4. Draw a time line of the spread of Islam into North and West Africa. Mark your time line in centuries from 0 to 15.

Unit 3 The kingdom of Mali

The kingdom of Mali was one of three powerful West African kingdoms that existed long ago. This kingdom included most of modern Mali, Senegal, parts of Mauritania and Guinea.

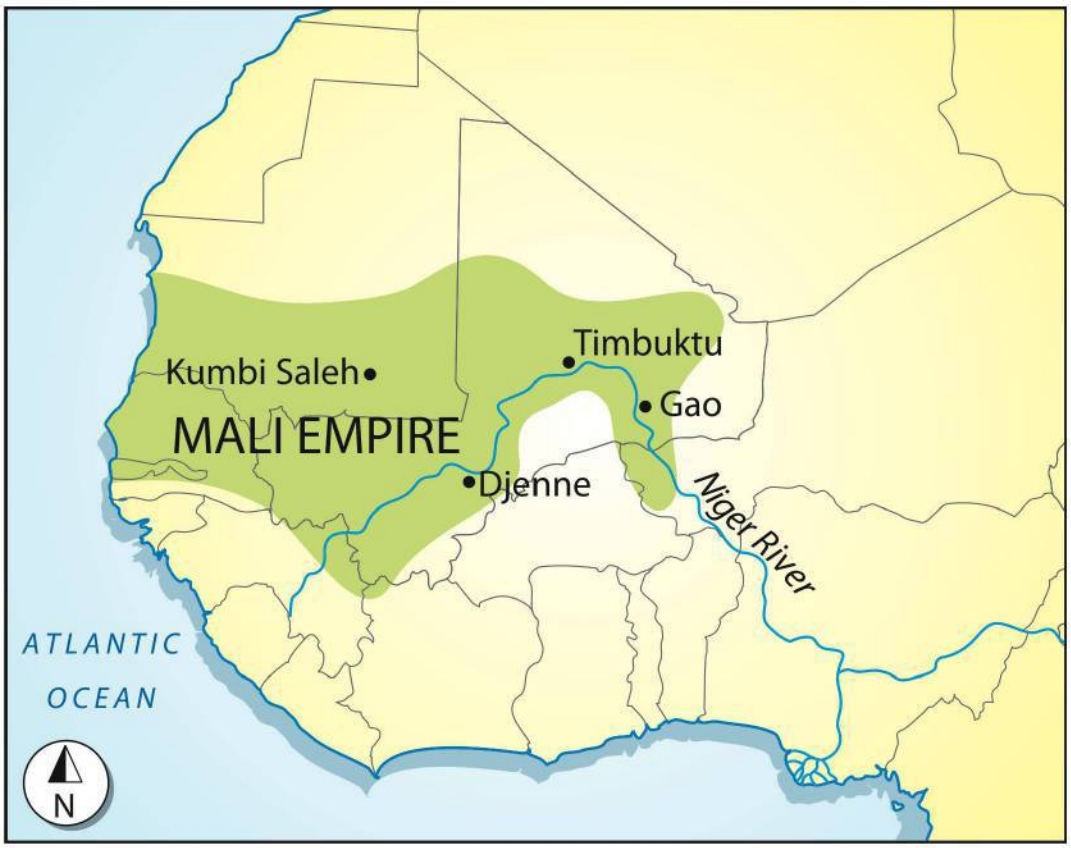


Figure 5.7 Map of the ancient kingdom of Mali

key word

fertile able to produce good crops

Figure 5.6 Sundiata Keita, who founded the Kingdom of Mali in 1235

Sundiata Keita founded the kingdom of Mali in 1235, around the time that the kingdom of Ghana was coming to an end. Unlike the people of Ghana, who had only camels, horses, and donkeys for transport, the people of Mali also used boats on the River Niger for transporting large loads. The land around the Niger River was **fertile** and produced more crops than the local people needed. Therefore, the people of Mali could trade their extra grains and fresh produce with people living in drier regions, and in oasis towns in the Sahara Desert.

Sundiata was a good and popular king. Some of his achievements included the following:

- He built a strong army.
- He encouraged farming and introduced cotton plants to Mali.

- He encouraged trade and invited traders from other countries to come to Mali.
- Although he was a Muslim, he allowed his people to keep their traditional African religions.
- He allowed slaves to work for their freedom.

Sundiata ruled for 25 years, and his people loved him. They called him the Lion King.

Mali at the height of its power under Mansa Musa (early 14th century)

Another of Mali's great kings was Mansa Musa, who ruled from 1307 to 1332. Mansa Musa was the grandson of Sundiata's brother. Under Mansa Musa, Mali reached the height of its power.

Mansa Musa's government worked very well. He ruled over eight million people, double the number of people living in Europe around that time. Mansa Musa divided his empire into provinces, each ruled by a governor. Each province consisted of many villages. Each village had a mayor.

Mansa Musa was a Muslim but, like Sundiata, he was **tolerant** of traditional African religions. He built magnificent mosques in Mali and made Islam the official state religion. Under his rule, the city of Timbuktu became a famous centre of trade and learning.

The description in Source B tells us that ancient Mali was also a place where people respected law and order.

Figure 5.7 Mansa Musa

key words

tolerant allowing people to say and do what they want without punishing them

abhorrence hatred

Source B: A description of the people of Mali

The Moroccan traveller Ibn Battuta described the people of Mali as follows:

'The [locals] possess some admirable qualities. They are seldom unjust, and have a greater **abhorrence** of injustice than any other people. Their sultan (king) shows no mercy to anyone who is guilty of the least act of it. There is complete security in their country. Neither traveller nor inhabitant in it has anything to fear from robbers or men of violence.'

(Ibn Battuta, *Travels in Asia and Africa, 1325–1354*)

Did you know?
Mansa Musa gave away gold to poor people he met on his travels.

Mansa Musa's pilgrimage to Mecca (1324–1325)

Mansa Musa became famous all over the Muslim world after he made a pilgrimage to Mecca. It is said that tens of thousands of people and about a hundred camels, each carrying about 150 kg of gold, went with him to Mecca. He spent so much money in Egypt that the price of gold in Cairo fell and did not recover for a number of years.

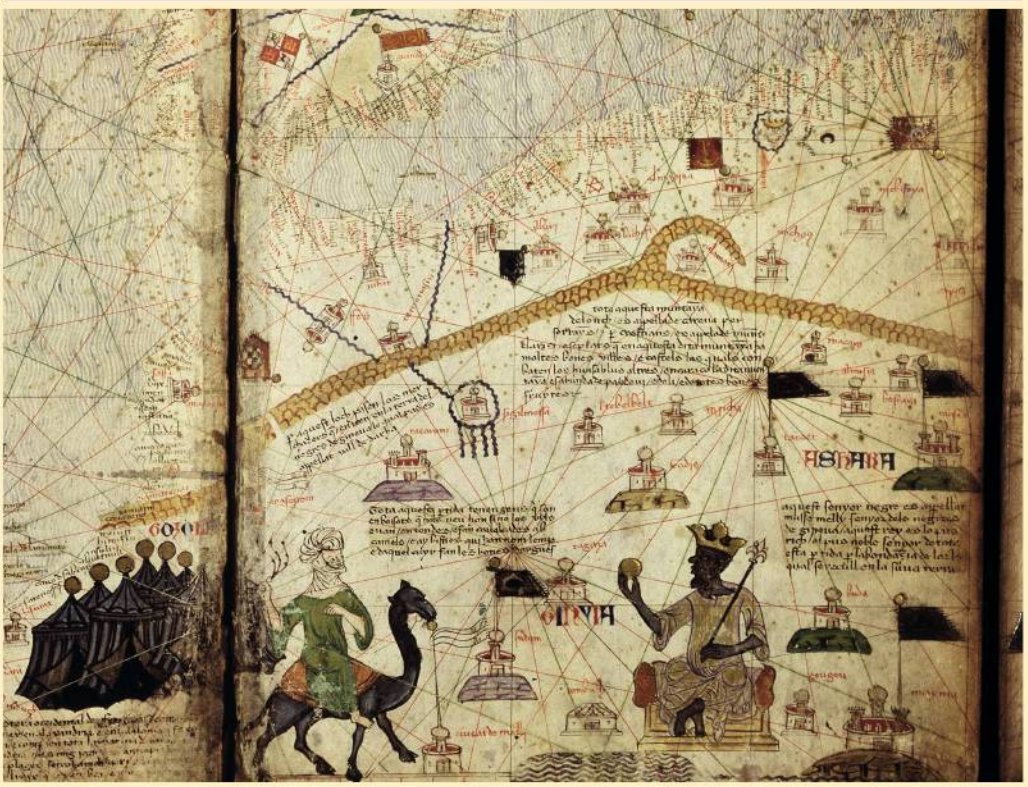
key word
generosity kind and giving behaviour

Wherever his camel caravan stopped on a Friday, he paid for a mosque to be built. He became famous for how much he spent and for his **generosity**.

A few years after Mansa Musa visited Cairo, the North African scholar Al-Omari wrote that in all of West Africa he was, 'the most powerful, the richest, the most fortunate, the most feared by his enemies and the most able to do good for those around him.'

Mansa Musa made such an impression in other countries that, for the first time ever, Mali appeared on maps throughout the Middle East and Europe. Mali became internationally known.

Source C: A map showing Mansa Musa on his travels



(Bibliothèque Nationale de France)

Mansa Musa brought scholars, architects and books back to Mali. He strengthened Islam and promoted education and trade. He established diplomatic relations with other countries. Students from Mali went to study in Morocco.

Mansa Musa ruled for 25 years. When he died in 1337, Mali was a stable and wealthy country.

Activity 5 Find information on Mali and Mansa Musa

Refer to Source B on page 113 and Source C on page 114, as well as the information in this unit, to answer the following questions:

1. Choose five words to describe Mansa Musa.
2. Read Ibn Battuta's description of Mali and then write a sentence starting: 'The people of Mali felt safe because …'
3. Name three things that Mansa Musa did to make Mali a powerful kingdom.
4. Where in the painting is Mansa Musa? How do you know this?
5. This image  is repeated several times on the painting. Can you explain why?
6. What was Mansa Musa's view of education? Give a reason for your answer.
7. Why do you think Mansa Musa paid for the building of mosques on Fridays rather than any other day?
8. Write a paragraph on Mansa Musa's pilgrimage to Mecca.

Construction of the Great Mosque

key words

organic from natural (not human-made or chemical) products

husks the dry part covering seeds on a plant

As you read at the beginning of this topic, one of the ways to learn about the past is to examine old objects and buildings that give you information about how people lived long ago. The study of buildings and objects from ancient times is called archaeology.

A number of cities developed in the Kingdom of Mali, mainly as centres of trade and learning. Timbuktu and Djenne were two of the most important cities of that time. Today buildings, or the remains of buildings, dating back to that time tell us a lot about those ancient cities.

When Mansa Musa returned to Mali from his pilgrimage, he brought with him an Arab architect who introduced a new way of building, using specially prepared mixtures of mud, made up of water, earth and **organic** materials such as rice **husks**, straw and wood. The Djinguereber Mosque in Timbuktu was built in this way and is still standing today.

The most famous mosque in Mali is the Great Mosque in the city of Djenne. Although the original mosque fell into ruin in the 19th century, it was rebuilt in 1907 and is regarded today as one of the finest examples of mud-based architecture in the world. Djenne has been declared a **World Heritage Site**.

key word

World Heritage Site a natural or historical site that is very important to all people

Figure 5.10 The Great Mosque in the city of Djenne that was rebuilt in 1907 on the site of the original mosque

Activity 6 Identify what buildings can tell us

1. The buildings or the remains of buildings of ancient Mali tell us a lot about how people lived and worked at that time. Do you think that our buildings will do the same in 100 or 200 years' time?

Figure 5.11 Djinguereber Mosque in Timbuktu, West Africa, was built in 1327. It is made almost entirely of earth, straw and wood, and has prayer space for 2 000 people. It is still in use today.

2. Choose a building that you know (it can be a house or a building at your school or in your town or village), and answer the following questions:
   a) What is the building used for?
   b) What is the building mainly made of?
   c) How old, more or less, is the building?
   d) Do you think this building will still be in use a hundred years from now? Why or why not?
   e) How do you feel about this building? Why?

Formal Assessment Task: Use sources

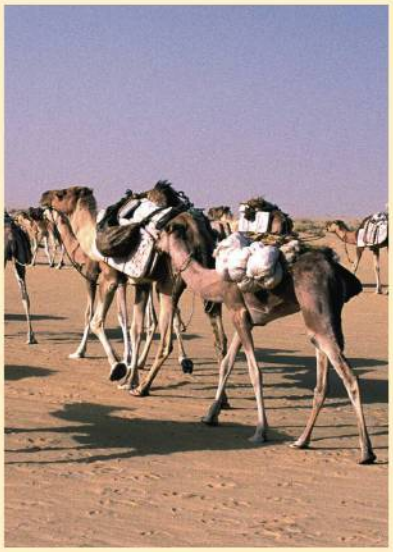
Total marks: 20 Time: 3 hours

Instructions:

1. Study the sources below, and then answer the questions that follow.

Source D: *The Desert Camel* by Martha Lavinia Hoffman, 1865–1900

Trackless and bare are the sands of the desert
No verdure (green vegetation) adorns them, no green tree is there;
Parched by the winds and the hot, scorching sun rays,
Strewn with white bones lying bleaching and bare,
Like a vast ocean of rolling sand surges
Beaten and driven like waves on the deep,
Changing and shifting in wildest confusion
In the hot wind-storms that over them sweep.
Patiently, slowly, across the vast ocean
Plod the strong camels, so faithful and true;
Ships of the desert, with merchandise laden,
Gladly for them comes the harbour in view.
Onward they toil on their long, weary voyage,
While never a blade of grass blesses their sight;
Cheered through the day by the songs of the Arabs,
Resting upon the bare sand-waves by night.



(*The Desert Camel*, Martha Lavinia Hoffman, 1865–1900)

Source E: Sahara salt trade camel caravans

A 2003 camel caravan en route to Timbuktu, Mali, leaves a Sahara Desert area known to local camel herders as the 'Eye of the Needle', a narrow pass through an otherwise impassable region of sand dunes. To navigate the 500-mile (800-kilometre) salt trade caravan route between Taudeni and Timbuktu, Mali, guides use more time-honoured pathfinding methods: Reading the stars, wind patterns, sand dune formations, even the colour of the sand.

(*http://news.nationalgeographic.com/news/2003/05/photogalleries/salt/photo6.html*)

Source F: Old Arabian proverb

'If the camel once gets his nose in the tent, his body will soon follow.'

Source G: Sahara Desert, camels with saddles and rigging on their backs, early 20th century

Camel caravan

Questions

1. Do camel caravans still cross the desert today? Explain how you know this. (2)
2. How do the modern camel caravans find their way through the desert? (2)
3. Read the poem and list five words or phrases that the writer uses to describe the desert. (5)
4. Choose five words or phrases that the writer of the poem uses to describe the camels crossing the desert. (5)
5. Explain the meaning of the old Arabian proverb in Source F. (2)
6. Which of the following sayings do you think are closest in meaning to this proverb?
   a) More haste, less speed.
   b) Give them an inch, they'll take a mile.
   c) Where there is a will, there is a way. (1)
7. Which of the sources D to G gives you the most information about what it is like to cross the desert in a camel caravan? Motivate your choice. (3)

Total [20]

Unit 4 The city of Timbuktu

Read this 15th century West African proverb about Timbuktu.

Source H: Old Arabian proverb

Salt comes from the north, gold from the south, and silver from the country of the white man, but the word of God and the treasures of wisdom are only to be found in Timbuktu.

http://www.timbuktubooks.co.za

Many people think the city of Timbuktu is a place that belongs in stories, rather than a real city. But this city played a very important part in African history.

Timbuktu is on the southern edge of the Sahara Desert, about 13 km from the Niger River, in modern-day Mali. The city was founded in the 12th century, and by the 14th century, it was a major centre of trade and learning. Timbuktu occupied an important position at the end of the camel caravan route that linked sub-Saharan Africa to North Africa and Arabia, and was near several big salt mines.

We know a great deal about the ancient city of Timbuktu through written and archaeological records of the time.

Figure 5.12 A street in Timbuktu today

Activity 7 Write a paragraph

1. Look at the photograph in Figure 5.12 and think about what it shows.
2. Imagine that you are using the above picture to advertise Timbuktu to foreign visitors. Write a paragraph to go with the picture. (Hint: What would you focus on to persuade people to visit Timbuktu? What could they see and do there?)

Leo Africanus's eyewitness stories of his travels

Written books, letters and documents give us information about what happened in the past. The traveller Leo Africanus was one of few people in the 16th century to travel through Africa and write about it. Europeans called Africa the 'dark continent' because they knew very little about it, but Leo Africanus's writing helped people in Europe learn more about Africa. His book *Description of Africa* showed that West Africa had powerful kingdoms and cities where trade and learning **flourished**. He wrote about the history, geography, language, customs and natural history of Africa.

key word

flourished grew and became strong

Did you know?
Leo Africanus was a nickname given to him by his Italian friends when he was already in his 30s. Leo's real name was al-Hasan ibn Muhammad al-Wazzān al-Zayyātï.

This book is a very valuable part of our history, as it is one of very few historical sources about West Africa from that time.

Leo Africanus was born in Spain in 1485 and grew up in Morocco. He spent some time as a slave and lived most of his life in Rome. As a youth, he went with his uncle on several trips to North and West Africa. When he was a young man, the Pope (the head of the Catholic Church) asked him to write about Africa.

Travels along caravan routes, into the Saharan Desert and two visits to Timbuktu

This map of Africa appeared in Leo Africanus's book *Description of Africa*. As you can see, south is at the top of the map! Why do you think that is?

Leo Africanus visited Timbuktu twice, once as a young man and then again later in life, as part of a longer journey into North and West Africa. He used a camel caravan to cross the Sahara.

Figure 5.13 A map used by the traveller Leo Africanus
(Source: Hemispheres Antique Maps & Prints, www.betzmaps.com)

Descriptions of Timbuktu in Leo Africanus's book *Description of Africa* (1550)

Leo Africanus visited Timbuktu for the second time early in the 1500s. At that time, it was a busy centre of trade and learning. This is how Leo Africanus described the city in his famous book *Description of Africa*:

key words

wattles trees used for building with mud or clay
artisans people who make things by hand
abundant more than you need

Source I: Descriptions of Timbuktu from *Description of Africa*

The houses of Timbuktu are huts made of clay-covered **wattles** with thatched roofs. In the centre of the city is a temple built of stone and mortar … in addition there is a large palace … where the king lives. The shops of the **artisans**, the merchants, and especially weavers of cotton cloth are very numerous. Fabrics are also imported from Europe to Timbuktu, borne by Berber merchants … The inhabitants are very rich, especially the strangers who have settled in the country …

There are many wells containing sweet water in Timbuktu; and in addition, when the Niger is in flood canals deliver the water to the city. Grain and animals are **abundant**, so that the consumption of milk and butter is considerable … The king has a rich treasure of gold ingots.

There are in Timbuktu numerous judges, teachers and priests, all properly appointed by the king. He greatly honours learning. Many hand-written books imported from Barbary are also sold. There is more profit made from this commerce than from all other merchandise … Instead of coined money, pure gold nuggets are used; and for small purchases, cowrie shells which have been carried from Persia …

The people of Timbuktu are of a peaceful nature. They have a custom of almost continuously walking about the city in the evening (except for those that sell gold), between 10 pm and 1 am, playing musical instruments and dancing. The citizens have at their service many slaves, both men and women.

(*Description of Africa,* Leo Africanus)

Timbuktu as a trade centre on the trans-Saharan caravan route

The map in Figure 5.14 shows how Timbuktu was situated at the centre of the trans-Saharan trade route, on the Niger River. It was a meeting place for camel caravan traders coming from the north across the desert and river traders from the south, which is where the quote in Source J comes from.

Source J: Proverb

'Timbuktu is where the camel met the canoe.'

(An old proverb. Original source unknown)

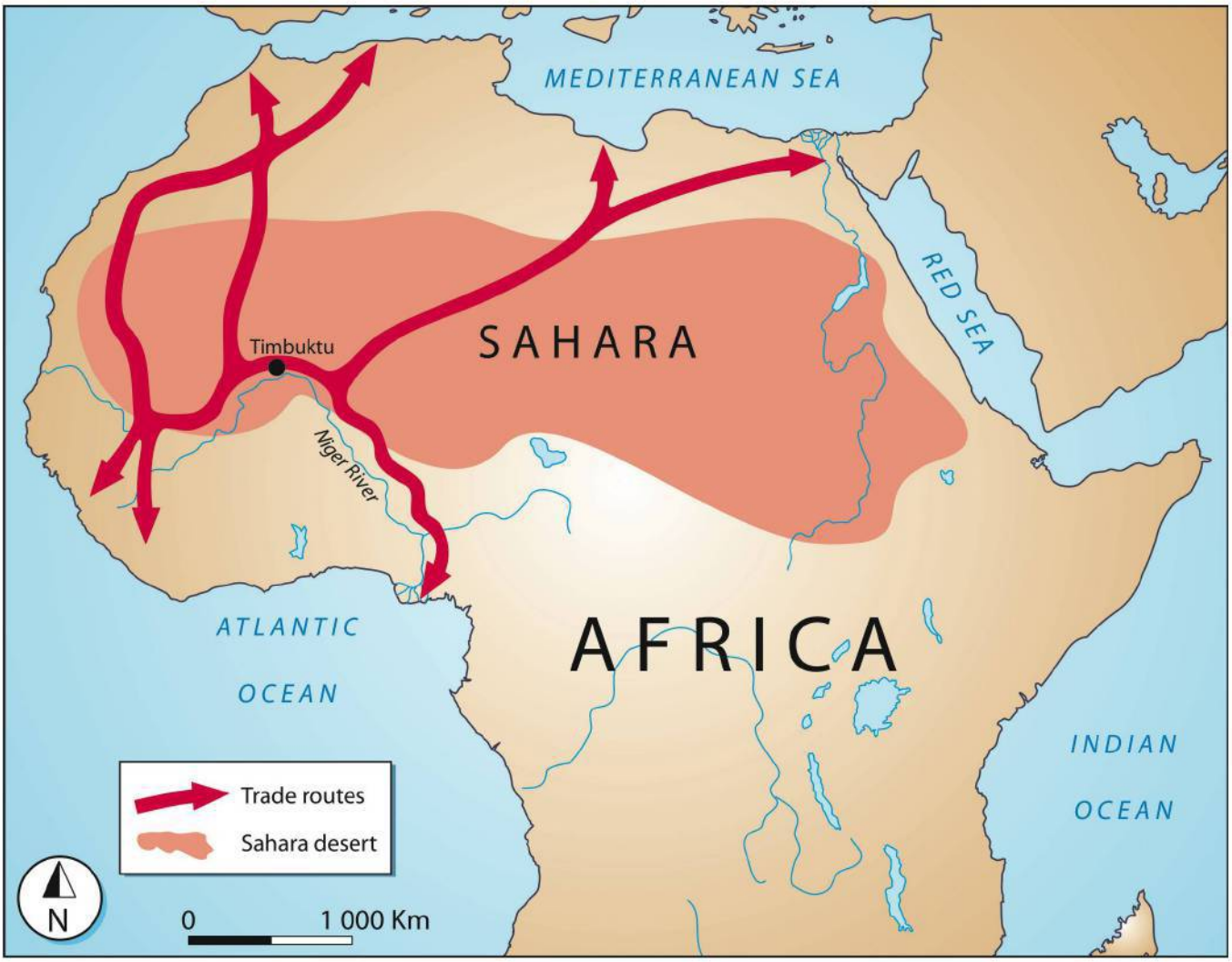


Figure 5.14 Trade routes passing through Timbuktu (Adapted from Florida Geographic Alliance)

Goods coming from the Mediterranean shores and salt being traded in Timbuktu for gold

Traders from North Africa and the countries around the Mediterranean came to Timbuktu to buy gold from West Africa, salt and copper from the Sahara, ivory, dried fish, kola nuts and slaves. They brought with them cloth, horses and luxury goods. Books were in great demand and were paid for in gold.

Timbuktu as a centre of learning

Many traders from North Africa and the Mediterranean were Muslim, and the Muslim faith began to spread into West Africa. The West African Muslims who went on pilgrimage to Mecca would mostly travel through Timbuktu on their journey northwards. The city leaders built mosques, and scholars came to Timbuktu to study the Koran and other texts. It became a central point in West Africa for the exchange of ideas and information.

Subjects studied in Timbuktu

By the 12th century, Timbuktu was a well-known centre of Islamic learning, with about 25 000 students based in the city. It had 180 schools teaching the Koran, and three universities, as well as many libraries and mosques. Students and teachers came from all over West and North Africa and the Middle East. Many scholars came especially to study a particular subject, such as Mathematics, Chemistry, Physics, Optics, **Astronomy**, Medicine, History, Geography, the traditions of Islam, government laws and many more.

key word

astronomy scientific study of the stars, planets, moons and other bodies in space

Books became an important business with many people writing books, copying books, making ink, making paper, and illustrating and binding books.

Today, the discovery of many books and documents from ancient Timbuktu plays an important role in helping us to understand African history.

Activity 8 Describe Timbuktu

Refer to Sources H, I and J, as well as the text in this unit, to answer the following questions:

1. Find a sentence in Leo Africanus's *Description of Africa* that tells you that education was regarded as very important in Timbuktu at that time.
2. Name three other businesses that were created in Timbuktu as a result of education and learning.
3. What tells you that the people of Timbuktu were peace-loving?
4. Why was Timbuktu the place 'where the camel met the canoe'?
5 Rewrite the 15th century West African proverb at the top of this unit in your own words.
6. Choose the correct answer or answers:
   a) Houses in Timbuktu were made of (clay and stone/wood/glass).
   b) People in Timbuktu got their water from (wells/the Niger River/ rainwater tanks).
   c) People paid for goods in (cowrie shells/paper money/gold).
   d) Books were copied on (a printing press/by hand/by camera).
   e) Scholars in Timbuktu studied (law/the Bible/the Koran).
7. State whether the following questions are True or False, and correct any false statements.
   a) Leo Africanus visited Timbuktu many times.
   b) Timbuktu had a big army and took part in many wars.
   c) People in Timbuktu were very opposed to the slave trade.
   d) There were many gold mines in the Sahara Desert.
   e) Timbuktu traders paid a lot of money for books.

Timbuktu Manuscripts Project and South African collaboration

Source K: Africans did more than sing and dance

Africa has for too long been **stereotyped** as the continent of song and dance… we want to demonstrate that Africans think and write and have done so for centuries.

(*Stars of the Sahara*, Curtis Abraham, *New Scientist*, 15 August 2007, Issue 2617, page 39–41)

Source L: Africa has no history

Perhaps in the future there will be some African history to teach. But at present there is none, or very little: there is only the history of Europe in Africa. The rest is largely darkness.

(*The Rise of Christian Europe*, Hugh Trevor-Roper, 1966)

Timbuktu plays a very important part in our understanding of African history. Today we have proof that long ago it was an important and successful centre of learning, because many amazing documents from those times have been discovered. These documents show that the Europeans were incorrect in their belief that Africa was a 'dark continent'.

Activity 9 Compare sources

1. Answer the question in a paragraph. Look at Sources K and L above. Which source do you believe? Write a paragraph to explain why.

key words

stereotype judge someone or something to be a certain way just because many other people believe it, even though they may be wrong

disintegrate fall to pieces

Timbuktu Manuscripts Project

The Timbuktu manuscripts are ancient documents that were produced in Timbuktu between the 13th and 15th centuries. It is often thought that African people passed on their history orally (by telling stories). But the Timbuktu manuscripts show that, many centuries ago, West African people wrote down their ideas, their history and their discoveries – long before most Europeans could read and write. The manuscripts are a collection of papers, letters and books on law, religion, history, mathematics, science and medicine.

As the manuscripts are very old, many of them are in poor condition, and historians fear that some of them could **disintegrate** completely. But people from all over the world agree that they are highly valuable and that every effort should be made to rescue and preserve them.

South African collaboration

South Africa is very involved in the preservation of the Timbuktu manuscripts. During a state visit in 2001, former President Thabo Mbeki promised that South Africa would help the Malian government rescue the Timbuktu manuscripts as part of an effort to educate the world about African history.

The South Africa–Mali Scrolls Project was launched in 2003 as a joint project between the governments of South Africa and Mali. The project involved the following:

- collecting, conserving and **cataloguing** the documents
- building a special library to safely store the manuscripts
- training researchers and librarians from Mali to look after the manuscripts
- studying the manuscripts
- making **digital** copies of all the manuscripts to store on computer.

key words

cataloguing organising books and written documents by making lists

digital information stored on a computer

In 2010, the government of Mali opened a new library, specially built for the project, in Timbuktu at the Ahmed Baba Institute. About 30 000 manuscripts are stored there.

Source M: An extract from the Timbuktu manuscripts on mathematics and astronomy

(Ancient mathematics and astronomy manuscripts stored in the library at the Ahmed Baba Institute in Timbuktu)

Why Timbuktu is a World Heritage Site

Figure 5.15 Ancient manuscripts stored in the library at the Ahmed Baba Institute in Timbuktu.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) encourages countries and people to identify, protect and preserve cultural and natural heritage. UNESCO selects places such as forests, mountains, lakes, deserts, monuments, buildings and historical sites for its UNESCO World Heritage Committee list.

World Heritage sites belong to all the peoples of the world, regardless of the country in which they live. Timbuktu was declared a World Heritage Site in 1988 in recognition of its rich cultural heritage.

Activity 10 Make connections

Think about the connection between Mali and South Africa, and then answer these questions.

1. Why do you think the South African government took a special interest in the project to preserve the Timbuktu manuscripts?
2. Explain why the Timbuktu manuscripts are so important.
3. Correctly match the words in Column A with those in Column B.

Column A	Column B
UNESCO	South Africa–Mali Scrolls Project
New library	Dark continent
Preserving manuscripts	Storytelling
Oral history	World Heritage Sites
Computer	Understanding African history
Stereotype	Ahmed Baba Institute
Timbuktu	Digital copies

Revision

Unit 1 What is History?

- History is the study of how the world has changed and developed over time.
- History helps you understand that what people did long ago made a difference to how you live today.
- You get your information about the past from different sources.

Unit 2 Trade across the Sahara Desert

- Many people think that Africa has no written history before the arrival of Europeans on the continent in the 1600s.
- Early trade across the Sahara Desert and the spread of Islam led to the development of powerful civilisations in West Africa.
- Since ancient times (around the 5th century) people from West Africa have crossed the desert to trade with North African countries, and with people living along the Mediterranean Sea.
- Early trade was mainly in salt, mined in the Sahara Desert, and gold, mined along the Niger River. Later, other goods such as cloth, horses, dates, spices, and camels from the north were traded for nuts, timber, ivory, and ostrich and peacock feathers from the south.
- It was very difficult to travel across the desert, but the Saharan traders used camels as transport.
- The traders from North Africa were mostly Muslim and as they travelled into West Africa they spread the message of Islam, and established mosques.

Unit 3 The kingdom of Mali

- Three powerful kingdoms were established in West Africa: Ghana, Mali and Songhai.
- Sundiata Keita founded the kingdom of Mali. The people of Mali used the Niger River for trade and agriculture.
- Sundiata Keita was a popular king who encouraged farming and trade and allowed non-Muslims to practise their traditional religions.
- The most powerful ruler of Mali was Mansa Musa who made a famous pilgrimage to Mecca, spending vast amounts of gold.

Unit 4 The city of Timbuktu

- Under Mansa Musa, Timbuktu became a famous centre of trade and learning.
- The famous traveller Leo Africanus wrote about Timbuktu.
- Today we have evidence through ancient manuscripts that people studied Astronomy, Mathematics, Medicine, Law, Religion and Literature in Timbuktu.
- South Africa is helping to preserve the ancient Timbuktu manuscripts.
- Timbuktu was declared a World Heritage Site in 1988.

Term assessment

Getting started

1. Complete the sentences by filling in the missing words from the list below. (10)

books	canoe	Niger	salt	camel caravan
ancient	Muslim	gold	north	trans-Saharan

Mali was one of the great a) _____ African kingdoms. It came about as a result of trade across the Sahara and along the b) _____ River. It was also an important centre of learning and for the c) _____ faith. One of its most important cities was Timbuktu. Timbuktu was situated at the centre of the d) _____ trade, on the Niger River. It was a meeting place for e) _____ traders coming from the f) _____ across the desert and river traders from the south. Timbuktu was where the camel met the g) _____.

Traders from North Africa and the countries around the Mediterranean came to Timbuktu to buy h) _____ from West Africa, i) _____ and copper from the Sahara, ivory, dried fish, kola nuts and slaves. They brought with them cloth, horses and luxury goods, j) _____ were in great demand and people paid a lot of gold for them.

Check your understanding

2. Describe the dangers of crossing the Sahara Desert and explain why trans-Saharan traders used camels and still use camels today. (5)
3. Explain why it is important to use more than one source when trying to find out what happened in the past. (3)
4. Why are the Timbuktu manuscripts so important to us as Africans today? (2)

Challenge yourself

5. What sources do we have available to work out what life was like in the kingdom of Mali and the ancient city of Timbuktu? Identify four different sources in this topic:
   a) a photograph or picture (1)
   b) a description by someone who was there (1)
   c) a poem (or part of a poem), proverb or story (1)
   d) a building. (1)
6. Write a short paragraph on each source you identified in question 5 and explain what it is they tell you about Timbuktu or Mali. Does the source contain facts or opinions? (16)

Total [40]

Topic 6 The transatlantic slave trade

Key concepts and content

- Describe West Africa before the European slave trade.
- Discuss slavery in the American South in detail.
- Describe different types of plantations and how and why slaves were used.
- Examine how slaves were captured, sold and transported.
- Identify the economic and social results of slavery.
- Analyse resistance to and rebellion against slavery and look at some case studies.

Unit 1 West Africa before the European slave trade

Figure 6.1 Songhai Empire and three kingdoms of Mali, Benin and Kongo

West Africa today consists of sixteen countries. They are Benin, Burkina Faso, Ivory Coast, Cape Verde, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone and Togo.

Well before the beginning of the slave trade to America, West Africa had well-developed and highly organised societies. People spoke many languages and there were many different types of communities in this region. Some communities were based on city-states while others were based on **kinship**.

The people of the Songhai Empire were **skilled** in medicine, mathematics and astronomy. Craftsmen and artisans produced beautiful artwork throughout West Africa. The region was famous for its bronze, ivory and gold works of art. The region also had three distinct kingdoms, Mali, Benin and Kongo, each ruled by its own king. (Kongo was to the south of what we regard as West Africa today. It was in West Central Africa.)

key words

kinship a family relationship

skilled to be good at doing something

As you know, Islam spread to West Africa after the 8th century. In addition, West Africans followed traditional religions that involved believing in a Creator and in many different spirits, including those of ancestors.

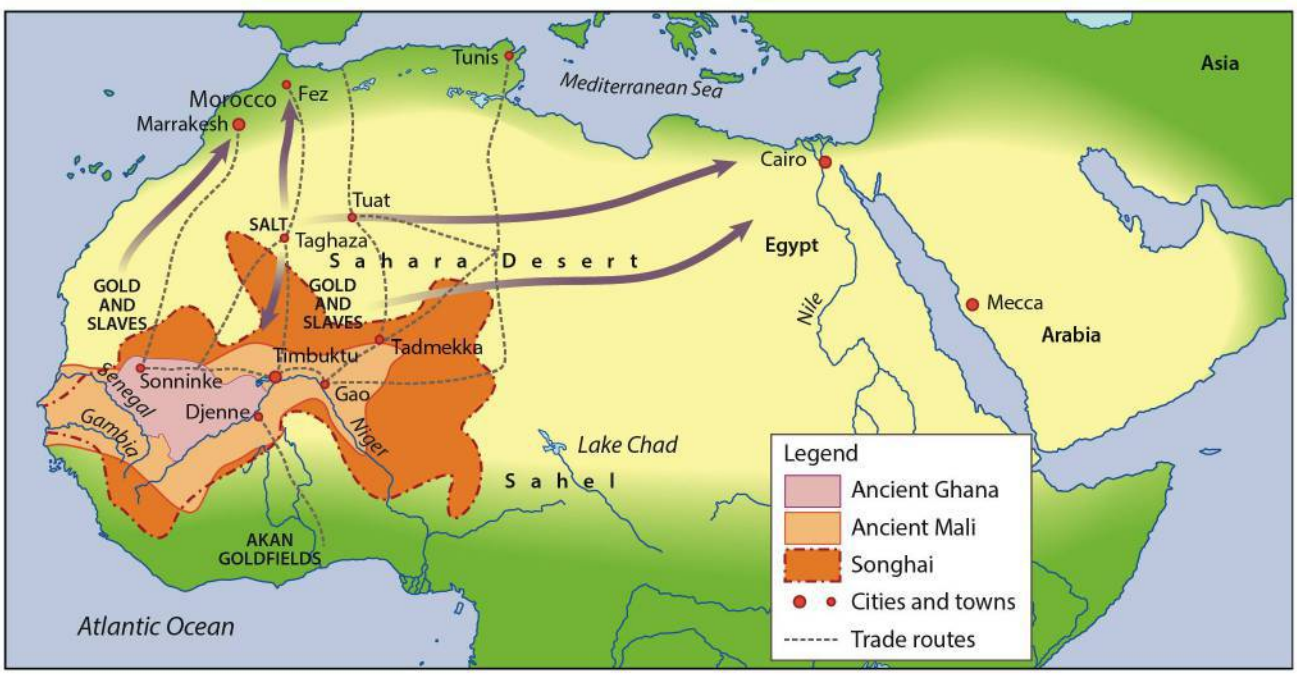


Figure 6.2 West African trade

During the years 1300–1400, large parts of West Africa became thriving trade centres. Salt, like many spices, was much in demand and was plentiful in West Africa.

West Africans had traded with North Africans for many hundreds of years. Through North Africa, they also traded with European sailors long before ships sailed to West Africa. Europeans sought salt, gold, ivory and bronze, among other things. The first Europeans to trade with the West Africans were Portuguese who arrived in the 1400s.

The nature of slavery in West Africa before Europeans

Before the Europeans started making large profits from trading in people, slaves already existed in West Africa. A slave is someone who is owned by another person or other people. He or she belongs to his or her owner in much the same way as an animal such as a dog, a cat or a cow does. A slave cannot choose to find another employer, but the slave-owner can choose to sell his or her slaves. Slaves are not paid for their work, although a slave-owner needs to provide enough food, drink, clothing and shelter so that the slaves can do their work. The Ashanti, as well as some other states in West Africa, had a form of slavery. The Africans who employed slaves generally treated them well and followed strict rules about looking after them. Slaves were to be treated honourably and fairly. They could lead very ordinary lives like other people. They could marry and even own land and houses, and some were well educated.

key words

smelting melting metal at a very high temperature

BCE Before the Christian Era, formerly known as BC

CE Christian Era, formerly known as AD

Activity 1 Consider the past – analyse and understand sources

1. Read what source A says about West Africa. Then answer the questions that follow.

Source A: West Africa's rise to power

West African people in Nigeria were **smelting** iron by around 400–200 **BCE**. We don't know whether they invented this process themselves, or learned about it from North Africans.

By 500 **CE**, there were about 20 000 people living in Djenne-Djeno in West Africa, more than in most European towns of that time. There were also smaller towns around the main town. They kept on working iron, and by now were also working copper. They sold their pottery up and down the Niger River as far as 750 kilometres away.

By 800 CE, the people of Djenne-Djeno had built a tall wall of mud-bricks around their town, to protect themselves from their enemies. They wore gold jewellery. On the other end of the Niger River, in the forests down near the Atlantic Ocean in modern Nigeria, the people of Igbo-Ukwu were smelting copper and tin into bronze by 900 CE.

Around the same time, in nearby Ife, Yoruba people also built cities. Their Oni (kings) were thought to be descended from the creator god Oduduwa. They, too, produced bronze statues.

Soon after that, Islamic traders and soldiers began to cross the Sahara Desert from North Africa and attack Djenne-Djeno. By 1000 CE, it was less powerful than before and, by 1400, nobody lived there anymore. They had all moved to a new Islamic town called Djenne. One possible reason for the move is that Djenne has better access to the River Niger.

The Yoruba people lived further from the Sahara Desert and Muslim conquerors. This might explain why their civilization still existed when the first Portuguese explorers arrived from Europe near the end of the 1400s CE.

(Adapted from Kidipede – History for Kids, *http://www.historyforkids.org*)

2. Are the following statements True or False? If a statement is false, rewrite it correctly.
   a) Djenne–Djeno had a smaller population than most towns in Europe.
   b) The inhabitants of Djenne–Djeno protected themselves against their enemies.
   c) Only the inhabitants of Djenne–Djeno knew how to work with metal.
   d) Only the inhabitants of Djenne–Djeno produced bronze statues.
   e) The Yoruba people, free from invaders, lasted longer. These people traded with the Portuguese explorers towards the end of the 15th century (1400s).
3. The passage mainly refers to the inhabitants of Djenne-Djeno and the Yoruba people. Use information from the passage to draw a time line as follows:
   a) Of Djenne–Djeno, showing main events of these years: 500, 800 and 1000.
   b) Of the Yoruba peoples in 900 and towards the end of the 1400s.
4. Write a paragraph to describe what slavery was like in West Africa before the Europeans.

Unit 2 Slavery in the American South

Types of plantations

Starting in the 1500s, Britain established a number of colonies in North America. These colonies became the original states of the USA and the early provinces of Canada.

Slaves from Africa were first brought to the American colonies during the 1600s. The slaves were needed to work on the **plantations** in the American South, where huge crops of tobacco, sugar, rice, cotton and other crops were grown.

Figure 6.3 The American South

Tobacco plantations

Tobacco was the first plantation crop grown in the American colonies. At first, the British settlers brought servants from England, but by the late 1600s there were few servants available, so they imported slaves from Africa instead. Tobacco plantations were smaller than sugar plantations and required only about 20 or 30 slaves, while there were often more than 50 slaves on a sugar plantation.

key word

plantation a large farm for growing crops like sugar cane, rice, tobacco and cotton

Sugar cane plantations

Sugar cane had been grown in the Mediterranean countries in Europe for about 750 years before plantations were started in Brazil and the Caribbean islands, and, later, the American South. Slaves were used on these plantations.

Rice plantations

Rice plantations were also large and required at least 30 slaves per plantation. Rice plantations earned more money than tobacco plantations as rice is easier to grow. The areas in which rice was grown were unhealthy for slaves because the land was wet, swampy and full of disease.

Cotton plantations

Cotton plantations became a very popular way of making a great deal of money for the following reasons:

- the great demand for cotton in Europe and elsewhere
- the invention of the cotton gin, a machine that could clean large amounts of cotton fibre in a short time.

Some American states, such as Virginia, Alabama, Mississippi, Louisiana and Texas, had huge cotton plantations. Slave overseers were often very cruel.

Reasons for using slave labour

In the 1600s, the country we know as the United States of America was divided into North and South. People in the South had huge plantations, so they needed many more workers than those in the North did. Therefore the white Americans in the South owned slaves while those in the North did not. Later, the North would fight the South in a Civil War, partly over the issue of slavery.

Figure 6.4 Slaves working on a cotton plantation

The more crops that the plantation produced, the more money the plantation owner received. The plantation owners preferred workers who had no claim to any part of the crops. Ordinary workers could have claimed some land, which is why slave labour was so attractive to these plantation owners. As slaves were property, the owners had the power to treat the slaves as they wished. Many owners mistreated and abused their slaves.

Corn, pigs and other types of food were provided for slaves, which meant that they did get some good nutrition and were able to remain fairly healthy. However, very few landowners and overseers cared about slaves. Many slaves died because of overwork and cruel punishment. However, the owners didn't care, because as long as there was a good supply of slaves, the plantations could make profits.

> 'Thus the plantation system could be profitable even when it literally killed off its own workers'.
>
> *(Gale Encyclopedia of US History: Plantation System of the South)*

Activity 2 Review plantations and slavery

Read through Unit 2 and then answer the questions.

1. Why were slaves used more in the South than in the North?
2. Which continent were slaves brought from?
3. Explain in your own words the difference between a servant and a slave.
4. Why would plantation owners prefer using slaves to servants?
5. Did slavery start in the Southern colonies of North America? Give a reason for your answer.
6. Name three states or colonies in the American South that had cotton plantations.
7. Name four crops that were grown on plantations.
8. Were rice plantations better or worse to work on than cotton plantations? Support your answer with reasons.
9. Was starvation a common cause of death among slaves? Explain your answer.
10. Look at the quotation at the end of the passage: 'Thus the plantation system … own workers.' Read through the quotation carefully and then write its meaning in your own words.

Did you know?

The slave traders did their best to dupe or fool the African kings, and each king did his best to obtain the maximum quantity of goods in exchange for the slaves he had for sale. For their cargoes of human flesh, the slave traders exchanged iron and copper bars, brass pans and kettles, cowry shells, old guns, gunpowder, cloth and alcohol.

How slaves were captured, sold and transported from West Africa

European settlers in America needed people in large numbers to work on their huge farms called plantations. The slave trade used the trade routes developed in the Atlantic Ocean. Slaves were often bought from African slave traders. These slave traders were usually powerful men who would barter or exchange household slaves for goods. Slaves were also hunted like animals and taken against their will by the European traders. The West Africans knew about slave traders and some Africans tried to escape capture by disfiguring themselves, eating dirt and poisoning themselves, or committing suicide. However, it was difficult to escape from well-organised armed men.

The **transatlantic** slave trade involved capturing at least 14 million people from Africa and sending them against their will to work as forced labour in other parts of the world. (The word, 'transatlantic' means across the Atlantic Ocean, and most slaves were shipped from Africa to America, on the other side of the ocean.) The transatlantic slave trade started in 1619. The law that ended slavery in the USA came into effect in 1865.

Figure 6.5 Goods exchanged for slaves

key word

transatlantic across the Atlantic Ocean

Look at this story in pictures.

Figure 6.6 Slaves were captured inland and force-marched to the coast.

Figure 6.7 Slaves were marked with burning irons on their arrival at the coast.

Figure 6.8 Plan of a slave ship. People were crammed together and cruelly treated. Many did not survive.

Figure 6.9 On their arrival in the Americas, slaves were sold off to the highest bidder.

Source B: Conditions on slave ships

Slaves were seen as goods to be sold at a profit. Now, when one transports goods such as corn or cloth, one packs as much of it as possible into as small a space as possible. This is good for profits. It was the same with slaves; so slave ships were jam-packed. Men, women and children were squeezed like sardines into the holds of ships. The stench became awful. Many died, and their bodies were simply thrown into the sea. Overseers were usually very savage in their treatment of the slaves. Even after 1807, when slavery was made illegal in Britain, and 1808, when the USA banned the importation of slaves, the slave ships made good (although illegal) profits for a while.

Source C: Slave tranportation

Both slave transportation, and slavery itself in the US were very brutal. It was not unknown to have 50% death rate during the passage from Africa. Slaves who were too ill to survive the trip were sometimes thrown overboard to drown. Once on American soil, slaves were largely treated as property, to be freely bought and sold.

(Adapted from: *www.religioustolerance.org*)

Activity 3 Use information from sources

Read the information pages 135 to 137, and Sources B and C on page 136, and answer the question. Imagine that you are a child in Benin (a place in West Africa where slaves were captured). You have been left alone to look after the house, with your brother. Suddenly three people climb over the wall, **gag** you and force you apart from your brother. You know you will never see him again. (This information is loosely based on an account by a a slave named Olaudah Equiano, published in 1789.)

1. Use the pictures in Figures 6.5 to 6.8 and information in sources B and C to write a journal entry that clearly shows your feelings and describes three events from the next year in your life.

Slave markets

key words

gag to cover a person's mouth with a piece of cloth so that he or she can't speak

branded marked on the skin

Whenever ships of slaves arrived from Africa, there was great excitement among the plantation owners. Slaves were a form of cheap labour and the slaves would become the property of the owners. Slaves were paraded about, inspected, and auctioned or sold off to the highest bidder. No rule existed that said that families had to be sold as a group, which meant that men, women and children were sometimes separated. Imagine being forced to take a voyage in horrible conditions and being sold to new owners, in a strange country, who speak a language that you don't understand! People were sold as if they were animals or goods. Once sold, they were often **branded** as proof that they now belonged to the new owner.

Activity 4 Different people; different feelings

Look at the newspaper advertisement for the sale of slaves in Figure 6.10 and then answer the questions below.

1. Suggest how this poster would make you feel if you were:
   a) the owner of a large cotton plantation
   b) a slave who was advertised for sale
   c) a person who believed that slavery should be ended (an abolitionist).

TO BE SOLD on board the Ship *Bance-Iſland*, on tueſday the 6th of *May* next, at *Aſhley-Ferry*; a choice cargo of about 250 fine healthy

NEGROES,

juſt arrived from the Windward & Rice Coaſt. —The utmoſt care has already been taken, and ſhall be continued, to keep them free from the leaſt danger of being infected with the SMALL-POX, no boat having been on board, and all other communication with people from *Charles-Town* prevented.

Auſtin, Laurens, & Appleby.

Figure 6.10 Photograph of a newspaper advertisement from the 1780s for the sale of slaves in South Carolina. Note that 'f' is the old-fashioned way of writing 's'.

Numbers of slaves that were taken to America

No one knows the exact number of slaves who were taken from Africa. Historians put the figure at 10 million, while other records suggest 15 million, or even as many as 20 million Africans taken. Some researchers found that two out of every 10 slaves died before they ever arrived in America.

Table 6.1 Number of slaves taken from Africa

Region	1650–1700	1700–1750	1750–1800	1800–1850	1850–1900	Total
Benin	246 800	708 200	515 000	520 300	25 900	2 016 200
Gold Coast	85 800	374 100	507 100	68 600	–	1 035 600
Biafra	108 900	205 200	695 900	446 400	7 300	1 463 700
West Central	?	806 400	1 525 400	1 458 200	155 000	3 945 000
TOTAL (Including from other regions)	497 500	2 261 600	3 828 100	3 186 800	231 700	10 005 700

(Adapted from: *Transformations in Slavery*, Paul. E. Lovejoy, 2004)

Activity 5 Read, interpret and explain a table

Look at Table 6.1 and answer the questions.

1. From what area in Africa did most of the slaves come? Look at the table.
2. Why do you think there is a question mark next to one of the entries?
3. During which three periods was the slave trade very active? Why?
4. In which years did the trade in slaves decrease? Give possible reasons.
5. Why is there no number under Gold Coast in the years 1850–1900?
6. In groups, compare your answers and discuss any differences.

key word

raw goods unprocessed materials in their natural state, before being processed for use by people

What happened to the raw materials that slaves produced?

The American South made huge profits from slavery. Plantation owners forced slaves to work very hard. They harvested **raw goods** such as tobacco, cotton and sugar. These goods were then sold, sometimes in the United States but mainly to Western Europe, where factory workers turned the raw goods into finished products such as cloth and clothing. These products were sold all over the world, including back to the American South. The sale of these raw products made plantation owners extremely wealthy. The countries that bought the raw materials also benefitted, because they could process the materials and sell the products at a profit. Everyone made money except for the cruelly treated slaves.

Unit 3 The impact of the transatlantic slave trade on slaves

What it was like to be a plantation slave in the American South

Life on the plantations was extremely hard for the slaves. Men, women and children over the age of 12 worked in the fields for 18 hours a day. The slave drivers and overseers, who were usually white men, whipped them cruelly if they did not work hard enough.

The slaves did not have much food to eat and all food was strictly rationed (measured out). They slept in small houses, often on dirt floors with only coarse blankets. The household slaves also worked very long hours and did not even get time off on Sundays, as they had to cook the Sunday meals and sometimes go with the family to church.

Punishments were vicious and extremely cruel. Slaves were starved, badly whipped, beaten, or even rolled down a hill in a barrel with nails stuck into it.

Source D: Description by a former slave

'There were no beds given the slaves, unless one coarse blanket be considered such, and none but the men and women had these ... when their day's work in the field is done most of them hav(e) their washing, mending, and cooking to do ... (After much preparation, they) drop down side by side, on one common bed – the cold, damp floor – each covering himself or herself with their miserable blankets; and here they sleep till they are summoned to the field by the driver's horn.'

(Narrative of the Life of Frederick Douglass, Frederick Douglass, 1845)

Activity 6 Describe life as a slave

Read Source D and answer the questions.

1. Choose the correct answer, from a) or b). The blanket was
   a) rough to the touch b) warm, but smelt bad.
2. What does 'they drop down' tell you about the state of the slaves?
3. Describe how the slaves were woken up.
4. List the activities that the slaves were expected to do after they had completed their day's work.

Activity 7 Write a diary entry

Read the information in Unit 2 and then complete the activity. Imagine you were a 10-year-old girl or boy slave who had been separated from her or his mother at one month old, which happened often.

1. Write a diary entry dated 12 June 1809, in which you describe the events of the day. Begin your entry with these words:
'Today I saw a dreadful thing happen to my …'.

Slave culture in songs and stories

(Source: University of North Carolina)

Figure 6.11 Original illustration of Br'er Rabbit and the Tar Baby

Slaves were often cruelly treated and families were often separated. Yet, as a group, the slaves held onto and developed their culture, which was passed down over the centuries.

As slaves were forbidden to speak their original African languages, English was used as they heard it and needed it. Therefore the slaves developed their own **dialects**, which mixed words from their own languages with English. A new and different way of speaking developed in the slave culture.

Slaves were also prevented from practising their own religions. The slaves would sometimes hold secret religious services. Here they could express themselves freely. At religious services, slaves combined dancing and singing from their own cultures with European ways of worshipping. This was an important part of the birth and growth of a new, African-American culture.

key word

dialect form of a language used in a particular area

Many of these songs worked in code and had hidden meanings. The slaves would understand its hidden meaning, but that meaning would not have been clear to the plantation owners or other white people.

Stories were also an important part of slave culture, and the very popular Br'er (Brother) Rabbit stories started during the time of slavery. Br'er Rabbit can be seen to represent the slave. He has to use his wits to overcome circumstances and take revenge on those who are against him, who represent slave-owners. He is not always successful, but his efforts make him a folk hero.

Br'er Rabbit does not always behave morally. He is a character with both good and bad traits. However, the slaves could relate his adventures to their lives. These stories were written in the way the slaves spoke. See Figure 6.11 and the example of slave English in the box alongside.

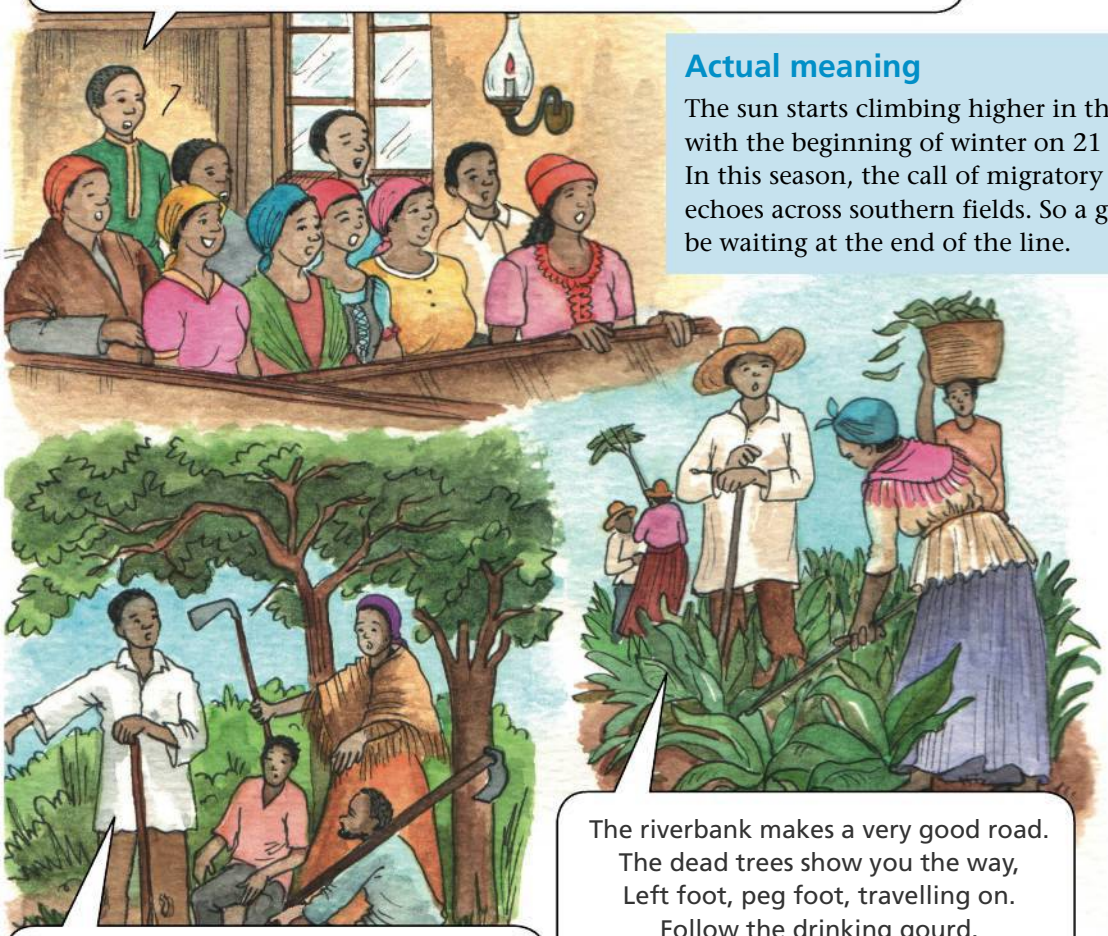
Example of slave English

'Didn't the fox never catch the rabbit, Uncle Remus?' asked the little boy the next evening. 'One day …, Brer Fox went ter wuk en got 'im some tar, en mix it wid some turkentime, en fix up a contrapshun w'at he call a Tar-Baby …'

(Source: University of North Carolina)

The song below advised slaves to escape in winter and head north toward the Big Dipper (group of stars), the code name for which was drinking gourd.

When the sun comes up and the first quail calls, follow the drinking gourd.
For the old man is a-waiting to carry you to freedom,
If you follow the drinking gourd.



The river ends between two hills.
Follow the drinking gourd.
There's another river on the other side.
Follow the drinking gourd.

The riverbank makes a very good road.
The dead trees show you the way,
Left foot, peg foot, travelling on.
Follow the drinking gourd.

Actual meaning

The sun starts climbing higher in the sky, with the beginning of winter on 21 December. In this season, the call of migratory quail echoes across southern fields. So a guide will be waiting at the end of the line.

Actual meaning

When the Tombigbee ends, the runaways who'd memorised the song knew to walk north over a hill until they came to another river, the Tennessee, then go north on it as well.

(Source: H.B. Parks, "Follow the Drinking Gourd", *Follow de Drinkin' Gou'd*. J. Frank Dobie, ed. Austin, Tx: The Texas Folk-Lore Society, VII, 1928.83)

Actual meaning

This verse directs escaped slaves to the Tombigbee River: the markings on the fallen trees would show the slaves they were on the right track. Slaves could find their way along the river, even when it was very dark, or too overcast for stars to shine through. Perhaps as many as 200 000 enslaved people lived near that river.

Figure 6.12 A full interpretation of the song was posted in the 'Detroit News' on Tuesday 25 February 1997.

Activity 8 Discuss slave songs and heritage

Read the information on slave culture in songs and stories and answer the following questions:

1. Why do you think the character Br'er Rabbit became a folk hero?
2. The slave songs and stories served three purposes. List them.
3. What is the song 'The Big Dipper' about? How do you know?
4. What knowledge does the listener need to understand this song?
5. Why do you think this song was written?
6. If you were a slave, how would your feel while listening to this song?

Resistance to slavery

Some of the resistance to slavery was organised and carried out by groups. Examples include the Amistad mutiny, the Underground Railroad and the efforts of Nat Turner, John Brown, Harriet Tubman and their supporters, all of which you'll learn about later in this topic. However, individual slaves and slave families also fought against their appalling conditions, often taking serious risks, since they could be severely punished.

The four newspaper headlines below are examples of those that might have appeared during the time of slavery.

Slaves set fire to Plantation!

Virginia Herald, January 1805: Slave uprising!

New York News, 1712: 23 slaves kill 9 owners!

Slaves desert plantation and revolt against owners!

These headlines tell us about the unhappiness of slaves and their desire to be free. The government tried to stop slaves from organising group resistance to slavery. Therefore some slaves tried to show their resistance by deliberately:

- working very slowly and sluggishly, trying to do as few duties as possible
- approaching their work passively and not responding to instructions
- drinking alcohol to make their pain go away
- running away from the plantations.

Some slaves were so desperate to escape from slavery that they killed themselves. Individual resistance by slaves wasn't very successful because the slave owners could and did punish severely any slaves who showed signs of rebelling. Therefore the slaves soon realised that group resistance would be more successful in fighting slavery than individual resistance. Some groups of slaves started working together to plan acts of resistance, which included burning down plantations or murdering owners.

Rebellion against slavery

Some people fought against slavery and their actions are remembered to this day. You will read about some of them in this next section.

Nat Turner's revolt

Case study: Nat Turner

Nat Turner was put to death on 11 November 1831. He had led a slave rebellion on 21 August in 1831 in which 56 white people were killed.

Nat Turner did not know his father, so he took his master's surname. He was very religious, and he preached to other slaves in the local Baptist church. He was known as the Prophet, as he shared his visions from God with other people.

By 1828, Nat Turner was sure that God had chosen him to do some great deed. He said:

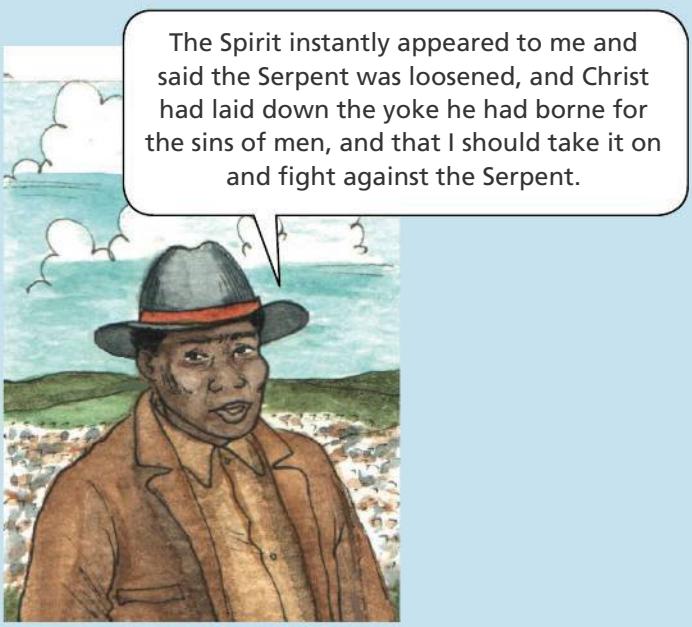
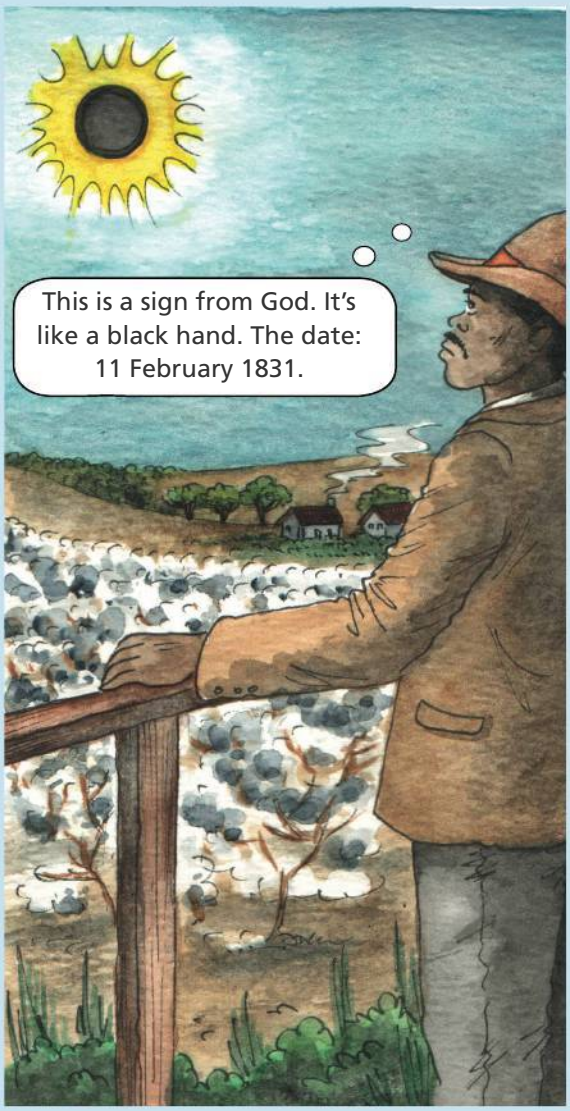
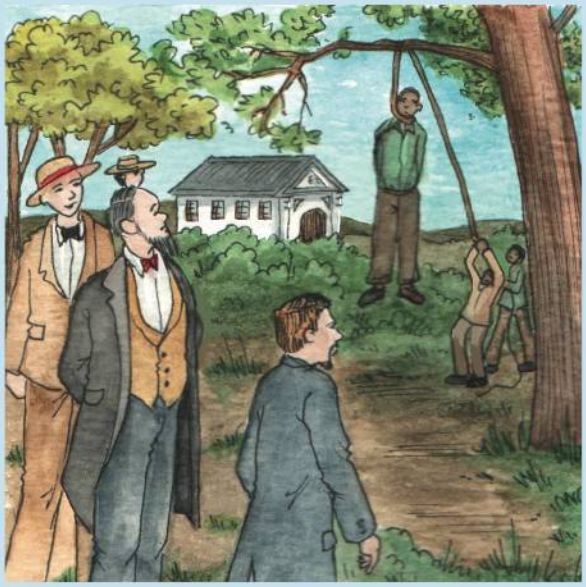


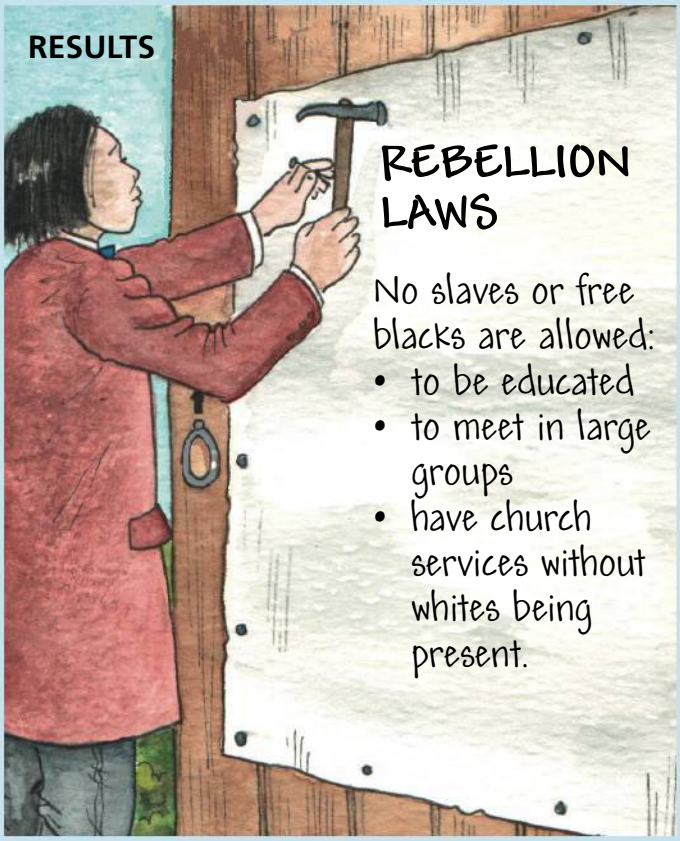
Figure 6.13 Nat Turner



In August, Nat Turner and a few trusted friends went to homes to free slaves. They didn't use guns, but they aimed to create 'terror and alarm' among whites. In total, 55 white men, women and children were killed.

Although this rebellion was over in two days, Nat Turner was caught only on 30 October. He was tried, found guilty and hanged on 11 November in Virginia. Altogether 56 slaves and freed slaves were executed as a result of this uprising.





The events of this revolution were the greatest loss of life since the American Revolutionary War. After Nat Turner's execution, Thomas Gray, who was his lawyer, published *The Confessions of Nat Turner*. He wrote this book after **investigating** what had happened when Nat Turner was still in hiding and from conversations he had had with Nat Turner in the jail. This means that the book is an original source, which is why we can give Nat Turner's actual words above.

(Adapted from *The Confessions of Nat Turner, the Leader of the Late Insurrections in Southampton, Virginia,Baltimore, Maryland*. Thomas Ruffin Gray, 1831)

key word

investigating trying to find out something

Activity 9 Describe what you would say

Read the case study about Nat Turner and and answer the following question:

1. In the case study of Nat Turner, slave owners were killed and so were the slaves who killed them. Imagine you were the child of either:
   a) a mother and a father who owned a plantation and were killed
   or
   b) a slave who was executed for trying to free other slaves.
   Now write a letter to a brother or sister who was not at home at the time, telling him or her what has just happened.

Joseph Cinque and the *Amistad* Mutiny, 1839

Joseph Cinque was married, and a father of three. He lived in Sierra Leone, where he was a rice farmer. He was captured, but fought against being taken to America and sold into a terrible life of misery and slavery. The ship *Amistad* was sailing from Havana in Cuba to America, when the 53 slaves on board, led by Cinque, **mutinied** and took over the ship.

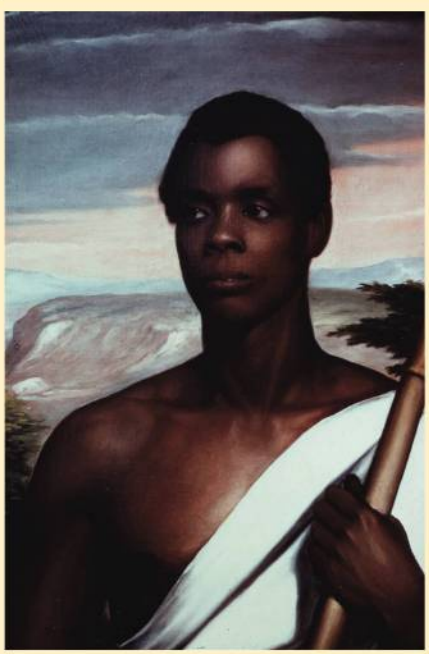
key word

mutiny a situation in which sailors or soldiers rebel and refuse to obey their commanding officers

On 2 July 1839, they killed the captain and the cook. They did not kill the navigator, as they wanted him to sail the *Amistad* back to Sierra Leone. However, the navigator continued to sail for America. The ship was captured by the US Washington, an American ship, and the slaves were arrested and jailed in New Haven.

The men were tried for murder, and the case went to the Supreme Court, the highest court in the land. A poet who admired the hero of *Amistad* wrote this (shortened):

Source E: A poem about Joseph Cinque



Portrait of Sengbe Pieh (Joseph Cinque) by Nathaniel Jocelyn, 1840

All hail! thou truly noble chief,
Who scorned to live a cowering slave;
Thy name shall stand on history's leaf,
Amid the mighty and the brave:
Thy name shall shine, a glorious light
To other brave and fearless men

(James Monroe Whitfield, *To Cinque,* 1853)

Figure 6.14 The Amistad

John Quincy Adams, who was a past president of USA, felt so sorry for the captured Joseph Cinque and his fellow Africans that he agreed to be their lawyer for no pay. He made such a powerful speech, which lasted for eight hours, about how evil slavery was and how the men had been illegally kidnapped that he convinced the judges to set them free.

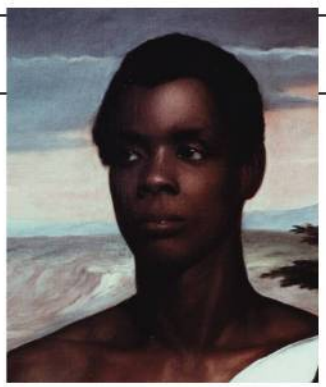
The Amistad rebellion became one of the best-known cases of slaves fighting back. Joseph Cinque, as he was named by the Spanish (Sengbe Pieh was his real African name), was seen as a hero.

A newspaper at the time described him as follows:

Source F: Citation "On Cinques", *The Colored American*, 19 October 1839

A brave fellow indeed

We have seen a wood-cut representation of the royal fellow. It answers well to his lion-like character … His eye is deep, heavy … as if volcanoes of action might be asleep behind it … It is a gentle … generous look, sparing and not a destructive look. It would give … occasion to strike at the slave trade and at our people for imprisoning and trying a man admitted to have risen only against the worst of pirates, and for more than life – for liberty, for country and for home.



Joseph Cinque

(Extract from: *The Colored American*, 19 October 1839)

Activity 10 Write about your hero

The poem and article in sources E and F contain descriptions of a brave man written by people who saw and admired him. Read Sources E and F, and answer the questions.

1. Looking at the present: Do you have a hero or a heroine? Write a short article, or poem, about someone you admire for facing up to unfair treatment and defending people. Illustrate your text.
2. Looking at the past: Choose a case study and write your opinion of the person involved. Many see these people as heroic. In your writing explain why it is possible for someone to see the individual you have chosen in a different light.

The Underground Railroad

Slavery was **abolished** in North America (the free states) and Canada long before it was stopped in the South. Those people who didn't support slavery helped slaves to escape from the South to the North. A system of secret routes and safe houses, called the Underground Railroad, existed to help them. In 40 years, more than 30 000 slaves apparently escaped using this network. If slaves were caught fleeing, they were often severely punished, as was anybody who helped them. As safety and secrecy were very important, the slaves used code words to plan their escapes. Some 'code words' are illustrated and explained in Figure 6.15 below.

key words

abolish to end a law or system

c abbreviation for 'circa', which means about or approximately these dates

Stations or depots: The safe houses

Stationmasters: The owners of the safe houses. Some were caring church people and others were free blacks.

Conductors: The people who travelled with the slaves to help them to escape.

Figure 6.15 Slaves used code words for safety and secrecy.

There were many other code words, known only to those involved in the Underground Railroad. The slaves knew they had to go north to find freedom from the cruel slave-owning plantation growers in the southern states.

Harriet Tubman

Harriet Tubman was born in about 1820 to parents who were slaves, so she was also a slave. When she was 12, she was hit on the head with a heavy object by an overseer. This injury caused her to sleep a lot. She had dreams and visions in which she believed God was going to free her and others from slavery.

Harriet managed to gain her freedom by using the Underground Railway and moving North. This journey was nearly 145 kilometers and took between five days and three weeks. The trip was made more difficult by bounty hunters who were on the lookout for slaves trying to escape.

When Harriet gained her freedom, she went back south and helped her family and other slaves to become free. She died at 93, and is remembered for her fight against slavery and helping others. She was a true heroine.

(Source: Corbis)

Figure 6.16 Harriet Tubman (***c*** 1820–1913)

Activity 11 Summarise facts about Harriet Tubman's life

1. Read the sources below.

Source G: Harriet Tubman

Harriet Tubman made nineteen trips as a 'conductor', risking her life every time, and successfully freed about 300 slaves. She carried a gun and threatened any slave who wanted to turn back.

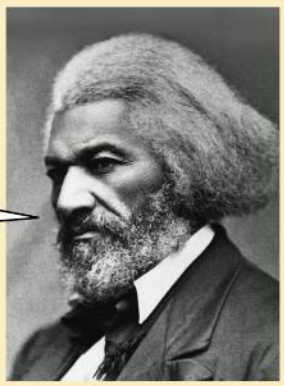
A reward of $40,000 was offered to any bounty hunter who brought her in to the authorities, but she managed to avoid capture. Harriet Tubman became known as 'Moses' because she freed her people just as Moses freed the children of Israel from Egyptian slavery.

(Patsy Stevens, GardenofPraise.com)

Source H: Fredrick Douglass (former slave and abolitionist) about Harriet Tubman

I have wrought (worked) in the day – you in the night … The midnight sky and the silent stars have been the witnesses of your devotion to freedom and of your heroism. … I know of no one who has willingly encountered more perils and hardships to serve our enslaved people than you have.

(Letter from Frederick Douglass to Harriet Tubman, 29 August 1868)



Fredrick Douglass

key word

revolutionary abolitionist someone who believes it is acceptable to use violent methods to bring about change

2. Write three facts about Harriet Tubman in a paragraph of four to five sentences.
3. Why do you think Harriet threatened those slaves who wanted to turn back?
4. Explain Frederick Douglass's view of Harriet Tubman. Give reasons for your answer.

The story of John Brown and his mission to abolish slavery

John Brown was a **revolutionary abolitionist**, which means that he believed that change would come about quickly if violent methods were used. His aim was to abolish slavery for good. John Brown lived in an anti-slavery state. He clashed with the supporters of slavery in Kansas.

In 1856, during the Kansas campaign, he and his supporters killed five pro-slavery Southerners in what was called the Pottawatomie Massacre.

In 1859, he also tried to start a freedom movement among the slaves in Harpers Ferry, Virginia. However, the army got involved and some of Brown's supporters were killed and he was captured.

He was tried for **treason** against the state of Virginia, for the murder of five pro-slavery Southerners, and for starting a slave rebellion. He was found guilty and was later hanged. His beliefs and spiritual sense infuriated some people and gave hope and courage to others.

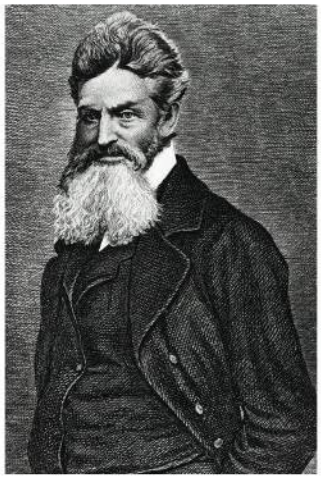


Figure 6.17 John Brown

'These men are all talk. What we need is action—action!'

(Famous words of John Brown)

'John Brown's body lies a-mouldering in his grave … but his soul goes marching on.

('John Brown's body' (1861) One of the important battle hymns of the Union army in the civil war.)

'Here, before God, in the presence of these witnesses, from this time, I consecrate (give) my life to the destruction of slavery!'

(Famous words of John Brown)

Activity 12 Select, discuss and debate about the North and South

The class will be divided into two groups, Group 1 will represent the North (against slavery) and Group 2 will represent the South (pro-slavery).

1. In your groups, present your views about slavery. Explain why slavery was a good or a bad thing. In your answer use evidence from the sources that you have read.
2. Nat Turner, Joseph Cinque and John Brown were all responsible for the deaths of people. Do you think all three of these men should be treated in the same way?
3. Harriet Tubman was not a violent person, but sometimes she also had to use force to help the slaves to escape. Is it wrong to use force or violence? Discuss whether these were people who were doing the right thing or whether they were wrong to believe in the use of force to free slaves.
4. Why do you think the former USA President's speech lasted for eight hours? What do you think he might have said? Which arguments would a slave owner have given, do you think, when debating about the Armistad rebellion?
5. From the point of view of the slave owners, explain why slavery is a good thing. Why do you think it should not be abolished? Why would you not support the actions of those who are against slavery?

key word

treason the crime of doing something that could harm your country or government

Unit 4 The impact of the transatlantic slave trade on America, Britain and West Africa

Figure 6.18 Cotton plant

Figure 6.19 Sugar cane plant

Figure 6.20 Rice plant

Figure 6.21 Tobacco plant

Gains for America and Britain

The economy of America profited enormously from slavery. Before the American Civil War, when the Northern and Southern states of the USA fought each other, cotton was financially the most important crop. As you know, cotton was grown on plantations where the free labour of slaves was used. Slavery helped the economy of the USA to develop through the growth and export of cash crops like tobacco, rice, sugar and especially cotton, shown in Figures 6.18 to 6.21. (However, this does not justify slavery.)

By the late 1850s, a new sense of freedom existed, and gradually people, especially in the Northern states, came to regard the South as backward because of its mistreatment of slaves. Slavery was made illegal in the Northern states in 1834 but continued in the South. Eventually the North and South went to war, partly because of this issue (the American Civil War, 1861–1865). Up to the end of the Civil War, the economy of America profited very much from the unpaid labour of the slaves.

Many of the raw materials produced by the slaves were sold in Britain. This meant that, during the time of slavery (late 1600s to early 1800s), trade between America and Britain grew. Trade is an important part of the economy. Although it is hard to work out exactly how much the economy of Britain profited from slavery, we know that the effect was large. The British developed industries to process the raw materials it imported from the American South. Ports like Liverpool, Bristol and Glasgow also profited from the slave trade, since the slave ships used them. Altogether, we can see that while Britain and America grew rich and welloff as a result of the transatlantic slave trade, the unfortunate slaves did not.

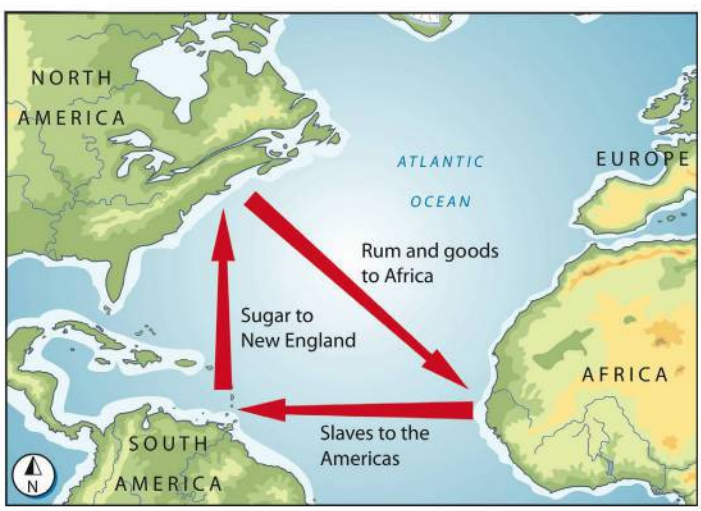


Figure 6.22 Route of the slave ships between Africa and America

Negative impact on West Africa

Slavery had a negative impact on West Africa, and the continent suffers from the effects of these events to this day.

So many people were taken as slaves that the population of some parts of Africa was greatly decreased. In some of these areas, there were not enough people left to manage the land successfully. In other areas, people who were trying to avoid being captured got together in numbers that were too large, which resulted in over-population. Both of these effects caused the breakdown of societies.

West African societies were so weakened that they could not resist being taken over by European colonists. The damage to local economies was one effect of this situation. The Europeans interfered with farming all over West Africa, forcing the people to grow crops, such as coffee that could be sold in Europe, instead of food crops that they needed in order to survive normally.

Slaves were bought with goods from Europe. In time, the African kingdoms came to rely on trade with Europe. This trade benefitted the few powerful people who ruled them, but not the majority of Africans. The slave trade became so important to the economies of some parts of Africa that, once slavery was done away with in Europe and America, the African kingdoms found it hard to buy the goods they needed. The traditional ways of growing crops and trading had been weakened, and large parts of Africa became poorer and poorer. In addition, most of the very healthiest and strongest African people were sold as slaves, and were therefore not able to contribute as workers in their home areas.

Slavery also caused an increase in the number of wars between Africans. In order to gain wealth, a tribe might attack its neighbour in order to take prisoners. These prisoners were then sold to slave traders. This caused the further weakening of many West African societies.

Activity 13 Discuss the impact of the slave trade

Read the information given in Unit 4 and answer the following questions:

1. Explain how the slave trade helped to reduce the price of cotton, coffee, rice and sugar.
2. The list below contains some of the role players in the slave trade. Explain what each group did in terms of the slave trade and how they benefitted from the slave trade: Slave traders, slave ship owners, plantation owners, factory owners.
3. What effects did the slave trade have on West Africa?

Unit 1 West Africa before the European slave trade

- West Africa had a well-developed and highly organised society.
- Trade flourished and many areas in the region became thriving trade centres.
- Slavery already existed in West Africa during this time.
- This society followed strict rules for how to treat their slaves.
- However, when slaves were captured in Africa and sent to America (across the Atlantic) slaves were treated inhumanely and harshly by many of their white owners.

Unit 2 Slavery in the American South

- In the American South, tobacco, sugar cane, rice and tobacco plantations were huge.
- Slaves were captured in Africa and sold in America to provide plantation owners with very cheap workers.
- Slaves were sold at slave markets, were used to make plantation owners in the South very wealthy, and had no rights at all.

Unit 3 The impact of the transatlantic slave trade on slaves

- Life as a slave was hard, and slaves developed songs and stories that helped them through difficult times.
- Although slaves were not allowed to meet as a group, a number of people rebelled against the way they were treated. Individuals often helped this cause.
- Nat Turner, John Brown, Harriet Tubman and Joseph Cinque have all become heroes for standing up against slavery.

Unit 4 The impact of the transatlantic slave trade on America, Britain and West Africa

- The economies of America and Britain, and the American South in particular, profited enormously from slavery.
- Slavery had negative affects on, particularly, West Africa. The continent suffers from these effects to this day.

Term assessment

Getting started

1. a) Name two Southern states in which there were plantations. (2)
   b) Name two crops that were grown in plantations. (2)
   c) Name two ports used for receiving raw materials in Britain. (2)
   d) Who (a woman) was known as 'Moses'? (1)
   e) What year was the Amistad mutiny? (1)
   f) Give the full date of Nat Turner's execution. (1)
2. Write two sentences each about the treatment of slaves as if you were:
   a) a slave working on a plantation (4)
   b) a Southern plantation owner (4)
   c) a Northern anti-slavery abolitionist (remember: abolitionists wanted to end slavery) (4)
   d) either Harriet Tubman or John Brown. (4)

Check your understanding

3. Does it make a difference who describes an historical event? Explain your answer in two sentences. (5)
4. Answer the following questions based on what you have read in this topic.
   a) Use the following questions to create a mind map about slavery in America. (10)
      - Why were slaves brought to America?
      - How were slaves found and taken to America?
      - Where did slaves work?
      - How were slaves treated in their place of work?
      - How did slavery benefit the American South and Britain?
      - When was slavery ended?
   b) Write three paragraphs with the heading 'Slavery in the American South – from beginning to end'. Use your mind map to help you. Write at least six to nine sentences. (20)

Challenge yourself

5. Read the extract in source I below and then answer the questions that follow.

Source I: Quote from a newspaper article

African descendants suffer prejudice rooted in the atrocity of slave trading

I recently visited Goree Island in Senegal, the infamous 'door of no return' from which countless Africans were sent in chains to the Americas during the trans-atlantic slave trade.

As I moved around the island where thousands of human beings were traded as commodities, I was particularly appreciative that the United Nations had made 2011 the International Year for People of African Descent … (T)he transatlantic slave trade (is) one of the greatest stains on the human conscience.

(Opinion piece 21 March 2011, by Navi Pillay, United Nations High Commissioner for Human Rights)

a) Describe the view that the writer is expressing about slavery. (4)

b) Suggest why someone working for human rights would have this point of view. (3)

c) Explain why Goree Island is known as 'the door of no return'. Support your answer with reasons. (3)

d) Does the author think that nowadays people still suffer because of slavery? Quote from the passage to support your answer. (3)

e) Describe what the UN did in order to remember slavery. (2)

Total [75]

Topic 7 Colonisation of the Cape 17th – 18th centuries

Key concepts and content

- Revise information about the original inhabitants of the Cape.
- Examine evidence regarding reasons for permanent settlement at the Cape.
- Discuss and evaluate the results of the Dutch settlement, using different sources.
- Interpret the results of the Dutch settlement.
- Understand the origin and experiences of slaves at the Cape.
- Describe the free burghers, the Dutch and the French Huguenots living in the Cape.
- Explore the movement and lifestyles of the trekboers.
- Understand the land dispossession and consequences for the indigenous population.

Unit 1 Indigenous inhabitants of the Cape in the 17th century

key words

indigenous naturally found in an area

nomadic describing people who move around from place to place to find food for themselves and for their livestock

livestock cattle, goats and sheep

herders people who keep herds of animals such as cattle and sheep and rely on these animals to provide food and other goods such as clothing

The Khoikhoi and the San

By the beginning of the 17th century, there were two **indigenous** groups of people living in the Cape: the Khoikhoi and the San.

The Khoikhoi

The Khoikhoi were **nomadic**, which means that they moved around from place to place to find food for themselves and for their cattle. They owned **livestock** and were skilled **herders**. The word 'Khoikhoi' means 'Men among Men'. The Khoikhoi and the San are very closely related peoples. In fact, sometimes the Khoikhoi families would move across to the San and sometimes the San would join the Khoikhoi. The main difference between the two peoples is that the San were hunter-gatherers and the Khoikhoi were herders and farmers.

The San

The word 'San' means 'people different from ourselves'. The San were also nomadic, but they did not own any animals. They lived by gathering and eating wild plants. They also hunted and killed wild animals with bows and arrows. Therefore they are called 'hunter-gatherers'.

Figure 7.1 A 1595 picture of Khoikhoi farmers at the Cape

The Khoikhoi and San spoke very similar languages. Sometimes the word 'Khoisan' is used to describe both groups of people living in the Cape at the beginning of the 17th century.

Early Dutch settlers traded with both the Khoikhoi and the San. The Dutch settlers referred to the Khoikhoi as Hottentots, because of the sound of the language. We now consider this word insulting and no longer use it. The San were known as Bushmen, because they made their home in the bush. There is still some disagreement among the remaining San over which word to use.

Activity 1 Revise the differences between the Khoikhoi and San

Read the text on page 156 and answer these questions.

1. Copy and complete the table below. Rows 1 and 2 show the similarities between the Khoikhoi and the San. Fill in the differences between the Khoikhoi and the San in rows 3, 4 and 5, by placing each of the six phrases provided in the correct column:
   a) Meaning: Men of Men
   b) Meaning: People different from ourselves
   c) Hunter-gatherers
   d) Herders of cattle
   e) Known by settlers as Bushmen
   f) Known by settlers as Hottentots.

	Khoikhoi	San
1.	Traded with the Dutch arrivals	Traded with the Dutch arrivals
2.	Nomadic	Nomadic
3.		
4.		
5.		

key word

demarcation a border, boundary on line of a map of an area

Where African farmers were settled

No African farmers lived in what was known then as the Cape of Storms. They were settled to the east of what is now Cape Town. One of the reasons was the weather.

The area now called the Western Cape is a winter rainfall area. African farmers planted and ate sorghum and millet. These crops need summer rainfall in order to grow. For this reason, there were farmers in the east of the country, but not in the Cape.

There was no clear **demarcation** between the Eastern and Western Cape, and the entire area was named The Cape by the Portuguese sailors.

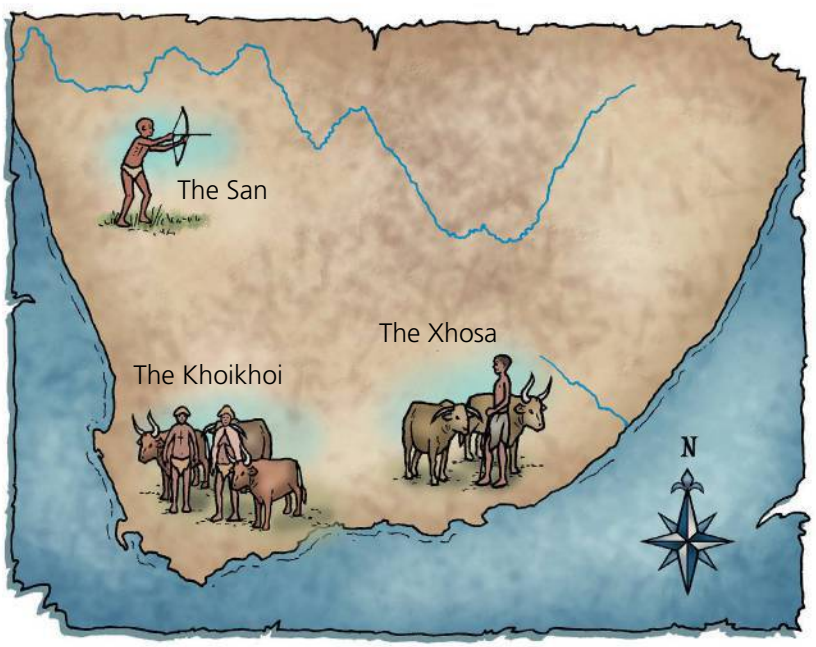


Figure 7.2 Location of the indigenous inhabitants of the Cape

Unit 2 Dutch settlement

Reasons for the VOC (DEIC) permanent settlement at the Cape 1652

Did you know?

The Dutch East India Company was known as the VOC, the Dutch initials for 'United East India Company'.

Countries in Europe, such as Holland and Portugal, became more and more interested in using the Cape as a place to grow vegetables and find fresh water for the sailors and others on board their ships. These ships traded with countries in the East such as India. They had to sail for months to get from Europe to the East, and more months to sail back home. Their route was around Africa. The Cape was the best place to stop for fresh food and water since it was about halfway into their journey.

key word

colonise to take over a territory (then called a 'colony') and exploit its natural resources; the colonising country sends its own people to live in the colony

The Dutch East India Company (DEIC) was set up in 1602 to trade. In general, the Dutch East India Company did not want to **colonise** territories if it could avoid it. However, if colonisation was necessary to protect the company's trading interests, then it would establish colonies. The Dutch government had given the DEIC huge powers, almost as great as those of a national government.

The DEIC ordered Jan van Riebeeck to establish a refreshment station at the Cape. In April 1652, he settled at the Cape with about 100 men and women, including his wife, Maria de la Quellerie. The first thing the men did was to build a fort for protection. The original fort, built of mud, clay and timber, no longer exists, but a more permanent brick, stone and cement castle was built near to the fort, some years after Jan van Riebeeck's arrival. This building, known as The Castle, is still standing. The Dutch also started a large garden to produce fresh fruit and vegetables for themselves and the ships stopping at this newly built refreshment station. This was known as the Company Gardens, and, like the Castle, still exists today (though no longer as a vegetable garden).

Figure 7.3 A statue of Jan van Riebeeck in Cape Town

Figures 7.3, 7.4 and 7.5 show that the past is all around us, even today. Figures 7.3 to 7.5 are photographs taken recently of Cape Town's history. The heritage of the Dutch settlement includes the Castle and the Gardens. We look back to the past to see what we have become.

Figure 7.4 The Castle in Cape Town

The Dutch eventually started trading with the Khoikhoi and the San, and so managed to get a supply of fresh meat from the local hunters.

Word spread among those travelling to and from the East about the availability of fresh supplies, and the Cape became an increasingly popular place to stop at for refreshments. In time, the settlers built a harbour and workshops for ship repairs. After some time, medical centres were built and doctors were brought over from Europe.

Figure 7.5 The Company Gardens in Cape Town

Only five years after Van Riebeeck had landed at the Cape, the DEIC brought nine families from the Netherlands to defend DEIC property, develop farming and control trade with the Khoikhoi.

As the settlement grew, the settlers needed more and more land for farming. This situation led to conflict with the indigenous people, which was the beginning of the colonisation of the Cape.

Activity 2 Write about the settlement at the Cape

Talk about the information in Unit 2 and then write down the answers for the following questions:

1. What does DEIC stand for?
2. Explain why the Cape was important to certain European countries.
3. Explain why you think Van Riebeeck's men built a fort.
4. Describe the differences between the original fort and The Castle.

Unit 3 Results of the Dutch presence in South Africa

Did you know?

In the early 1600s, the Khoikhoi traded animals for copper with passing sailors from different European countries. They used this copper to trade for sheep, cattle and dagga with other tribes.

key word

bartered exchanged goods for other goods, without using money

Interaction between the Khoikhoi and the Dutch

Before the arrival of the first permanent Dutch settlers at the Cape, the Khoikhoi **bartered** with passing European sailors. They exchanged cattle and sheep for goods offered by the sailors. Jan van Riebeeck's group of settlers wished to trade with the Khoikhoi for fresh meat for themselves and for sale to passing ships.

At first, the Dutch treated the Khoikhoi fairly and the Khoikhoi happily traded with them. When it became clear that the Dutch were there to stay and continually demanded animals from the Khoikhoi, tensions began to develop. Later, the Dutch began to use force to take the Khoikhoi's animals and goods. The fort mentioned earlier was built, in part, to protect the Dutch settlers from the Khoikhoi and to show that they had permanently settled in the Cape. The Dutch and the Khoikhoi had started off bartering peacefully, but their relationship now became violent as the Khoikhoi felt badly treated by the Dutch. Eventually a series of wars were fought and the Khoikhoi were forced off their land. You will look at this in more detail in Unit 5.

The San did not have as much contact with the Dutch settlers as the Khoikhoi did. However, the settlers also drove the San further inland, from the coast. Both the Khoikhoi and the San struggled to find suitable land to survive and became poorer and weaker. The arrival of the Dutch had many damaging consequences for the lives of the local people.

Activity 3 Interpret pictures

Look at Source A and Source B on page 161. Source A was drawn in the 1600s (17th century) by a Dutch artist. Source B was drawn in the 1700s (18th century), also by a Dutch artist.

1. In pairs, look carefully at Source A and discuss these questions:
   a) How did the trading take place?
   b) Do you think that everybody is friendly and trusting? Look at their body language for clues. Give reasons for your answer.

Source A: A painting by a Dutch artist in the 1600s

2. In writing, describe and give a reason for the general mood or feeling in Source A. Look carefully at Source B and answer these questions in writing.
   a) Explain what this picture tells you about the Dutch.
   b) Explain what this picture tells you about the Khoikhoi.
   c) You know that the Dutch sometimes took goods by violent force. Why do you think this is not shown here? (Remember that these were drawn by Dutch artists.)

Source B: A painting by a Dutch artist in the 1700s

Unit 4 Slaves at the Cape

key words

stowaways people who hide in ships to escape secretly from a country or to travel without paying

settlements small communities especially in their early stages

Why slaves were brought to the Cape

When Jan van Riebeeck arrived at the Cape, he was forbidden by the Dutch to enslave any of the local people. This did not mean, though, that there were no slaves at the Cape. For the first five years at the Cape, the only slaves were **stowaways**.

As more Dutch settlers arrived at the Cape, they needed more workers to plant gardens, build houses and run the refreshment station. At first, the local Khoikhoi were prepared to work from time to time, helping in the gardens and doing other manual (physical) work. However, they did not want to leave their cattle and so were not always available. Later, they did not trust the Dutch and did not want to work for them at all. The DEIC already used slaves in other **settlements** so the Dutch decided to bring them to the Cape as well.

In the early years of slavery, only the DEIC owned slaves. They were housed in the Slave Lodge in Adderley Street. This is the second-oldest building in Cape Town and is now a museum. Later, free citizens of the town and farmers in the countryside were also granted the right to own slaves.

Did you know?

By 1658 there were only 11 slaves at the Cape. One of these, Abraham, was a stowaway who, in 1653, arrived from the East, claiming to have run away from his master, Cornelis Lichthart of Batavia.

Figure 7.6 Another example of Cape Town's heritage: the Slave Lodge (redone)

Where the slaves came from

The first slaves to arrive at the Cape came from Angola. Later, slaves came mainly from countries along the Indian Ocean trade route, because the Dutch East India Company was by then allowed to trade only along the East Coast of Africa and with countries in the East. These countries included India, the East Indies, Mozambique, Madagascar, Japan, Guinea and Angola. Many slaves were talented and skilful people in their home countries and were **wrenched** away from families and friends.

key words

wrenched taken away from a person or object unwillingly, by force

emancipation to set free

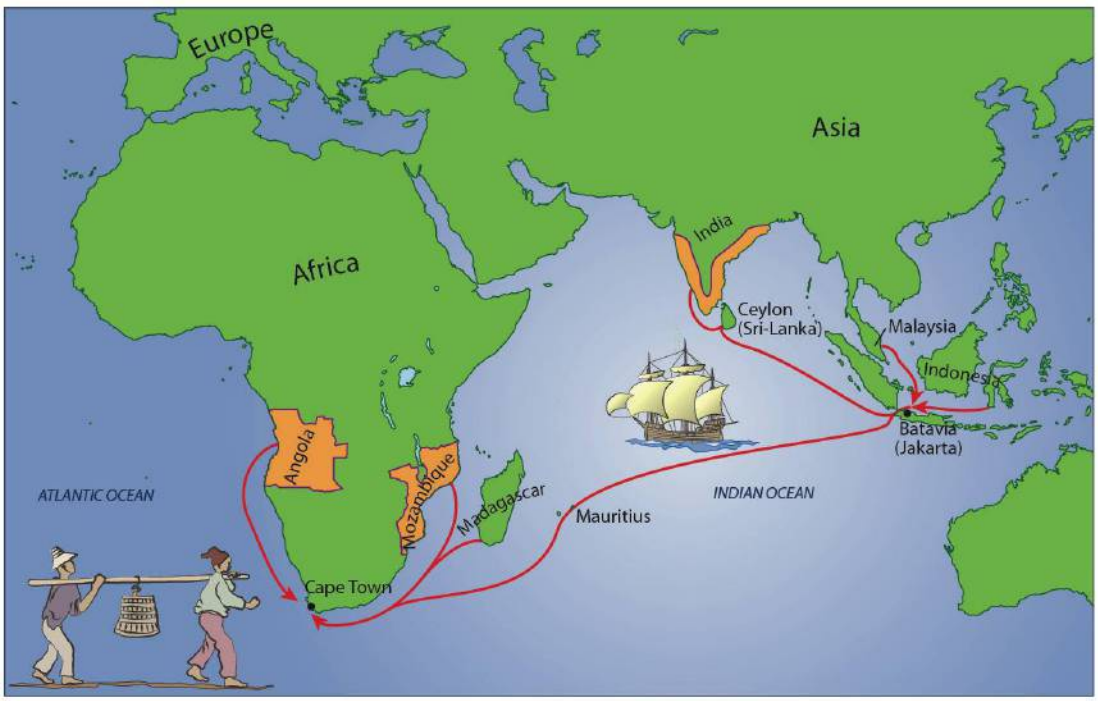


Figure 7.7 The Indian Ocean trade route

The slaves had to learn Dutch. Afrikaans first developed as a slave language that emerged from the mixture of Dutch, English, and other European and Malay languages.

The time line alongside shows the key dates in the history of slavery at the Cape.

1660–1720 Slaves brought to Cape mainly from Madagascar and India

1730–1834 Slaves brought to Cape mainly from Madagascar and East Africa

1770 Slaves from Africa became the biggest group

By 1808 About 63 000 slaves had been brought to the Cape

1834 **Emancipation** (freeing) of the slaves

Activity 4 Analyse a pie chart

Look at the pie chart in Figure 7.8 and answer the questions that follow.

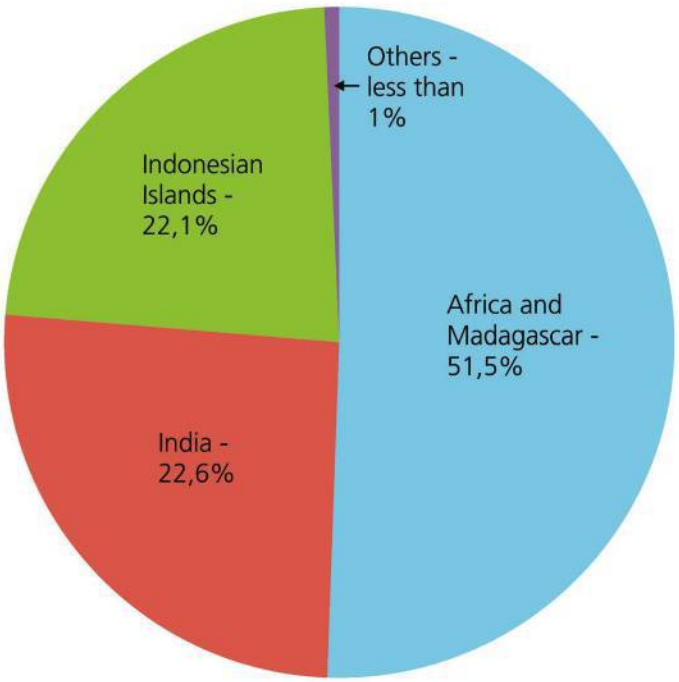


Figure 7.8 Pie chart showing where slaves came from

1. State whether the following sentences are True or False. If false, rewrite the sentence so that it is true.
   a) More than half of the slaves came from the African continent.
   b) India and the Indonesian Islands each 'contributed' a similar number of slaves.
   c) The majority of the slaves came from Africa and the Americas.
   d) No slaves were provided by other countries.
   e) Slaves were taken from Europe to Africa.
2. Present the information in the pie chart as a table.

How slaves were brought to the Cape

The first slaves to arrive in Cape Town came on the *Amersfoort*, one of a group of ships that the DEIC owned and used specifically for transporting slaves. The slaves had originally been captured in Angola by a Portuguese slave trader and were on their way to South America when the Dutch captured them and brought them to Cape Town. Although 250 slaves were captured, only 170 of them survived the sea voyage to the Cape.

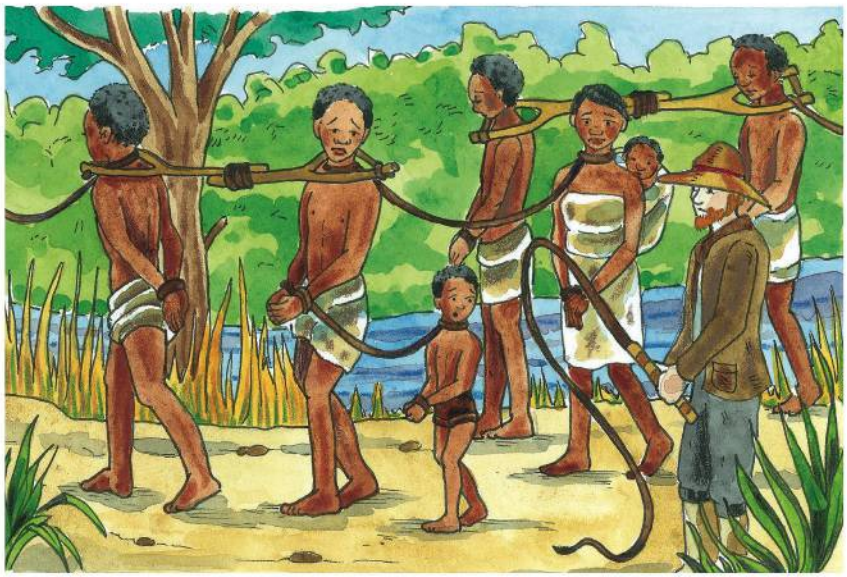


Figure 7.9 Slaves tied together so that they could not escape while being transported

The Dutch used cruel methods to capture slaves and take them away from their home countries. The men working on the slave ships separated the slaves from their families, tied them together and forced them to march to the coast. Then they loaded the slaves onto the ships and transported them like **cargo**, in terrible conditions, to their 'new' homes. Sometimes they tricked Africans into slavery by promising employment as crew members, only to sell the new 'crew' when they reached the Cape. Unlike the American South, where people imported slaves in large numbers from one country, the Cape slaves came from a number of different countries. Other slaves ended up at the Cape when they were stolen from wrecked ships. This brought great diversity to the Cape, as the slaves had many different interests, languages and religions.

Did you know?

This is what Reverend Walsh saw when he boarded a slave ship: 'The space was so low that they (slaves) sat between each other's legs and [were] stowed so close together that there was no possibility of their lying down or at all changing their position by night or day.'

(*www.eyewitnesstohistory.com*)

key word

cargo goods transported by ship or plane

Activity 5 Write a diary entry

Read the information on pages 163 and 165, and answer the questions.

1. Write a diary entry of a captured slave who has survived the journey to a foreign country. He or she has been wrenched away from his or her family. Try to convey your feelings, as well as explain what has just happened to you. You could begin with:
   - Suddenly there were these hunters. But we were the animals ...

   OR
   - I have been cruelly separated from ...

What it was like to be a slave at the Cape

Slaves at the Cape were usually either domestic slaves or used as slave workers on farms.

Domestic slaves

Some of the work that **domestic** slaves did included needlework, cooking on coal stoves or fires, collecting water from pumps, cleaning (sweeping and dusting) and washing clothes and linen.

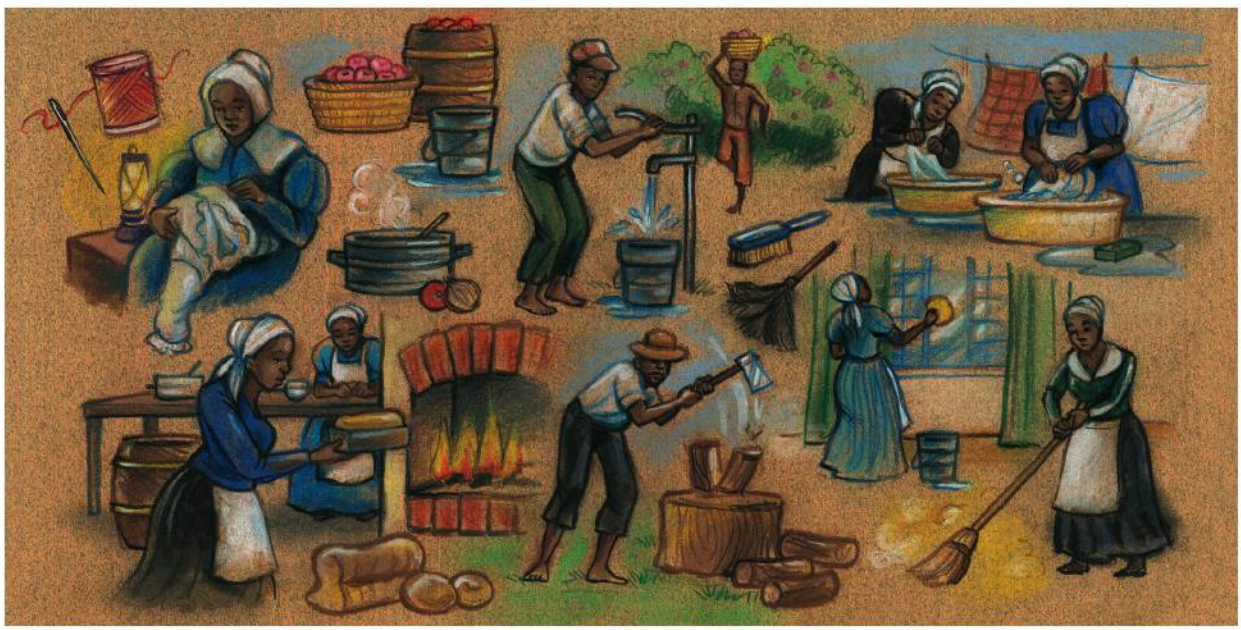


Figure 7.10 These are some of the work activities slaves did in the home

key words

domestic to do with the home
viticulture the making of wine
chaff the covers of seeds, usually regarded as useless
winnowing the process of separating grain from chaff by throwing it into the air or blowing air through it

Slave workers on farms

Wheat farming, **viticulture** and breeding animals were the main activities in the Cape. Many farms produced both wheat and grapes.

Slave work on the farms included:

- working in the gardens
- watering the plants
- weeding
- looking after livestock
- ploughing and harvesting wheat, using hand tools such as sickles
- sieving the grain to remove the **chaff**
- gathering the wheat into piles (slave children often did this)
- **winnowing**.

Only the larger farms had special slave lodges. Otherwise, slaves slept in kitchens or outside when it was warm. It was common for farmers to send their slaves to work on other farms where slaves then worked as hired labour. The farmers earned extra money in this way.

Other slave activities

Some slave owners rented out their slaves to do unskilled work such as working in the docks. In the city, slaves did almost all skilled work. Some learnt new skills or used those they had learnt in their own countries and worked as cart drivers, bricklayers, builders, painters, carpenters, shoemakers, tailors and boat builders.

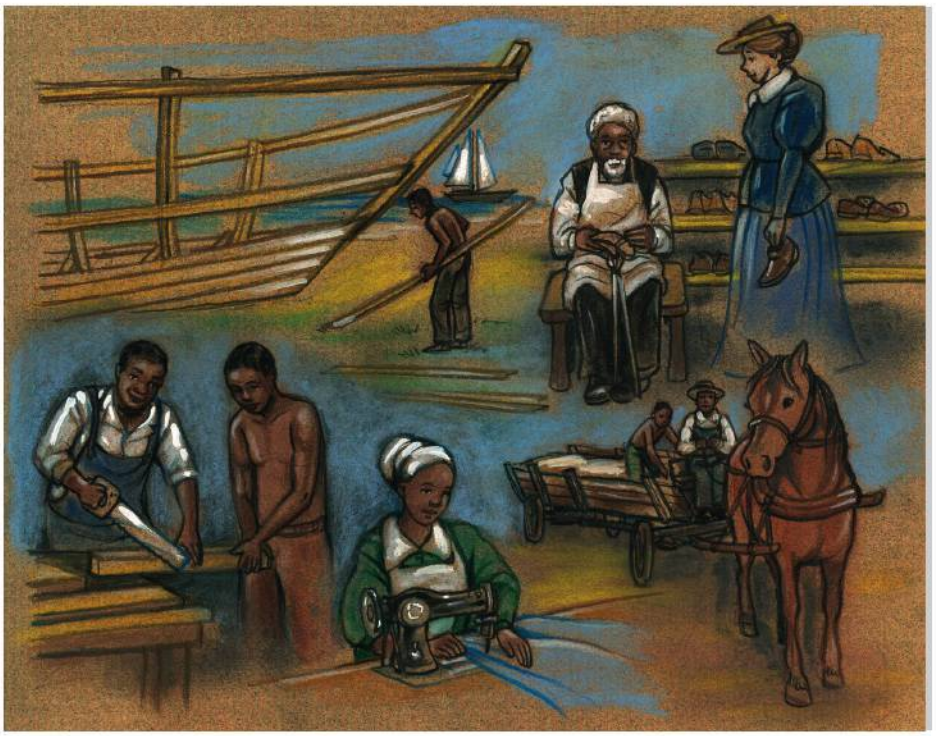


Figure 7.11 These are some of the domestic activities slaves did.

Sometimes slaves sold and bartered goods for their masters in the town. Many others were fishermen. They had to pay any wages they earned to their owners. Some kinder and fairer owners allowed their slaves to keep some of the money earned.

Activity 6 Tabulate slave activities

On your own, read the information on pages 166 and 167, and then answer the questions.

1. Copy and complete this table. Add three activities done by slaves under each heading.

Table heading			
	Domestic	**Farm**	**Other**
1.	Cleaning and dusting the house	Ploughing wheat fields	Boat builders
2.			
3.			
4.			

2. Give your table a suitable heading that summarises the content.

Did you know?

Domestic slaves usually received better food than the slaves who worked in the fields. On wine farms, slaves received small amounts of wine (the 'dop' system). Male slaves were not allowed to wear shoes. Slaves who did domestic work, especially the women, usually slept in the main house.

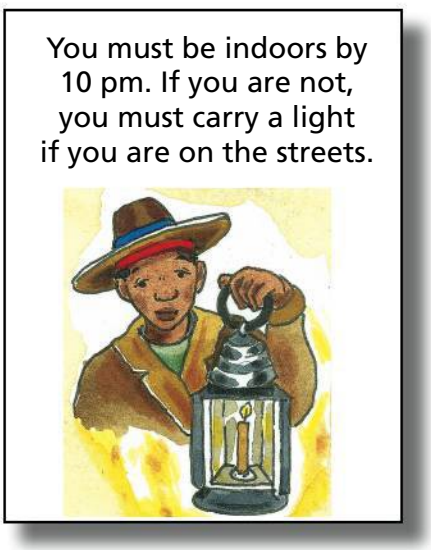
Causes and effects of slave resistance at the Cape

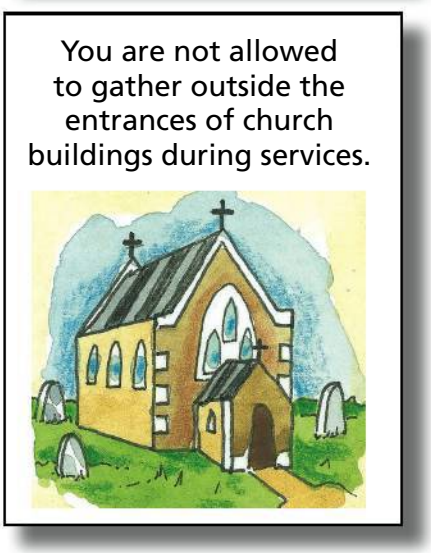
Cape slave owners controlled their slaves very strictly. Slave owners could use harsh punishments like whipping, starving and forcing slaves to work very long hours. If slaves ever tried to run away, they would be caught and put in chains to stop them from doing it again. As well as being cruelly punished, slaves were forced to live by some very strict rules. Here are some of them:

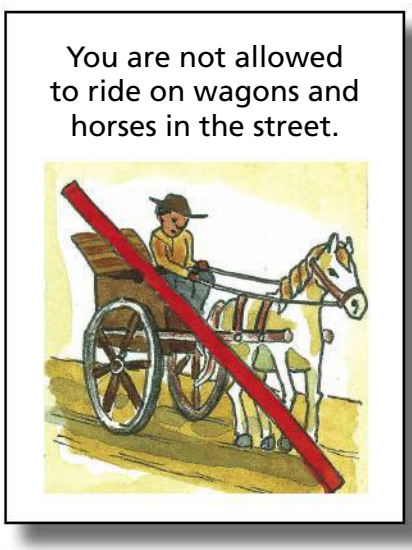
- All slaves had to be indoors by 10 pm and if they were not, they had to carry a light if they were on the streets.
- They were not allowed to ride on wagons and horses in the street.
- Slaves were not allowed to gather outside the entrances of church buildings during services.
- They were not allowed to stop and talk to other slaves when out on the streets.

It was very difficult for slaves in the Cape to lead normal family lives. Just as in the American South, slaves were not allowed to marry. Slave traders often separated partners.

Slaves were bought and sold at DEIC slave auctions (sales) and private auctions. They were also bought, sold and hired out through advertisements placed in newspapers in the same way as in the American South. Any children born to slaves were owned by the slave owners. They faced lives as miserable as their parents', with very little hope of escape.







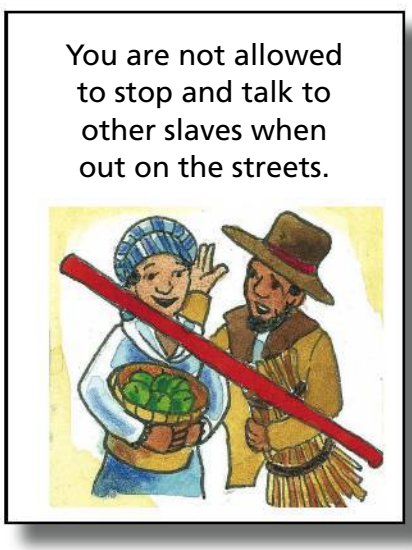


Figure 7.12 Laws restricting the freedom of slaves

Sometimes the slaves resisted or fought back against their harsh owners as they did in the American South, but it was difficult to get together in groups in order to do this. Two organised but small uprisings of slaves took place in the early 1800s, when the Cape was under British rule.

The first was in 1808 when two slaves, Louis of Mauritius and Abraham van der Caab, ('from the Cape') persuaded 300 farm slaves to march to Cape Town to demand their freedom. The second took place in 1825 on a farm quite far away from Cape Town. Some slaves led by Galant van der Caab killed the farmer and some members of his family. Many of the slaves taking part were sentenced to death.

Figure 7.13 Medallion owned by people who were against slavery (late 1700s)

Activity 7 Revise slavery at the Cape

1. Describe the conditions under which slaves lived at the Cape.
2. Explain why you think that there was not more rebellion by slaves against their owners.
3. Select words from the word box below to complete this passage about what slaves did.

ran	berserk	owners	cruelly	gently
killed	landlords	stabbed	away	

Some slaves a) _____ b) _____, but if they were caught, they were c) _____ punished. Some slaves even d) _____ themselves rather than working for cruel and bad e) _____.

Did you know?

In 1655, a slave from Madagascar ran away and was never caught. Local authorities offered local Khoikhoi people tobacco and copper as rewards for his capture but they would not search for him.

Slave legacy at the Cape

Slaves were in the Cape for 180 years. Many slaves came from the East. In this time, slaves and their **descendants** made an enormous cultural contribution to Cape Town and the area around it. Many slaves were skilled builders, cabinet-makers, plasterers, dressmakers, bricklayers and carpenters. Evidence of these skills can still be seen in the Cape Dutch buildings and architecture built at that time.

key words

descendants the following generations, in this case, those whose ancestors were slaves

heritage aspects of life passed on from generation to generation

The slaves brought to Cape Town their own music, language and design (clothes and art), which was rich in colour and different to the 'Cape Dutch' style. Cape Malay music originated from these slaves and the Cape Malay musical tradition is continued by the Cape Minstrel Carnival held on 2 January (Tweede Nuwe Jaar) every year. The style and flavour of 'Cape Malay' dishes is very distinctive. Traditional Cape Malay foods and recipes such as bobotie, bredies and samoosas have become part of South African culture and tradition.

Development of Afrikaans language

Slaves mixed with the Xhosa people and this led to a mixed Nguni-Khoisan people. Despite the laws forbidding intermarriage, slaves and European settlers mixed.

Did you know?

The only holiday the slaves were allowed to celebrate was the day after New Year. This is known as Tweede Nuwe Jaar and is still celebrated today in the Cape by the descendants of those known as 'Coloured'. The Cape Minstrel Carnival, an extremely popular musical festival, takes place on this day every year.

Relationships between slaves and settlers soon resulted in new generations of children whose **heritage** was a mixture of slave and European, especially Dutch. The Afrikaans language developed over time, incorporating Dutch and slave languages. The first written trace of early Afrikaans is in Arabic script, written by an imam. Although the Malay language is no longer spoken, Malay words and phrases are still used as part of the language.

Religion of Islam

Those slaves who came from the East brought the religion of Islam to the Cape. The European settlers were Christian while the Khoikhoi and Xhosa people originally followed traditional African religions.

Did you know?

South Africa's first mosque, Awwal Mosque, was built in 1798 in the Cape.

In time, as a result of the work of missionaries, most indigenous people became Christians. Islam arrived with slaves from Islamic countries and spread throughout South Africa. For the slaves, their religion, Islam, was a way of life. They practised their religion, which was a great part of their identity. Today, Islam remains a vibrant, flourishing religion that has had a significant social, cultural and political influence in South Africa. The largest group of South African Muslims (followers of Islam) is still found in the Western Cape. This can be seen by the number of mosques that have been built in this area.

Slave owners did not allow slaves to keep the names their parents had given them. Instead, they were given names and surnames by the European families to whom they were sold.

- Some slaves were named after the month of the year or day of the week.
- Some slaves were given ancient classical names.
- Some slaves from Portuguese countries were given Portuguese names.
- Some slaves were named after Old Testament biblical characters.
- Some slaves were given Dutch surnames.
- Some slaves were named after their owners.
- Some were given nicknames (which could be very insulting).

Activity 8 Analyse slave names

Read the information on pages 170 and 171, and answer the following questions:

1. a) Why do you think slaves were given new names and surnames?
   b) There is very little written information about the very early slaves at the Cape. Why do you think this is so? (Look at the point of view of both owners and slaves.)
   c) Explain what the slaves' new names tell us about the way their owners thought about them.
2. Copy and complete the table below. Read the names of the slaves. Then write each name under the correct column heading in the table.

November	Apollis	Ferreira	Moses	Julies
Adonis	Domingo	Abrahams	April	Cupido
Manuel	Davids	Maart	Titus	D'Oliviera

Months of the year	Classical surnames	Portuguese surnames	Old Testament

3. Use a telephone book to see if you can add four Dutch or Afrikaans surnames, which shows our heritage as South Africans.

key word

exposition describing and explaining

Did you know?

The earliest example of written Afrikaans that still exists is in Arabic writing, done by an imam (Muslim religious leader) at the Cape. The wording, which dates back to 1845, is 'Uiteensetting van die Godsdiens', which translates as '**Exposition** … of the Religion'.

Unit 5 Free Burghers; Dutch and French Huguenot immigration to the Cape

Did you know?

The first French Huguenots to settle permanently at the Cape were Francois Vilion (now spelt Viljoen) in 1671, Jean de Long (de Lange) in 1685 and the brothers Guillaume and Francois du Toit in 1686. The first Huguenot to set foot at Table Bay was Maria de la Quellerie, the wife of Commander Jan van Riebeeck.

The Dutch and Free Burghers

The DEIC offered work at the Cape to both Dutch and French citizens. Those who completed their three-year contract could apply to become free from the DEIC. Such people were known as Free Burghers. They could own land and slaves, and these people played an important role in the development of the Cape. Table 7.1 shows the growth of the population in Dutch South Africa.

Year	White people (Free Burghers + slaves)	Slaves	Total white people + slaves	Free Burghers
1652	90	0	90	
1672	221	200	421	64
1691	1 000	400	1 400	
1717	2 500	2 500	5	2 000
1780			12 000	
1795	16 000	16 839	32 839	

Table 7.1 The growth of the population in Dutch South Africa

The French Huguenots

Figure 7.14 French Huguenots arriving at the Cape

In 1685, the DEIC wanted to develop farming more, and so decided to send a number of new people to the Cape. It hoped that the French would be part of this group. But only three French people came to the Cape that year. They were Huguenots, who were French Protestants who had been persecuted (treated cruelly and unfairly) by the Catholic government of France.

The Dutch were also Protestant, and they offered the Huguenots a new home where they could be safe. Between 1688 and 1689, about 175 Huguenots settled at the Cape. By 1729, there were 279 French Huguenots and their descendents at the Cape.

Unit 6 Expanding European frontiers

The trekboers, with their servants and slaves, move inland

From the late 1600s and into the 1700s, the Cape settlers moved further north and east from Cape Town. This movement was led by the **trekboers**, who were looking for fresh grazing land for their cattle.

The trekboers preferred the freedom of their ox wagons and tents to living under the rule of the DEIC. Their trek brought them into constant conflict with the local people.

First they met up with the Khoikhoi, who fought them off when the Boers tried to settle on Khoihhoi land. Later, in the East, they met up with the Xhosa, who also fought against the loss of their lands.

Figure 7.15 Movement of the trekboers 1720–1770

Some of the trekboers owned slaves, and they took their slaves along with them. They also employed some Khoikhoi people as servants and they moved together, further into the interior of South Africa.

The Hottentots Holland Mountains can be seen as a natural boundary of the original Cape settlements. The trekboers moved beyond them and deep into the interior of what is now the Western Cape and beyond, into what are now the Eastern Cape and the Free State. As the map in Figure 7.17 shows, the various groups took widely different routes and spread all over the land beyond the original Dutch-controlled territory. Much of the land into which they moved is in the Karoo. This region has soil that is not very fertile, and does not get much rain. Therefore, the Karoo is much better suited to livestock (cattle and sheep) farming than to growing crops, which was ideal for the trekboers with their livestock.

Conflicts happened as white settlement increased. In the 1730s, the trekboers and Khoikhoi clashed in the Piketberg district, not far from Cape Town. Local Khoikhoi people raided the cattle farms in the area. The local farmers fought back and were helped by soldiers, and the KhoiKhoi were beaten.

The trekboers' way of life had some destructive effects. They hunted and killed wild animals, causing the **extinction** of the blauwbok and quagga populations. According to some reports, they captured and enslaved local women and children.

Did you know?

These trekboers were a different group of people to the Voortrekkers who went on the Great Trek of the 1830s and 1840s.

key words

trekboers white farmers who moved away from the Cape

extinction to completely die out

Lifestyles and stories of trekboers

key word

isolated far away from other places

The trekboers enjoyed living in small, **isolated** groups. When they made a rare trip to Cape Town, they usually felt uncomfortable. They liked the freedom and independence that came with living away from direct DEIC control. They saw the DEIC as oppressors who taxed them without giving much in return and who interfered with their hunting and trading with local tribes.

The trekboers were keen on hunting and enjoyed the freedom of moving around. They called this 'trekgees', meaning the 'spirit of moving'. They were tough adventurers, poorly educated but very religious. They called themselves 'Afrikanders' at first but were later known as the 'Afrikaners'.

The trekboers spoke a language they called simply 'die taal' ('the language'). This was a very early version of Afrikaans, and was based mainly on Dutch, but also on French, German, Malay and Frisian (a language related to Dutch and German).

Case study: The story of a trekboer trader named Coenraad (Du) Buys

The name 'Coenraad (Du) Buys is of French Huguenot origin.

Coenraad Buys was accused of stealing cattle, so he fled from the British who ruled the Cape in 1815. He settled in the western Transvaal. He had polygamous marriages to many indigenous women.

A town in this area is called Buysplaas, named after many of his descendants. Buys eventually disappeared while traveling along the Limpopo River.

During the late 19th century, both the trekboers and the voortrekkers were collectively called Boers.

Activity 9 Write about the trekboers

Read Unit 6 on page 173 and 174, and answer the questions.

1. Explain why the trekboers moved away from the Cape.
2. What did the DEIC think about the trekboers leaving? Explain your answer.
3. Why do you think the story of Coenraad Buys was mentioned in the case study above?
4. Give two negative effects that the trekboers had on the land through which they travelled.

Unit 7 Land dispossession and the consequences for the indigenous population

One of the main results of the Dutch settlement at the Cape, led by Jan van Riebeeck in 1652, was the destruction of the life of the people born at the tip of Africa.

Source C

In the words of a magistrate at the time: 'Those who used to live contentedly under chiefs, peacefully supporting themselves by breeding cattle, have mostly all become … hunters and robbers, and are scattered everywhere among the mountains.'

(*A Land Dispossession, History 1600s–1900s*, from South African History Online, www.sahistory.org.za)

Activity 10 Which is the 'right' point of view?

In pairs, read through the extracts in Sources D and E. Think about what you know about the trekboers. These extracts offer two very different points of view about the same people. Discuss the answers to the following questions and then write the answers in your exercise book.

1. Why are the opinions are so different?
2. Who voiced each opinion above?
   a) A person at the time who admired the trekboers.
   b) A San leader, Koerikei, who didn't like the trekboers.
3. How can you test whether an opinion is reasonable?

Source D

'What are you doing on my land? You have taken all the places where the eland and other game live. Why did you not stay where the sun goes down, where you first came from?'

(*A Concise History of South Africa*, Robert Ross, Cambridge University Press, page 22)

Source E

'The trekboers are brave, adventure-seeking people who love freedom and do no harm.'

Genadendal: The first mission station in southern Africa 1738

key word

forge make something from metal by heating the metal and shaping it

Genadendal ('Valley of Grace') is a town in the Western Cape province of South Africa, built on the site of the oldest mission station in the country.

Georg Schmidt, an early worker of the Moravian Missionary Society, founded this mission station. There were 13 farms in the vicinity, and Schmidt taught the Khoikhoi people to read and write. Although he eventually had a small congregation, he was not an ordained minister. The Cape Dutch Reformed clergy were not happy when he baptised his converts. After seven years, he had to end his work and leave the country, in 1745.

The Moravians were only given permission again to carry on with Schmidt's work in 1792. At one stage, Genadendal was the largest settlement in the colony after Cape Town. A self-sufficient community came about. Home industries flourished, such as the **forging** of knives (still to be seen today). Genadendal also became an important educational centre. The first Teachers' Training College in South Africa, now the museum building, was erected in 1838. This training college is now closed.

Source F: The past

Painting of Genadendal Mission Station by George French Angas (1849)

Activity 11 Compare the past and the present

Today, Genadendal is still seen as an important heritage site of the Western Cape and is visited by many people.

1. In pairs, discuss one similarity and two differences between Source F and Source G.

Source G: The present

Various Cape Dutch buildings in Genadendal, Western Cape. Genadendal is the oldest village in Africa built by the Moravian Protestant missionaries.

2. What does Genadendal as a heritage site show you about the link between the past and the present?
3. Share and discuss your findings with the whole class, and then record your findings in your exercise book.

The work of Lucy Lloyd and Wilhelm Bleek

Lucy Catherine Lloyd (7 November 1834 – 31 August 1914), along with Wilhelm Bleek, was the creator, of the 19th century archive or historical collection of |*xam* and *!kun* (Khoisan languages) texts.

She was born in England but moved to Durban when she was 14. (Her father became Archdeacon of the Anglican Church in Durban.) Her sister Jemima later married Wilhelm Bleek in 1862. Bleek was a **philologist**. He was put in charge of an archive (a collection of important historical documents), the Grey Collection, at the South African Library in Cape Town.

key word

philologist an expert in languages

Their collection, started in 1870, consists of more than 13 000 documents (some just scraps of paper) that preserve the memory of the now 'lost' languages of |*xam* and *!kun*. Lucy Lloyd took charge of this collection after Bleek died. It was very unusual for a woman at that time to take this type of position. She was paid only half Bleek's salary.

Their remarkable work has ensured that the heritage of the original inhabitants of the Cape has been kept forever.

Remembering our past: A journey in photos in a photo album

Figure 7.16 These photographs were taken by well-known Cape photographer Samuel Baylis Barnard, in 1874–75. Some of these people stayed at the Bleeks' home in Mowbray.

Formal Assessment Task: Writing

Total: 50 marks

Instructions:

A journal is a collection of entries arranged by date that report on events over the course of a period. It may include an account of a person's experiences and a description of events, as well as that person's thoughts or feelings.

Imagine that you are one of the trekboers who first arrived with Jan van Riebeeck and settled first at the Cape and then, with your family, servants and slaves, moved inland. Use Figures 7.17, 7.18 and 7.19 and Sources H and I as a guide to writing an account of your life at the Cape.

Figure 7.17 The Castle

Figure 7.18 The arrival of the Dutch at the Cape

Figure 7.19 The Compay Gardens

Source H: The words of a San leader, Koerikei

'What are you doing on my land? You have taken all the places where the eland and other game live. Why did you not stay where the sun goes down, where you first came from?'

(The words of a San leader, Koerikei, to one group of farmers, *A Concise History of South Africa*, Robert Ross, Cambridge University Press, page 22)

Source I: The Trekboers

'The Trekboers are brave, adventure-seeking people who love freedom and do no harm.'

Your account should include journal entries for at least three of the events listed below. You could use the information in your Learner's Book or do additional research on the Internet or at your local library.

- A description of your journey to the Cape
- Your arrival at the Cape of Storms
- Your settlement at the Cape
- Your meeting with the indigenous people: a brief description of the people, their lifestyle and your opinion of these people
- The arrival of slaves at the Cape and your feelings about this
- Your decision and reasons for moving inland with your entire household
- Your journey inland and your encounters with the Khoikhoi and the San.

Each of your entries should be at least 150 words or you can write four entries of 100 words each.

Revision

Unit 1 Indigenous inhabitants of the Cape in the 17th century

- By the beginning of the 17th century, the two indigenous groups of people living in the Cape were the Khoikhoi and the San.
- Early Dutch settlers traded with both the Khoikhoi and the San.

Unit 2 Dutch settlement

- The DEIC ordered Jan van Riebeeck to establish a refreshment station at the Cape, to provide for sailors going around the Cape of Storms.
- He settled permanently at the Cape, along with about 100 others, building a fort (The Castle) and planting the Company Gardens.

Unit 3 Results of the Dutch presence in South Africa

- At first, the Dutch treated the Khoikhoi fairly and the Khoikhoi happily traded with them.
- When it became clear that the Dutch were there to stay and continually demanded animals from the Khoikhoi, tensions began to develop.

Unit 4 Slaves at the Cape

- Slaves were brought to South Africa to help with the physical work the Dutch required.
- Slaves were often cruelly treated, and they had a set of rules to follow. They resisted, in the same way as the slaves in the American South.
- Part of our heritage is what slaves brought to South Africa, including the religion of Islam, their food, culture and lifestyle, and the development of the Afrikaans language.

Unit 5 Free Burghers; Dutch and French Huguenot immigration to the Cape

- Those Dutch and French citizens who completed their three-year contract could apply to be free from the DEIC. These people were known as Free Burghers.
- The DEIC wanted to further develop farming and tried to attract another group, the French Huguenots, who were escaping religious persecution in France.

Unit 6 Expanding European frontiers

- The trekboers, looking for freedom, moved further north and east from Cape Town.
- This 'trekgees' caused conflict with the Khoikhoi, San and Xhosa as their land was threatened.

Unit 7 Land dispossession and the consequences for the indigenous population

- Not only bad things happened as a result of European settlement:
  - The first mission station at Genadendal soon developed into a flourishing community.
  - William Bleek and Lucy Lloyd kept our heritage alive with notes on the San languages.

Term assessment

Getting started

1. Complete the sentences by choosing the correct word in brackets.
   a) The (Portuguese/Dutch/English) first referred to the piece of land at the southernmost part of Africa as 'The Cape'.
   b) The original Dutch initials for the Dutch East India Company were (BOC/VOC/VCO).
   c) The original inhabitants of the Cape were the (Xhosa/British/Khoisan).
   d) The San people were known as (herders/hunter-gatherers/rural farmers).
   e) The trekboers were described as having (trekvrees/trekgees/trekbees). (5)
2. Answer the following questions:
   a) Which company sent Jan van Riebeeck to South Africa? (1)
   b) Who was Jan van Riebeeck's wife? (1)
   c) Name two different categories of slaves. (2)
   d) Name three types of skilled work that slaves did. (3)
   e) The Free Burghers were of which two nationalities? (2)
   f) With whom did the trekboers meet up as they travelled to the East? (1)

Check your understanding

3. Choose the correct word in brackets and give a reason for your answer: The French Huguenots came to South Africa to avoid (religious/political) persecution. (2)
4. Which statement below is false? Rewrite that statement so that it is true (3)
   a) The Afrikaans script was written by an imam in 1845.
   b) The slaves at the Cape could read and write Arabic fluently.

Challenge yourself

5. Much of the heritage and culture of the indigenous inhabitants at the Cape would have disappeared if it had not been for the work of Lucy Lloyd and Wilhelm Bleek. Imagine you are one of the San people who stayed at the Lloyd–Bleek household in the 1870s. Based on what you have learned in this topic, write three paragraphs about what happened to the indigenous people in the Cape. Describe your heritage and why it is important to remember it. Here is a guideline for you to follow:
   a) What life was like for your ancestors before the first Dutch settlers arrived. (10)
   b) What happened to your ancestors when the first Dutch arrived. (10)
   c) What happened to your ancestors when the trekboers started to move inland, and became stronger? Give your opinion on how your people were treated by the settlers. (10)

   Your paragraphs should have an introductory sentence and you should end by giving your opinion on how your people were treated by the settlers.

Total [50]

Topic 8 Co-operation and conflict on the frontiers of the Cape Colony in the early 19th century

Key concepts and content

- Learn about the movement of white settlers into the interior.
- Learn about the shifting of the Cape frontier to the north and east.
- Understand why the expanding frontier led to conflict.
- Examine the arrival of British settlers in Port Elizabeth in 1820.
- Find out about the clashes between white settlers and the Xhosa and the Tswana
- Discuss the Great Trek into the interior.
- Describe the trade relationships that developed.
- Examine the role played by traders and missionaries.

Unit 1 The arrival of the British and the expanding frontiers of European settlement

A frontier marks the edge of a known area, but a frontier is not a formal border. A frontier can lie on a **boundary**, such as a river, but the idea behind a frontier is that it can move. Before the Dutch arrived at the Cape, there was no frontier. However, as you saw in the previous topic, the Dutch settlers began to move further from Cape Town. They were moving eastwards and northwards in search of land to live and farm on. As they moved, so the Cape frontier moved too.

Figure 8.1 People living in the Cape in the 1800s

As they moved into the southern African interior, these white settlers, also called trekboers or Boers, made contact with indigenous people.

key words

boundary the line that divides two areas of land

empire a group of countries controlled by the government of another country

In 1806, the British seized the Cape from the Dutch. The French had just won a war against the Dutch and the British were worried that the French would take control of the Cape. The Cape was a very important rest point on the trade route from Europe to the East, and the British wanted ownership.

The British occupation of the Cape was different to that of the Dutch. While the Dutch just wanted to farm and trade, the British had a bigger plan. They were growing their **empire** throughout the world, so they made plans for more people from Britain to come and live in the Cape.

In 1820, British settlers arrived by ship in what is today the Eastern Cape, home to the Xhosa people of southern Africa. Conflict often occurred when the trekboers and the British came into contact with the local people.

Activity 1 Understand terminology

1. Read the information about European settlement at the Cape aboveand write down the words that have the following meaning:
   a) took over
   b) money-making
   c) edge, dividing line
   d) fighting
   e) local.

Unit 2 The eastern frontier of European settlement

key words

communal shared
lobola bridewealth, payment made by a man to the family of his bride
right something that you are allowed to do

The Xhosa arrived in the south-eastern part of South Africa (today the Eastern Cape) many hundreds of years ago. They were maize and cattle farmers. They believed that land was for the use of all the people. People didn't own land. The chief of a village would give people land so that they could plant crops. There was also **communal** grazing land for everyone's livestock. The Xhosa's most precious possession was their cattle. Cattle gave them milk and meat, and wealth was measured in terms of the number of cattle a person had. Cattle were used for **lobola** and for ancestor worship. Without good grazing land, it was impossible to keep good herds.

White farmers had very different ideas about land. They brought their ideas all the way from Europe, where people could own property, and buy and sell land. It was very important to them that all adult males should own a farm.

The situation in the Eastern Cape in the early 19th century was as follows:

- Three groups of people:
  - the Xhosa, who had lived there for hundreds of years
  - the trekboers, who moved into the area from the Cape
  - the British settlers, who arrived from Britain in 1820.
- Each group needed land for their families and their livestock. Each group had a deep belief that it was their **right** to be there.

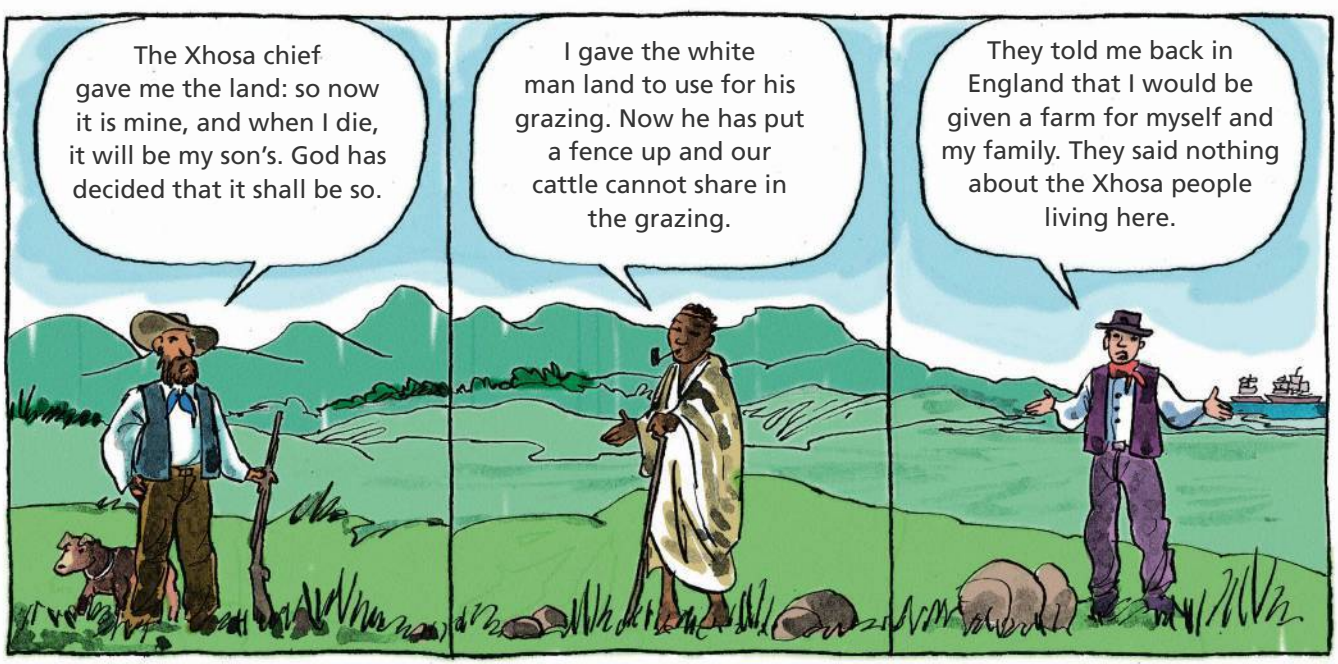


Figure 8.2 Different groups in the Eastern Cape

Activity 2 Write down the answers

1. Look at Figure 8.2 on page 183. Write down who each person is.
2. Why did white settlers start moving out of the Cape?
3. Explain why Britain seized control of the Cape from the Dutch.
4. Explain who owned the land according to Xhosa tradition.
5. Give two reasons why cattle were so important to the Xhosa.

Frontier wars on the eastern frontier of European settlement

The situation in the Eastern Cape described in the previous section led to a great deal of conflict between the white Dutch and British settlers on the one side, and the Xhosa on the other. Nine wars were fought over land and cattle between 1779 and 1878. This time is known as the 100-year war.

The conflict started in 1778 when the Dutch governor of the Cape made the Great Fish River the eastern boundary of the Cape Colony. The trekboers and the Xhosa got into conflict over grazing land and cattle theft. Three frontier wars between Dutch settlers and the Xhosa had already taken place by 1802.

However, after the British took over the Cape in 1806, things became much worse. British soldiers were sent in to get Xhosa people off the land that they had been living on for many years. They argued that the Xhosa were stealing cattle from the settlers.

The following serious problems also existed:

- Fights took place between the white farmers and the Xhosa over good grazing land.
- Arguments took place over the goods that they traded, and the groups accused one another of cheating.
- The Xhosa complained that they were beaten, or not paid, when they did jobs for white farmers.
- White farmers complained that the Xhosa came to beg and trouble them on their farms.
- Drought in the area made grazing difficult, and people were hungry.

Figure 8.3 The white settlers and the Xhosa had different ideas about why there was conflict.

Activity 3 Identify and solve problems

1. Read the information on page 184. Then write a letter as one of these two people:
   a) A Xhosa farmer complaining about the changes that have taken place since the white farmers have moved into the area
   b) A white farmer complaining about the changes that have taken place after moving from Cape Town to make a home somewhere else.
2. Imagine that you are the British government at the Cape. As a class, discuss what you think needs to happen for the fighting to stop. What would you do to make peace between the Xhosa and white farmers?

Case study: Chief Maqoma and Xhosa resistance to British rule

Chief Maqoma, son of the Xhosa king Ngqika, was one of the greatest leaders in Xhosa history. Although Maqoma loved peace and would rather solve problems by talking about them, he fought the British to defend his people's land.

In 1819, the British decided to create a **neutral zone** between the Xhosa and white farmers. They ordered everyone living between the Fish and the Keiskamma rivers to leave the area, even King Ngqika. Maqoma and his brother Tyhali were furious and thought that their father was selling out because he agreed to leave without a fight. The Xhosa soon saw that they were the only ones leaving. White settlers were still given farms in what became known as the **Ceded** Territory.

key words

neutral zone an area of land that doesn't belong to anyone

cede give your land over without a fight

key words

buffer an area of land between two groups that prevents them fighting

guerrilla fighting by making sudden attacks in small groups

gallant brave

Maqoma and his followers moved to the fertile Kat River Valley. Then, in 1829, the British brought Khoikhoi people and freed slaves from the Cape into the Kat River Valley to form a **buffer** between the Xhosa and settler farms. They forced Maqoma off his land. The Sixth Frontier War of 1834–35 was started by Maqoma and Tyhali because they were so angry about the loss of their land.

Maqoma continued to fight the British in the Eastern Cape. He played a big part in the Eighth Frontier War of 1850–1853, the longest and most expensive of the frontier wars. Maqoma fought a very successful **guerrilla** war in the forests and valleys along the Fish River. This way of fighting took the British by surprise and they suffered heavy losses.

Sources A and B show what the British said about Maqoma.

Source A: A quote about Chief Maqoma

'He was certainly the most daring [Xhosa] of the whole; a gallant bold fellow, and as a friend, a most excellent one; but as an enemy, a most dangerous one.'

(From an 1836 British report, quoted in Noel Mostert, *Frontiers*, page 613)

Source B: Testimonial about Chief Maqoma

'The greatest politician and best warrior in (the Eastern Cape).'

(Henry Dugmore, Wesleyan Missionary)

In 1857, Maqoma and other Xhosa chiefs were taken to Cape Town and imprisoned on Robben Island. Although Maqoma briefly returned to the Eastern Cape, he spent fourteen years on the Island, where he died a lonely death in September 1873.

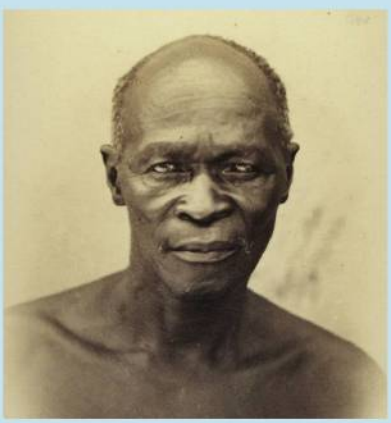


Figure 8.4 Chief Maqoma on Robben Island

Activity 4 Getting information from a picture

1. Look at the photograph of Chief Maqoma in Figure 8.4 and write a sentence about how he is feeling and why. Use the information about Chief Maqoma in the case study on page 185 to help you.
2. Read Source A. Write down one word that tells us that Chief Maqoma was feared by the British.
3. Who won the Eighth Frontier War? Quote two separate sentences to support your answer.
4. Choose the most correct answer below: Both Sources A and B speak of Chief Maqoma with:
   a) great respect
   b) great fear
   c) hatred
   d) fondness.
5. Which words in Source A and Source B on page 186 tell you that Chief Maqoma was:
   a) brave
   b) loyal
   c) fearless.

Soldiers and officials

After the British took over the Cape from the Dutch in 1806, one of the things they had to deal with was the conflict between the Xhosa and white trekboers on the Cape's eastern frontier. In 1811, Colonel John Graham was sent in to push the Xhosa beyond the Fish River, which at that stage was the recognised border between white settlers and the Xhosa. The British built a series of forts, military posts and signal towers along the Fish River.

Figure 8.5 This painting of the Grahamstown market in the early 1800s shows traders buying and selling cattle skins.

Grahamstown was established in 1812 as the British headquarters on the eastern frontier. Many British soldiers were brought into the area. The British army that arrived in the Eastern Cape included about 50 Khoikhoi soldiers. The soldiers were told that they were there to keep the peace, not to make war. But in 1812 they were involved in a war against the Xhosa, and again in 1819.

The British soldiers were used not only to fight in the wars, but also to build roads, bridges and hospitals. They built many of the towns in the Eastern Cape, like Grahamstown, King William's Town and Queenstown.

key word

raid attack suddenly in order to steal something

Before 1820, the soldiers and officials in the Eastern Cape were very isolated. Their families were far away and it took months for a letter to get from the Eastern Cape to England. However, the situation changed in 1820, when thousands of British settlers arrived in the Eastern Cape to settle and farm.

After the arrival of the settlers, the British government sent government officials to the Eastern Cape to manage the area and they brought their families with them. They built schools, banks, shops and hospitals, which led to people coming to trade in these new towns.

By the end of 1846, the British had more than 2000 soldiers and officials on the eastern frontier as well as a troop of more than 10 000 local volunteers, and paid soldiers and army workers.

Activity 5 Understand how the British took control

It is important to realise that establishing control is not always done through force or violence.

1. Identify ten things in the above text that show how the British went about establishing control of the Eastern Cape area without using violence. Think about what they built, and about the names they gave to places.
2. Why do you think that names are so important to people's sense of belonging and being in control? Give at least two examples to support your answer.

Case study: Andries Stockenström and his involvement on the eastern frontier of European settlement

Andries Stockenström was born in Cape Town in 1792. He was the son of a Cape magistrate who came from Sweden. As a young man, he fought in the Fourth Frontier War (1811–1812) against the Xhosa. His father was killed in this war.

Figure 8.6 Andries Stockenström

Stockenström worked for the British government in the Cape. He tried to keep the peace on the eastern frontier. He tried to be fair to both the white settlers and the Xhosa. The farmers, the Xhosa and the British government all had a lot of respect for Stockenström. They often came to him for advice.

In 1836, the conflict on the frontier calmed down when Stockenström was made Lieutenant Governor of the Eastern Districts. He believed that the **raids** by British soldiers on the Xhosa were a big cause of the conflict, and worked out an agreement between the British and the Xhosa whereby:

- the British would respect the Xhosa chiefs
- the chiefs would not allow their people to raid settler farms
- the British would not go onto Xhosa land to deal with cattle raids
- they would sort matters out from the Cape and through agents.

Stockenström believed that problems needed to be sorted out fairly and according to the law. But he found it harder and harder to believe in the rules that the British were making for the Xhosa. He thought they were unfair. He understood how the loss of their land was making the Xhosa angry. Some British soldiers burned down Stockenström's home because they believed he was working with the Xhosa against the British. In fact he was just trying to do the right thing. Stockenström fought for the rights of the Xhosa until in his seventies, but became sick and died in London in 1864.

Source C shows what was written about him in later years.

Source C: Extract from *Frontiers*

'Andries Stockenström had held the highest posts in colonial government and gained the most extensive influence yet achieved by a Boer under British rule … He was respected because his sense of moral principle set him above the greed and corruption so familiar in the frontier region.'

(Noël Mostert, *Frontiers*, page 994)

Activity 6 Making a difference

Sometimes one person can make a big difference to a difficult situation. Andries Stockenström was such a person. Read the case study above as well as Source C and then answer the questions that follow:

1. Read Source C and then rewrite it in your own words.
2. List three reasons why Andries Stockenström made such a big difference to the situation in the Eastern Cape frontier region.

British immigration

Figure 8.7 A painting of British settlers arriving in Port Elizabeth in 1820

In England, in the early 1800s many people were struggling to find jobs. The British government hoped to solve this problem by encouraging people to go and live in Britain's overseas colonies. Between April and June 1820 about 4 000 British settlers arrived in the Eastern Cape, excited by the promise of a farm, and hoping for a better life.

But farming in the Cape frontier area was not easy. Farms were far apart and conditions were very different to those in England. Summers were very hot and winters cold and dry. Many settlers left their farms and moved to nearby towns. Some of the settlers set up shops and businesses in towns such as Grahamstown, East London and Port Elizabeth. They also traded with the Xhosa across the border, trading shop-bought goods for ivory and animal skins.

Abolition of slavery in the Cape

key word

inhumane treating someone in a cruel way

As you saw in Topic 7, slaves from Africa and the East were used as workers in European colonies, including the Cape, for hundreds of years. But by the beginning of the 19th century many people in Britain were calling for an end to slavery because it was **inhumane**. All slaves in the British colonies were freed in December 1834, but they had to work for their former owners for another four years.

The Dutch trekboers who had settled in the Cape depended a lot on slave labour and were very angry when the British ended slavery in 1834. They thought that it would now cost them a lot more to farm successfully.

Boers migrate and move into the interior: The Great Trek

The following issues also made the trekboers angry:

- They felt the British government at the Cape did not protect them.
- They felt that the Dutch language was losing out to English.
- They were always in conflict with the Xhosa over land.

The trekboers saw only one solution: to move out of the Cape Colony and settle away from the British in a place where they could make their own rules and organise their lives in the way they wanted.

From 1836, for the next 10 years, thousands of Voortrekkers, as they were now called, left the Cape and moved into the South African interior. They grouped themselves into a number of trek parties under various leaders. The trekboers were used to moving around in search of land for grazing. They packed their belongings into ox wagons, gathered their servants and slaves, and headed north in search of new homes. These journeys became known as the Great Trek.

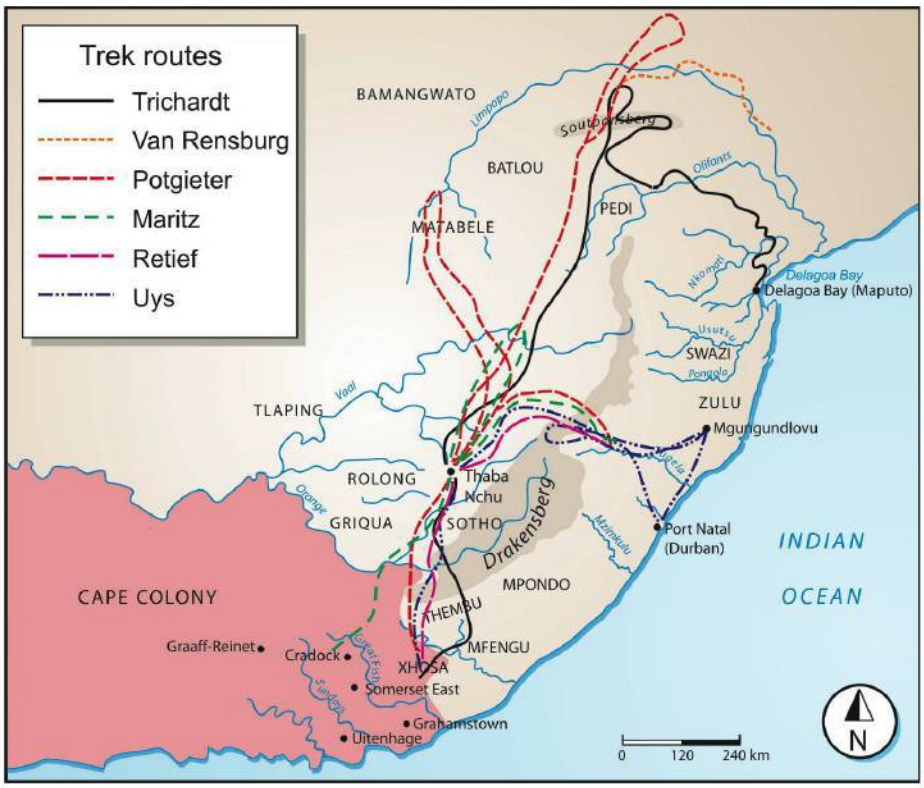


Figure 8.8 A map showing the routes northwards of six different groups of Voortrekkers

As they moved into the South African interior, the Voortrekkers met many groups of indigenous people. The battles over land continued and, because the Voortrekkers had horses and guns, they often won these battles. As a result, they took over occupied land and ruined the indigenous people's traditional way of life.

Activity 7 Understanding cause and effect

Read the information in this topic. Focus on how and why the events described in the topic took place. Then complete the following sentences:

1. The British, trekboers and Xhosa all respected Andries Stockenström because …
2. The trekboers were angry when the British ended slavery because …
3. The British government wanted British people to move to the Cape because …
4. Many British settlers left their farms in the Eastern Cape because …
5. The Voortrekkers ruined people's traditional way of life because …

Figure 8.9 The Voortrekkers fighting the Zulus at the battle of Blauwkrantz in 1838

Case study: The lives of inboekselings

As the Voortrekkers settled in new places and started farming, they needed people to work for them. Black people from the area were often forced to work on white farms in exchange for staying on the land and grazing their cattle.

However, when there was not enough local labour to meet their needs, the white farmers raided black communities and stole their children. They called these children 'black ivory' because they were so valuable.

Source D: Extract from *The people of Welgeval*

'As flames shot up from blazing huts, mothers carried babies and dragged older siblings outside, shouting into the dark. In the light of the waning moon, shadowed riders could be seen torching the village… the horsemen rounded up more children. Twelve men rode off with two children each. Older children (of about fourteen years of age) were placed in front of the rider, where they held sacks into which younger ones had been bundled.'

(Botlhale Tema, *The People of Welgeval*, page 9)

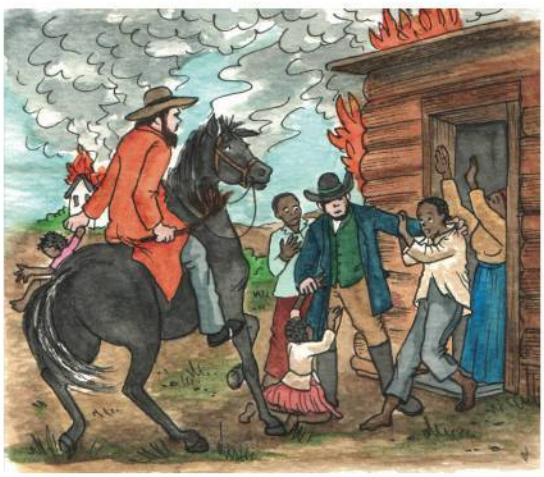


Figure 8.10 Horsemen raid a village for children

The white farmers claimed that they were not stealing the children from their parents, because they were orphans. They also said that they were not using the children as slaves, because they were not selling them for money. But in fact they traded the children for goods or cattle.

By law, the farmers had to register (or book in) the children they brought back from the raids with the magistrate of the district. These children were called 'inboekselings'. They had to work for the farmer who registered them until they were 25 years old.

'Inboekselings' did many different jobs: milking cows, herding sheep and cattle, leading ox wagons, and building dams, canals, **kraals** and houses. In return they were given food, clothes and a place to sleep.

key word

kraal land or huts with a fence or wall around it

Activity 8 Compare inboekselings and slaves

Read the case study on the lives of the inboekselings, as well as Source D, and then answer the questions that follow.

1. In the previous topic you learnt about slavery at the Cape. Do you think the inboekselings were close to being slaves?
2. List two similarities and two differences between slaves and inboekselings.
3. Imagine that you are an inboekseling who is about to turn 25 years old. Write a paragraph beginning: 'On my 25th birthday I will …'

Unit 3 The Northern frontier of European settlement

At the end of the 18th century, the trekboers in the Cape were not just moving east. They were also moving north, towards the Orange River.

The area south of the Orange River is today known as the Northern Cape. The land is not good for crop farming, as it is dry and rocky. The trekboers had to keep moving to find water and grazing for their livestock. As they moved, they met a number of other people:

- small groups of Khoisan people who had moved north from the Cape to get away from white settlers
- the Tswana, who had been in the area for a long time
- two groups called the Kora and the Griqua, who had also moved up from the Cape.

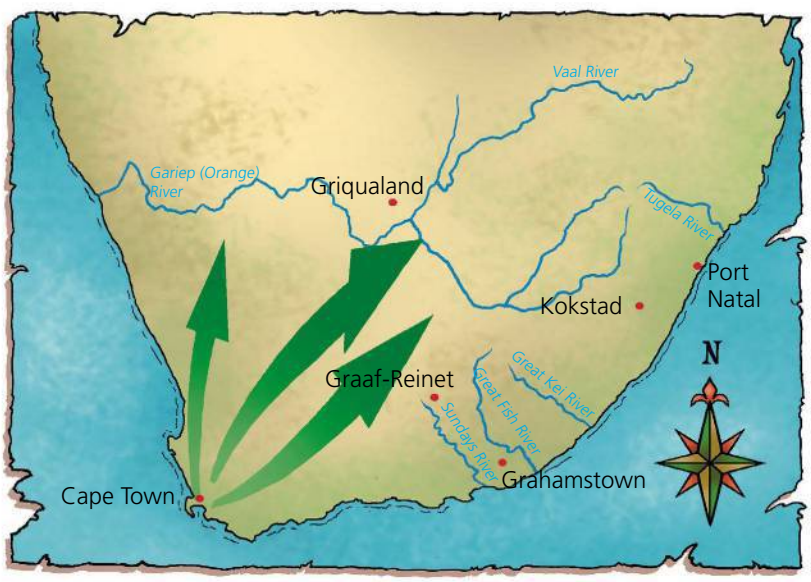


Figure 8.11 Map showing the trekboer movement north

As you have learnt, Britain took control of the Cape Colony in 1806. In 1847 the new British governor at the Cape, Sir Harry Smith, declared the Orange River the northern border of the Cape Colony. However, the British were not very interested in this area until diamonds were discovered in 1871. Then everything changed. You will learn more about this in Grade 8.

Expanding trade relationships on the Northern frontier of European settlement

Towards the end of the 18th century, there were a number of southern Tswana chiefdoms in the area where the Orange and Vaal Rivers meet. The biggest groups were the BaTlhaping, the BaTlharo and the BaRolong.

Around this time, the following groups were moving north from the Cape in search of land and grazing:

- the Kora
- the Griqua
- the trekboers.

- At times, these groups fought one another, mainly over land and cattle. But they also started trading with one another.
- The Tswana had cattle, skins and ostrich feathers. They got the skins and the feathers from their hunting.
- The Kora and Griqua had cattle and skins, also from hunting.
- The white traders had shop-bought goods like clothes, tea, coffee, sugar, tobacco and brandy.
- The Tswana, Kora and Griqua wanted these shop-bought goods.
- The white traders wanted cattle, skins and feathers to sell to rich people in the Cape.
- The trekboers wanted shop-bought goods and they also wanted cattle.

Figure 8.12 Goods that were traded by the different groups

The items that the Tswana, Griqua and Kora, as well as the trekboers, wanted most were guns, ammunition and horses. Guns and horses would enable them to defend themselves against enemy attack. The guns would also enable them to hunt wild animals much more easily than with the spears and knobkerries that they had been using.

White traders brought large numbers of guns into the area around the Orange River. Guns made hunting easier, but it meant that the numbers of wildlife in the area fell sharply. Hunters had to travel farther to find the ostriches and elephants that were so in demand.

Activity 9 Organise information

1. Imagine that you are a trader in the Northern Cape in the early 1800s. You have brought goods from Cape Town and you are going to start trading with the Griqua, the Kora, the trekboers and the Tswana. To make your life easier, you are going to fill in the following table:

	Goods to buy from them	Goods to sell to them
Griqua		
Kora		
Trekboers		
Tswana		

The Kora and Griqua and what they traded

The Kora were a mixture of escaped slaves, Khoikhoi people and white people who no longer wanted to live in the Cape Colony. Many Kora people spoke Dutch. The Kora settled around the Orange River and the area where the Orange and Vaal Rivers meet. They moved in small groups with their cattle. Each group was led by a captain. They raided neighbouring communities, especially the Tswana, for their cattle. The Kora traded the cattle, as well as ivory and animal skins, for guns, horses, wagons, ammunition, clothes, coffee and brandy from white settlers and traders from the Cape.

Figure 8.13 The traveller William Burchell met the Kora along the Orange River and drew this picture of a Kora man.

The Griqua were the first people from the Cape who settled north of the Orange River. They moved on to land occupied by various Tswana groups.

The Griqua were descendants of the Khoikhoi and Europeans. Many of them were freed slaves. They settled in two places:

- north of the Orange River at Phillippolis, in the Orange Free State
- at Griquatown (near where diamonds were discovered): The Griquatown settlement was known as Griqualand West.

key word

middlemen people who act as agents between two people or parties, or arrange a business deal between two people

The Griqua became the **middlemen** between white traders from the Cape and the Tswana people living in the Orange River area. They bought ivory, feathers and animal skins from the Tswana and sold them to white traders from the Cape. They raided Tswana communities for their cattle and sold these to the Cape traders. They bought clothes, tobacco, guns, ammunition, wagons, tea, coffee and sugar from the traders.

In the 1860s, the Griquas of Griqualand West joined the Kora in a war against the British. However, the Griqua and Kora lost this war because the British had more guns and better horses. After this, the British took most of the Kora's land.

Figure 8.14 A drawing of Adam Kok, Griqua leader

In 1871, after the discovery of diamonds, the British took control of Griqualand West. Although the Griquas in Phillippolis became successful farmers, the trekboers wanted their land. In the end the Griqua leader Adam Kok got tired of saying no to the trekboers. He sold all Griqua lands to the Orange Free State government and led 2 000 of his people over the Drakensberg to Kokstad, in Griqualand East. This was known as the Long March of the Griquas.

The southern borders of the Tswana world

The Southern Tswana in the early nineteenth century lived in the area that today falls partly in the Northern Cape and partly in the North West Province, bordered on the south-east by the Vaal and Orange Rivers, and on the north west by the Kalahari Desert. The main Tswana groups in this area were the BaTlhaping, the BaTlhare and the BaRolong.

The Tswana were hunters. They kept cattle for milk and as a sign of wealth, but did not often slaughter them. Their main diet was soured milk, game meat and whatever crops they could manage to grow with little rainfall, which were mainly sorghum, pumpkins and beans.

The Tswana lived in large cities built largely of stone. Up to 20 000 people lived in places like Kaditshwene, Marothodi and Molokwane. These cities were the largest in southern Africa at the time. We know this because there are remains of the stone walls of the cities, and evidence of how people lived, in those places today.

key word

kaross blanket made of animal skins

In 1812, the English traveller William Burchell described life among the BaTlhaping in their capital city Dithakong. He wrote that there were about 16 000 people living there, doing iron smelting, **kaross** making and jewellery making.

Source E: A drawing of Dithakong

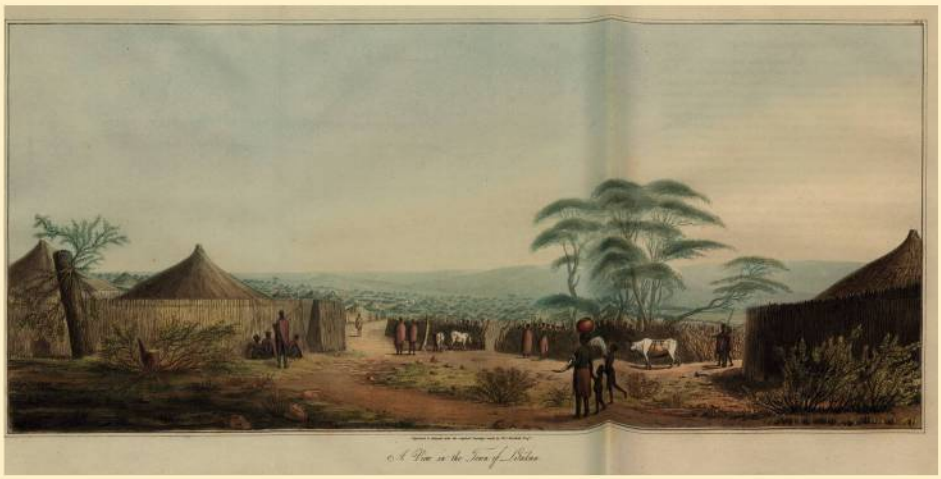


Figure 8.15 A drawing of Dithakong by the traveller William Burchell

Similar to the Xhosa, the chief of a village gave people land to grow crops, but keeping cattle was their most important activity.

The Tswana traded ivory, cattle, skins and feathers for guns and shop-bought goods with white traders and the Griqua. They also traded iron **ore** with people further north in exchange for iron tools, copper ornaments and tobacco.

key wordw

ore rock from which metal is extracted
Kgosi king or chief

Activity 10 Describe what you see and hear

1. Imagine that you are travelling through southern Africa with William Burchell, the English traveller. You have just arrived at Dithakong. Write a diary entry in which you describe the following:
   a) What the people are called who live at Dithakong
   b) What they are busy doing
   c) What the place looks like.

   Use source E to help you.

Missionaries and traders

White traders and Christian missionaries also came into the area south of the Orange River. The missionaries believed that God had sent them there to tell local people about Christianity and the Bible. The traders were hoping to do lots of business in terms of trading.

The Griqua were the first people in this region to invite missionaries from the London Missionary Society (LMS) to live among them at Klaarwater (later Griquatown) in 1804. One of the reasons for this invitation may have been that some Griqua had become Christians when they were still living in the Cape. The LMS was very involved in Griqua life and all the Griqua leaders were Christians.

In 1816 the LMS made contact with **Kgosi** Mothibi of the BaTlhaping and established a mission station at Kuruman. Mothibi thought that by having the missionaries there it would attract more trade to the area. Mothibi was one of the first Tswana chiefs to become a Christian.

Figure 8.16 Robert Moffat's mission at Kuruman, as it has been restored today

The missionaries encouraged the Tswana hunting communities to plant crops and become farmers. They knew if the Tswana started farming they would be more likely to stay in one place for a long time. The missionaries wanted this because it meant that it would be easier for them to establish their mission. With the arrival of the missionaries, trade in the area increased.

In Topic 8, you have seen how southern Africa changed with the arrival of white settlers, first the Dutch and then the British. It is important to remember that these changes were not all as a result of conflicts over land and cattle. It was also about the arrival of shop-bought goods into areas where people had never had those things before. Now people wanted coffee, tea, sugar and tobacco, and they were prepared to trade their own riches for these goods.

However, these changes were also about changing the way of life and beliefs of black people to get them to believe in God and to do things the way people did in Europe. The Christian missionaries believed that God wanted them to do this task. They also believed that old African practices like initiation and rainmaking were wrong.

But for the Tswana, the Xhosa and other indigenous communities throughout southern Africa, it was at first not so much about Christianity as about what the missionaries could give them: helping them with farming, helping them when they were sick, and most importantly, teaching people to read and write. For almost 200 years, mission schools gave thousands of black people a good education. Many of our leaders today attended mission schools.

Activity 11 Understanding the missionaries and traders

State whether the statements below are True or False. Correct the false statements to make them true.

1. The missionaries' main job was to care for sick Tswana people.
2. When the missionaries first arrived, the Tswana believed that God had sent them there.
3. The Griqua did not welcome the missionaries.
4. The missionaries encouraged the Tswana to grow crops.
5. When the missionaries arrived, traders left the area.
6. The missionaries encouraged rainmaking among the Tswana.

Choose the correct answer/s:

7. The missionaries arrived in the Northern Cape area in the (18th/19th/20th) century.
8. Traders brought (coffee/chocolate/tobacco) into the Northern Cape area.
9. Kgosi Mothibi was the chief of the (BaTlhare/BaRolong/BaTlhaping).
10. Mission schools educated (millions/thousands/hundreds) of people.

Case study: Robert Moffat at Kuruman

Robert Moffat is seen as the father of missionary work in South Africa. He was born in Scotland in 1795. Moffat's first job was as a gardener, but in 1816 he joined the London Missionary Society and came to southern Africa. Here he first started working among the Boers and the Griqua. In 1821, he was invited to start a mission station in Kuruman for the BaTlhaping Tswana. He built a church and started a school. After a few years of Moffat's hard work, many of the BaTlhaping had become Christians. Church services were well attended.

He learnt to speak Dutch and Setswana, and built one of the most successful Christian communities in southern Africa at that time. He not only preached the Bible but also helped the Tswana to become farmers and grow their own food. He travelled a lot and made friends with the great Ndebele warrior chief Mzilikazi.

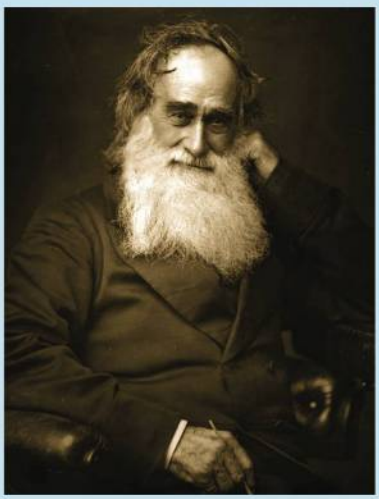


Figure 8.16 Robert Moffat of the London Missionary Society

At the Battle of Dithakong in 1823, Robert Moffat asked the Griqua to help the BaTlhaping in a battle against a **rival** Tswana group. Adam Kok and other Griqua leaders who were still loyal to Moffat brought over a 100 men with guns on horseback. With the help of the Griqua, the BaTlhaping won the battle, which would have been nearly impossible without Moffat's help.

Moffat also translated the Bible into Setswana. This was the first time it had been translated into an African language.

The local people named Moffat 'Moshete of the Bechuanas'. He and his wife Mary lived in Kuruman for 49 years. They returned to Britain in 1870.

key word

rival someone you compete with

Activity 12 Analyse an example of cooperation

Read the case study above and then answer the questions that follow.

1. Robert Moffat lived in peace with local communities in the northern Cape frontier area for more than fifty years. List three reasons why you think he managed to do this.
2. Which, in your opinion, was the most important of these three reasons? Explain your answer.

Revision

Unit 1 The arrival of the British and the expanding frontier

- The Cape frontier in the early 19th century was not fixed.
- White Dutch-speaking settlers left the Cape in search of more land and better grazing. They were called trekboers.
- As white settlers moved out of the Cape into the southern African interior, the Cape frontier shifted to the north and to the east.
- In 1806, the British seized the Cape from the Dutch. In 1820, 4 000 British settlers arrived by ship in the Eastern Cape.

Unit 2 The eastern frontier of European settlement

- The Xhosa had been living in the Eastern Cape area for hundreds of years.
- The trekboers, the British and the Xhosa all needed land. This led to conflict.
- Between 1779 and 1878, nine wars were fought over land and cattle.
- The British government sent many soldiers and officials to the Eastern Cape frontier area, where they built towns like Grahamstown.
- People like Chief Maqoma and Andries Stockenström played a part in building relations between the Xhosa and white settlers.
- In 1834, the British ended slavery. This decision made many white farmers angry, as they thought that it would make farming more difficult.
- The trekboers didn't like being under British rule.
- Thousands of trekboers, or Voortrekkers, moved out of the Cape Colony to settle away from the British. This was known as the Great Trek.
- As the Voortrekkers started farming in new places, they often forced black people to work for them.
- If there was not enough local labour, the white farmers stole black children, called 'inboekselings'.

Unit 3 The northern frontier of European settlement

- At the end of the 18th century, the trekboers were also moving north. The area around the Orange River formed the Northern Cape frontier.
- Other groups moving into the Northern Cape were the Griqua (descendants of the Khoikhoi and Europeans) and the Kora (a mixture of escaped slaves, Khoikhoi, and white people).
- There were also a number of southern Tswana chiefdoms in this area.
- At times, these groups fought one another over land and cattle. But they also started trading with one another.
- Missionaries and traders also came into the area and changed the way of life of local people.
- The traders traded guns, horses and shop-bought goods for skins, feathers and ivory.
- Robert Moffat started one of the earliest missions in southern Africa in Kuruman in 1821. He worked among the Griqua and the Tswana for 49 years.

Term assessment

Getting started

1. Correctly match the names in the first column to the places in the second column. (5)

Chief Maqoma	Dithakong
Andries Stockenström	Robben Island
Robert Moffat	Griquatown
Adam Kok	Kat River Valley
Kgosi Mothibi	Kuruman

2. Rearrange the following events in the order of when they happened, from earliest to latest, and write down the date when they happened:
   a) Eighth Frontier War takes place
   b) The Great Trek starts
   c) Robert Moffat establishes a mission at Kuruman
   d) Battle of Dithakong takes place
   e) British settlers arrive by ship in the Eastern Cape. (10)

Check your understanding

3. List three similarities and three differences between the Eastern Cape frontier and the Northern Cape frontier. (6)
4. Explain the difference between Xhosa people's attitude to land and European people's attitude to land. (6)
5. Describe three changes that missionaries and traders brought to the Tswana on the Northern Cape frontier area. (3)

Challenge yourself

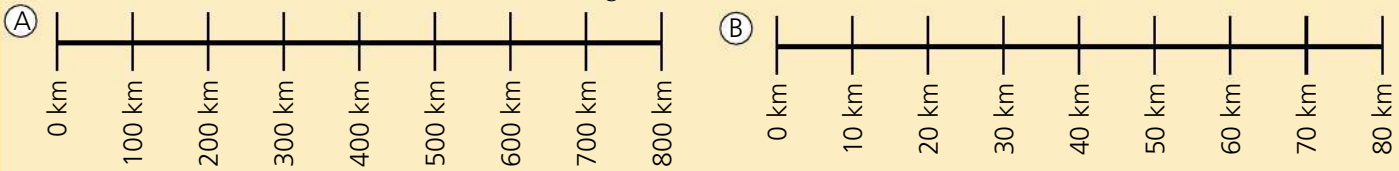
6. This topic is about co-operation and conflict on the frontiers of the Cape Colony. Write one paragraph giving an example of co-operation, and one paragraph giving an example of conflict. Think about the following before you start writing:
   – Who were the people or groups involved?
   – Where was it happening?
   – Why was it happening?
   – How did it end? (10)

TOTAL [40]

Term 2 Test

Section A: Geography

1. a) Write the following line scales as word scales. (4)



b) Which is the largest scale? (1)

c) Which is the smallest scale? (1)

d) The line scale of the map below is 1:20 000. Write out this line scale as a word scale. (2)

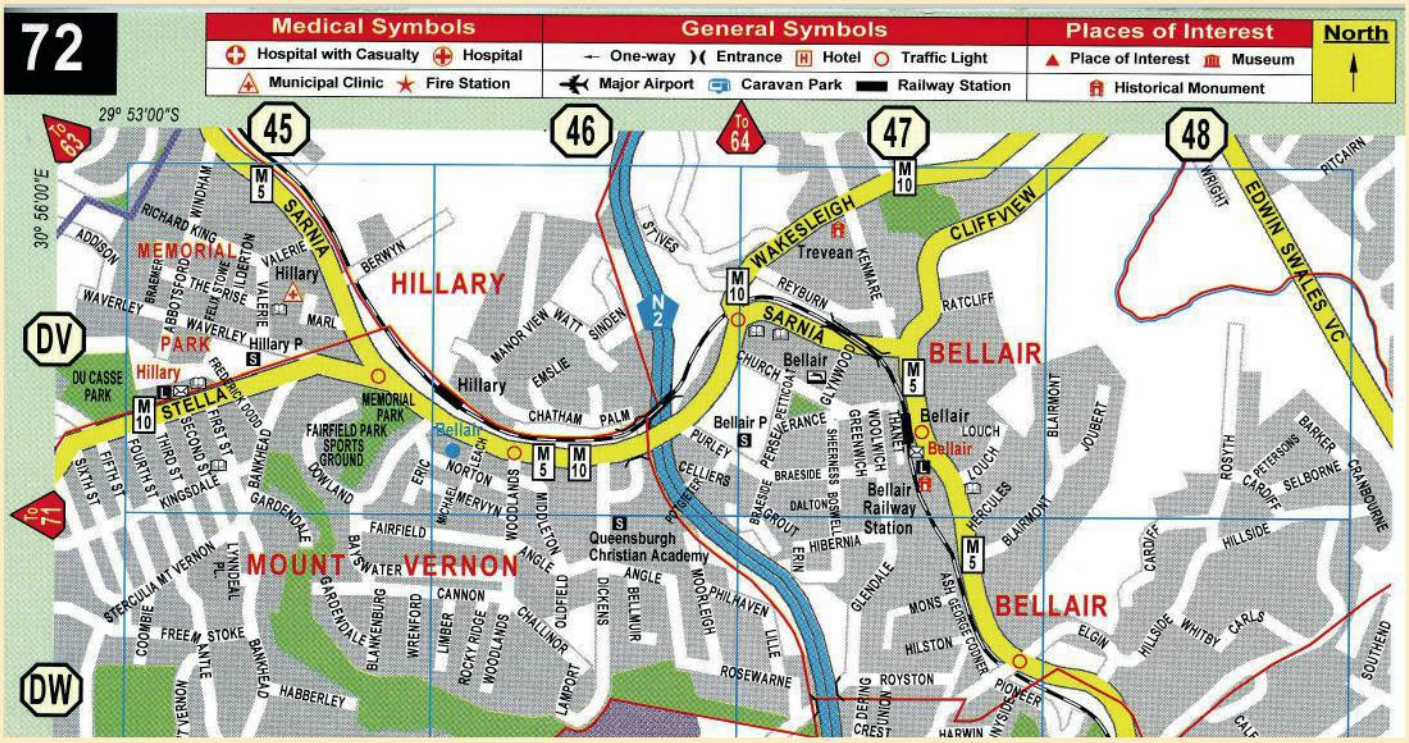
e) Using the line scale, first estimate, and then measure the straight line distance from Hillary Clinic to Bellair Railway Station. (3)

f) Using the line scale, measure the length of the national road (N2) on the map. (2)

g) Give the grid reference for the following places:

– Hillary Clinic (1)

– Bellair Railway Station. (1)



(Extract from the *Durban Street Guide*, 5th Edition, published by Map Studio)

2. Match each term in Column A with the correct definition or description in Column B. Write the letter of the correct answer next to the corresponding number. (10)

Column A	Column B
2.1 The crust	A A water-borne disease which results from floods
2.2 Levees	B Thinnest of the Earth's layers
2.3 Crater	C Molten rock deep inside the Earth's crust
2.4 The core	D Found at the opening of a volcano
2.5 Tsunami	E Hot molten rock on the surface of the earth
2.6 San Andreas fault	F Artificial walls built along the banks of rivers to control flood water
2.7 Epicentre	G Consists of minerals iron and nickel and has an average temperature of 5 000 degrees Celsius
2.8 The mantle	H Area adjacent to a river which floods first and has very fertile soil
2.9 Cholera	I The origin of an earthquake below the earth's surface
2.10 Flood plain	J Lies below the crust and is semi-molten.
	K Large wave which results when an earthquake has its origin below the ocean
	L Pacific plate slides past the North American plate

3. Indicate whether the following statements are True or False:
   a) Dormant volcanoes erupted in the past but are currently resting. (1)
   b) Igneous rock which becomes solid underground, may become exposed at the surface after millions of years. (1)
   c) Famine is the severe shortage of water in an area. (1)
   d) A flash flood occurs after sudden, very heavy rain. (1)
   e) Subsistence farming uses highly scientific farming methods and generates huge profits. (1)

4. Provide a brief definition for each of the following terms:
   a) Lava b) Refugees c) Aftershock. (3)

5. In each instance, identify the term that does not fit with rest of the terms.
   a) Core, mantle, floodplain, crust (1)
   b) Ash, cinders, crater, tsunamis (1)
   c) Meteorologist, seismologist, geologist (1)

6. a) Name three possible causes of floods. (3)
   b) Copy the table below and read through the list of the effects of floods. Complete the table by filling in each flood effect under the correct heading: Environmental, human or economic. (9)

Environmental effects	Human effects	Economic effects

   c) Name two ways in which the impact of a flood can be reduced. (2)

[50]

flood
orphans
famine
damage to fields
soil erosion
cholera
looting
damage to buildings
rivers burst their banks
trees, plants and animals die

Section B: History

7. Read through the Source A and answer the questions that follow.

Source A: Descriptions of Timbuktu from *Descriptions of Africa*

The houses of Timbuktu are huts made of clay-covered wattles with thatched roofs. In the centre of the city is a temple built of stone and mortar … in addition there is a large palace … where the king lives. The shops of the artisans, the merchants, and especially weavers of cotton cloth are very numerous. Fabrics are also imported from Europe to Timbuktu, borne by Berber merchants … The inhabitants are very rich, especially the strangers who have settled in the country …

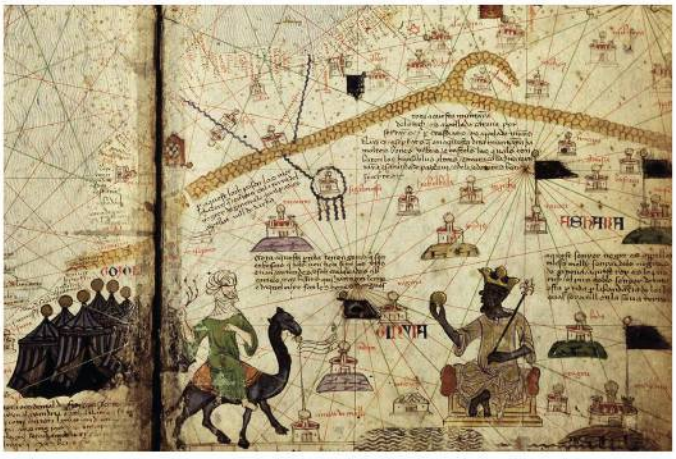
Timbuktu has many wells that contain sweet water and, in addition, canals also deliver the water to the city when the Niger is in flood. Grain and animals are abundant, so that the consumption of milk and butter is considerable … The king has a rich treasure of gold ingots.

Timbuktu has numerous judges, teachers and priests, all properly appointed by the king, who greatly honours learning. Many handwritten books imported from Barbary are also sold. There is more profit made from this commerce than from all other merchandise … Instead of coined money, pure gold nuggets are used; and for small purchases, cowrie shells which have been carried from Persia …

The people of Timbuktu are peaceful. They have a custom of almost continuously walking about the city in the evening (except for those that sell gold), between 10 pm and 1 am, playing musical instruments and dancing. The citizens have many slaves, both men and women.

(*Descriptions of Africa*, Leo Africanus)

Source B: A map showing Mansa Musa on his travels



(Bibliothèque Nationale de France)

a) What is the name of the person who wrote this text? (1)

b) Who was he? (2)

c) Write a paragraph that explains where and what Timbuktu is. (5)

d) Find evidence in the passage to indicate that education was highly regarded in Timbuktu. (3)

e) Were the kings of West Africa rich? (2)

f) Was there a system of law and order? (2)

8. Write a paragraph that describes Source B alongside. (10)

9. Refer to Source C and answer the questions.
   a) Explain what is being shown in the source. (2)
   b) What is the 'cargo' referred to in the source? (2)
   c) Explain how this 'cargo' was transported to America? (2)
   d) Why was there a need for this trade? (2)
   e) Who benefitted from this trade? (3)
   f) Explain your answer in e) above in terms of the benefits. (3)
10. Read Source D and look at the picture below, and then answer the questions that follow.

Source C: American slave sale advertisement


TO BE SOLD on board the Ship *Banse-Island*, on tuesday the 6th of *May* next, at *Apley-Ferry*, a choice cargo of about 250 fine healthy
NEGROES,
just arrived from the Windward & Rice Coaſt.
—The utmoſt care has already been taken, and ſhall be continued, to keep them free from the leaſt danger of being infected with the SMALL-POX, no boat having been on board, and all other communication with people from *Charles-Town* prevented.
Auſtin, Laurens, & Appleby.

Source D: Harriet Tubman

Harriet Tubman made nineteen trips as a 'conductor', risking her life every time, and successfully freed about 300 slaves. She carried a gun and threatened any slave who wanted to turn back. A reward of $40,000 was offered to any bounty hunter who brought her in to the authorities, but she managed to avoid capture.

(Patsy Stevens, GardenofPraise.com)

a) What do the words 'station', 'stationmasters' and 'conductors' refer to? (3)
b) Name and briefly explain the system referred to in Source C and the picture. (2)
c) Why was there a reward offered for Harriet Tubman's capture? (1)
d) Why did Harriet Tubman threaten slaves with a gun if they wanted to turn back? (1)
e) By what other name was Harriet Tubman known? Explain why she was called by this name? (2)
f) Name two people involved in similar activities to Harriet Tubman. (2)

[50]

Total: 100 marks

Term 4 Examination

Section A: Geography

1. Match the term in Column A with the correct definition or description in Column B. Write only the letter of the correct answer next to the corresponding number. (10)

Column A	Column B
1.1 Deforestation	A Plants growing in an area where they don't naturally occur
1.2 Marine resource	B The age to which people are expected to live
1.3 Birth rate	C Large, protected natural environments
1.4 Alien plants	D Diseases that occur on a large scale in an area or region
1.5 Infant mortality rate	E Watering of cultivated lands
1.6 Renewable resource	F The removal of forests so that the land can be used for non-forest uses such as industry or agriculture
1.7 Life expectancy	G Resources used at a faster rate than they can form
1.8 National park	H Resources that exist in oceans and coastal environments
1.9 Epidemic disease	I Diseases that occur worldwide
1.10 Irrigation	J Resources that cannot be used up
	K Number of births per thousand of the population
	L Number of deaths among children under the age of one year per thousand of the population in a year.

2. Indicate which of the following statements are True or False.
   a) Soil is a non-renuewable resource. (1)
   b) Human activites such as fishing, hunting, building and polluting can cause renewable resources to disappear forever. (1)
   c. Tuberculosis is a dreaded disease for which there is no cure. (1)
   d. The infant mortality rate in poor countries is low due to advances in medical technology. (1)
   e. The Green Revolution has enabled the production of food to be high and to cater for the growing population in developing countries. (1)
3. Explain the difference between each of the following terms:
   a) Epidemic and pandemic (2)
   b) Renewable and non-renewable resources (2)
   c) Infant mortality and genocide (2)
   d) Food surplus and famine (2)
4. a) Name three advantages the Green Revolution has for developing (poor) countries. (3)
   b) Name three disadvantages of the Green Revolution for developing (poor) countries? (3)
   c) Why is the conservation of plants and animals so important? (2)

5. Study the map in Figure 1 alongside and then answer the questions.
   a) What are two purposes of Marine Protected Areas? (4)
   b) Explain what a non-take zone is. (2)
   c) Give an example of a Marine Protected Area on the map in each of the following provinces: Western Cape, Eastern Cape, KwaZulu-Natal. (3)
   d) Explain what will happen if too many fish are taken from the sea. (2)

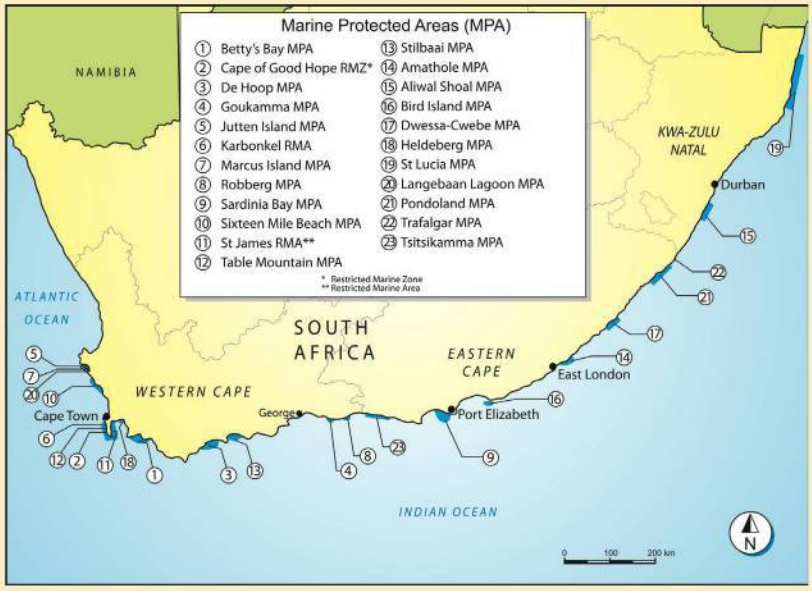


Figure 1 Marine Protected Areas

6. Refer to the diagram in Figure 2 on the right to answer the questions that follow.
   a) Name two animals that depend on grass to stay alive. (2)
   b) On what does all life depend? Why? (3)
   c) Each of the following species needs another species in order to live. Write down each of these species and next to each one write the name of the species it needs to live: lion, owl, bird (3)

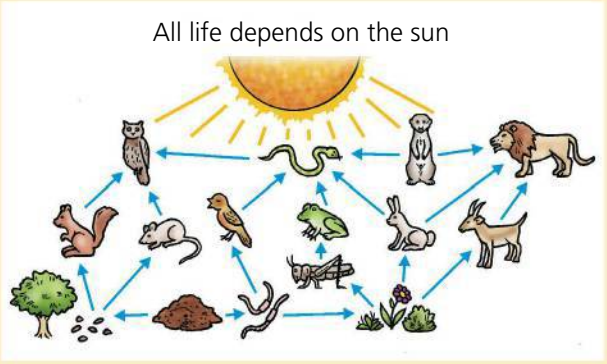


Figure 2 All life is interdependent

[50]

Section B: History

7. Look at Source A alongside and then answer the questions that follow.
   a) Identify the building shown. (2)
   b) Who built this building? (1)
   c) Explain why it was built? (2)

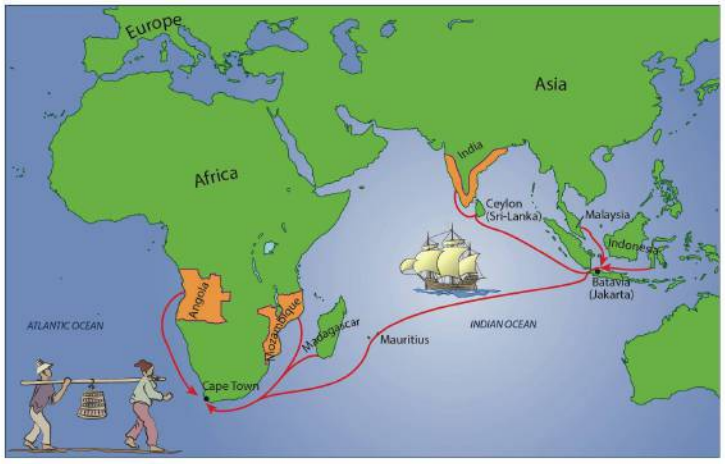
Source A: A building in Cape Town

Source B: A painting by a Dutch artist

8. Examine the painting in Source B on the left and answer the questions that follow:
   a) Explain what the painting shows. (3)
   b) Why did the Dutch come to the Cape? Suggest two reasons. (3)
   c) The relationship between these people wasn't always as peaceful as it appears in the picture. Explain why there was conflict between them. (2)

9. Refer to the map in Source C below and read the passage in Source D to answer the questions that follow.

Source C: The Indian Ocean Trade Route



Source D: Slaves at the Cape

Unlike the American south, where people imported slaves in large numbers from one country, the Cape slaves came from a number of different countries. Other slaves ended up at the Cape when they were stolen from wrecked ships. This brought great diversity to the Cape, as the slaves had many different interests, languages and religions.

a) Name two countries from where the slaves came. (2)
b) Explain how slaves were brought to the Cape. (2)
c) List three types of jobs slaves had to do. (3)
d) How were slaves sold to the slave owners? (2)
e) Which religion did slaves bring to the Cape? (1)
f) What language developed from the slaves' interaction with the Dutch? (1)

10. a) The Cape Dutch settlers who first moved into the interior were known as (trekboers/Voortrekkers/Afrikaners). Choose the correct answer. (1)
    b) Give the reasons why the Dutch decided to move inland. (2)
    c) Explain why there was conflict (fighting) between the Xhosa and Europeans over land and cattle. (4)
    d) How did the settlers travel? (1)
11. Read the passage in Source E and answer the questions that follow.

Source E: Extract from *The People of Welgeval*

'As flames shot up from blazing huts, mothers carried babies and dragged older siblings outside, shouting into the dark. In the light of the waning moon, shadowed riders could be seen torching the village… the horsemen rounded up more children. Twelve men rode off with two children each. Older children (of about fourteen years of age) were placed in front of the rider, where they held sacks into which younger ones had been bundled.'

(*The People of Welgeval,* Botlhale Tema, page 9)

    a) Explain what is happening in the passage above. (3)
    b) Why are the men taking the children? (2)
    c) What were the children known as by white farmers? Why? (2)
    d) Did these children see their families again? (2)
    e) What did the men do with these children? (2)
12. Complete the time line by adding the following events: (7)

1806
1820
1829
1834
1850
1857
1873

    a) British create a neutral zone between the Xhosa and white farmers
    b) British settlers arrive from Britain
    c) Eighth Frontier War
    d) British seize the Cape from the Dutch
    e) Chief Maqoma imprisoned on Robben Island
    f) Sixth Frontier War
    g) Chief Maqoma died

[50]

TOTAL: 100 marks

Glossary

A

abhorrence: hatred, p. 113
abolish: to end a law or system, p. 147
abortion: the forced birth of a baby before it is able to survive, p. 67
abseiling: going down a rock face using a rope, p. 95
abundant: more than you need, p. 121
adapt: change to fit a new situation, p. 107
aftershock: a smaller earthquake after the main earthquake caused by Earth's interior rock settling after the main shockwaves, p. 33
aid organisation: organisation helping people in need, e.g. Red Cross, p. 45
AIDS: acquired immunodeficiency syndrome, p. 57
antibiotic: a medicine that destroys germs, p. 56
archaeology: the study of buildings and objects from ancient times, p. 115
artisans: people who make things by hand, p. 121
ash: fine-grained material erupted by a volcano, p. 29
astronomy: scientific study of the stars and planets, p. 132
atmosphere: layer of gases around the Earth, p. 28
average: the value obtained by adding several values together and then dividing the sum by the number of values; for example, the average of 3, 8 and 10 is (3+8+10=21) ÷ 3 = 7, p. 54

B

BCE: Before the Christian Era, formerly known as B.C., p. 131
bacteria: simple one-celled living organisms that exist everywhere, p. 72
bacteria: very tiny plants; some bacteria cause typhoid fever and pneumonia, p. 56
bartered: exchanged goods for other goods, without using money, p. 160
Big Five: five of Africa's greatest wild animals: lion, leopard, elephant, rhino, and buffalo, p. 95
boundary: the line that divides two areas of land, p. 182
branded: marked on the skin, p. 137
billion: one thousand million, p. 50
birth rate: the number of births in a year per thousand people, p. 50
buffer: an area of land between two groups that prevents them fighting, p. 186

C

c abbreviation for 'circa', which means about or approximately those dates, p. 147
CE: Christian Era, formerly knows as A.D., p. 131
cardinal: main or most important, p. 5
cargo: goods transported by ship or plane, p. 165
cataloguing: organising books and written documents by making lists, p. 125
cede: give land over without a fight, p. 185
chaff: the covers of seeds, usually regarded as useless, p. 166
channel: to build cement river courses for water to flow in, or to change a river's course, p. 43
cholera: disease caused by infected water and food that affects peoples' digestive system, p. 36
cinders: lightweight rocks full of gas bubbles that erupt out of a volcano, p. 29
civil war: a war between opposing groups of people in one country, p. 18
civilians: people who are not in the armed forces, p. 63
climate change: the idea that the 'normal' climate (weather patterns) of Earth is changing, p. 40

colonise: to take over a territory (then called a 'colony') and exploit its natural resources; the colonising country sends its own people to live in the colony, p. 158
communal: shared, p. 183
conserve: to protect from loss, damage, or harm, p. 82
contagious: spreading by contact with an infected person, p. 57
convection currents: movement caused by heat inside Earth, p. 24
convention: a standard or usual way of doing something. Conventionally, maps usually have certain things that we find on them, like a scale and a title, p. 5
converted: changed from one belief to another, p. 111
crater: a funnel-shaped basin at the opening of a volcano, p. 29

D

death rate: the number of deaths in a year per thousand people, p. 51
decompose: to rot, decay, p. 72
deforestation: clearing of forests for agricultural, commercial, housing, or firewood use, p. 83
demarcation: a border, boundary or line of a map of an area, p. 157
descendants: the following generations, in this case, those whose ancestors were slaves, p. 170
dialect: form of a language used in a particular area, p. 140
digital: information stored on a computer, p. 125
direct: going straight from one place to another along the shortest route, p. 13
disease: a sickness, an illness, p. 36
disintegrate: fall to pieces, p. 124
displaced: forced away from where you live, p. 36
domestic: to do with the home, p. 166

E

earthquake: a violent shaking of the ground caused by sudden movements under the Earth's crust, p. 28
economic: to do with the economy, p. 36
economy: to do with a country's money, how it is earned and how it is spent, p. 36
emancipation: to set free, p. 163
endangered: in danger of becoming extinct, p. 84
empire: a group of countries controlled by the government of another country, p.182
epidemic: a disease that spreads through a population very quickly, p. 56
eradicate: get rid of, wipe out, destroy, remove, p. 71
estimate: an estimate is a rough calculation or a good guess of the amount or value of something, p. 15
evacuation: to be taken away from a dangerous area, p. 41
evidence: things that show that something exists or is true, p. 109
exposition: describing and explaining, p. 171
extinct: an animal or plant species that dies out and no longer has any living members, p. 84
extinction: to die out completely, p. 173

F

famine: shortage or lack of food, p. 41
fault: a fracture (break) in rocks making up the Earth's crust, p. 27
fertile: able to produce good crops, p. 112
fever: illness with very high body temperatures, p. 60
flash flood: sudden flood caused by heavy rain, p. 40

flood: excess water covering land that is normally dry, p. 40

flood orphan: child who has lost parent(s) in a flood, p. 41

flood plain: flat land along the sides of rivers that is covered in water when the river floods, p. 43

flourished: grew and became strong, p. 119

forge: make something from metal by heating the metal and shaping it, p. 176

G

gag: to cover a person's mouth with a piece of cloth so that he or she can't speak, p. 137

gallant: brave, p. 186

generation: people in a family who are of a similar age, p. 115

generosity: kind and giving behaviour, p. 114

genocide: the planned murder of a race or other group of people, p. 65

geologist: person who studies rocks and the movements and structure of the Earth, p. 26

globe: a ball-shaped model of the Earth on a frame that allows you to spin it around on its axis, pg. 14

grid lines: vertical and horizontal lines drawn on a map in a grid shape, p. 2

grid reference: using numbers and letters on the grid lines to refer to a specific place on a map, p. 2

grid squares: the squares (sometimes rectangles) on a map formed by grid lines, p. 2

guerrilla: fighting by making sudden attacks in small groups, p. 186

H

hazard specialist: person who studies the effects of hazards (for example earthquakes, volcanoes), p. 37

herders: people who keep herds of animals such as cattle and sheep and rely on these animals to provide food and other goods such as clothing, p. 156

heritage: aspects of life passed on from generation to generation, p. 170

HIV: the human immunodeficiency virus that can lead to AIDS, p. 57

husks: the dry part covering seeds on a plant, p. 116

I

igneous rocks: rocks formed from magma and lava that become hard, p. 29

immunise: protect a person from a disease, for example with a vaccine, p. 74

income: money received from wages, p. 59

index: an alphabetical list of words, objects or places with page numbers, usually found at the back of a book, to help you find that item in a book, p. 2

indigenous: naturally found in an area, p. 156

indigenous: people who have always been in an area, p. 110

infectious disease: a disease that can spread quickly to other people, p. 58

informal settlement: houses built of scrap wood, plastic and iron, often with no services like water, electricity or sewerage, p. 43

infrastructure: facilities and services like transport, communications and power supplies, p. 36

inhumane: treating someone in a cruel way, p. 190

insurance: money paid if something is lost, stolen or damaged, p. 43

investigating: trying to find out something, p. 144

irrigation: the supply of water to cropland on a farm, p. 70

isolated: far away from other places, p. 174

K

kaross: blanket made of animal skins, p. 196
Kgosi: king or chief, p. 198
kinship: a family relationship, p. 130
kraal: land or a group of huts surrounded by a fence or wall, p. 192

L

landfill space: the ground used for dumping waste material (rubbish) , p. 85
landslide: movement of soil and rock down a hill slope, p. 30
lava: hot, molten ('melted') rock flowing out of a volcano, p. 28
levees: ridges of earth along river banks to stop flooding, p. 43
life expectancy: the average number of years a person can expect to live, p. 54
line scale: a line that looks a bit like a ruler, which is drawn on a map to show how much smaller the map is than the real distance on the ground, p. 5
lines of latitude: lines drawn on a map that show degrees north or south of the Equator, p. 19
lines of longitude: lines drawn on a map that show degrees east or west of the Prime meridian, which is the zero degree line, p. 19
livestock: cattle, goats and sheep, p. 156
lobola: bridewealth, payment made by a man to the family of his bride, p. 183
looting: theft of goods from shops and from other people, p. 41
low-lying areas: land that is lower than surrounding land, and often wet and damp, and close to rivers, p. 43

M

magma: molten rock deep inside the Earth's crust, p. 28
meteorologist: scientist studying the weather and making weather forecasts, p. 40
middlemen: people who act as agents between two people or parties, or arrange a business deal between two people, p. 195
minerals: natural substance found in rocks, p. 24
molten: thick, hot liquid rock, p. 24
moral: knowing what is right and good, p. 67
mortality: death, dying, p. 53
mutiny: a situation in which sailors or soldiers rebel and refuse to obey their commanding officers, p. 145

N

natural population growth rate: the difference between birth rate and death rate, p. 52
neutral zone: an area of land that doesn't belong to anyone, p. 185
nomadic: describing people who move around from place to place to find food for themselves and for their livestock, p. 156

O

oasis (plural: oases): place in the desert with water and trees where travellers can rest, p. 109
opinion: a view about something, what you believe to be true, p. 75
ore: rock from which metal is extracted, p. 197
organic: from natural (not human-made or chemical) products, p. 116
outbreak: sudden beginning, surge, p. 58
overfishing: catching too many fish in an area of the sea, p. 84
overgrazing: allowing animals to graze to the point of damaging vegetation cover, p. 84
overpopulation: too many people for the land to feed properly, p. 67

P

pandemic: a disease that has spread all over the world, p. 59

parasite: an animal or plant that lives in or on another animal or plant, p. 58

pathogen: a virus or any other agent that can cause a disease, p. 57

philologist: an expert in languages, p. 177

plague: any dangerous illness that spreads very quickly, p. 59

plantation: a large farm for growing crops like sugar cane, rice, tobacco and cotton, p. 133

plate tectonics: the movement of large plates making up the Earth's surface, p. 26

plates: huge pieces of the Earth's crust, sometimes with a whole continent on the plate, p. 26

poaching: illegal hunting and killing of animals, p. 84

polar ice caps: the areas around the North and South Poles that are permanently covered by ice, p. 83

policy: a plan of action, p. 67

population: the number of people living in a region for example a country, province or city, p. 50

population pyramid: a graph that shows the number of people in an area by their ages and gender, p. 60

populous: full of people, p. 67

pumice light sponge-like rock formed by erupting volcano, p. 30

R

raid: attack suddenly in order to steal something, p. 188

raw goods: uprocessed materials in their natural state, before bing processed for use by people, p. 138

refugee: person who has to leave where they normally live because it is unsafe to stay there, p. 30

refugee camp: camp set up for people made homeless by flooding, p. 41

research: organised hunting for facts or to develop new products, p. 74

revolutionary abolitionist: someone who believes it is acceptable to use violent methods to bring about change, p. 148

Richter Scale: a scale of numbers (index) that indicates how strong an earthquake is, p. 34

right: something that you are allowed to do, p. 183

rival: someone you compete with, p. 199

rockfall: rocks falling off a mountainside, p. 33

S

sanitation: a system for draining away, treating and disposing of sewage, p. 39

scholars: people who study a subject and know a lot about it, p. 111

settlements: small communities especially in their early stages, p. 162

sewage: waste matter carried away in sewers and drains, p. 36

sewer: an underground drain to carry off waste water and excrement, p. 36

sewerage: a system of sewers, p. 36

sinkhole: hole in the ground caused when the surface collapses, p. 33

skilled: to be good at doing something, p. 130

smelting: melting metal at a very high temperature, p. 131

soil erosion: top layer of soil being washed away, p. 41

sources: written documents, pictures, places or persons that you get information from, p. 115

species: group of similar animals or plants, p. 84

status: rank or position compared with others, p. 60

stereotype: judge someone or something to be a certain way just because many other people believe it, even though they may be

wrong, p. 124

sterilise: make a person (or animal) unable to produce offspring, p. 67

stowaways: people who hide in ships to escape secretly from a country or to travel without paying, p. 162

stress: strain, pressure, p. 75

subsistence farmers: farmers who farm to support themselves, p. 43

symbol: on a map a symbol is a small image or sign of something that allows us to show it on the map without taking up too much space and without having to use words, p. 5

syndrome: a group of symptoms considered together as part of a disease, p. 57

T

threatened: a species which could soon become endangered, p. 87

tolerant: allowing people to say and do what they want without punishing them, p. 113

total poplution growth rate: the sum of the natural poplation growth rate and the migration rate, p. 52

transatlantic: across the Atlantic Ocean, p. 135

transfusion: the transfer of blood from one person to another, p. 75

treason: the crime of doing something that could harm your country or government, p. 149

trekboers: white farmers who moved away from the Cape, p. 173

tributary: a smaller river flowing into a larger river, p. 45

tropical storm: storm with heavy rain and strong winds, for example a hurricane, p. 40

tsunami: giant sea wave caused by an earthquake under the sea, or by a volcanic eruption close to the coast, p. 30

typhoon: tropical storm (strong winds with heavy rain) in the Pacific Ocean, p. 30

U

ubuntu: an African word meaning 'being and caring for othe people'; ubuntu also means 'I am what I am because of who we all are', p. 63

undernourished: underfed, not getting enough of the right kinds of food, p. 73

urban: built-up area like a city or town, p. 40

urbanisation: the increase in the number of people living in towns and cities, p. 45

V

vaccinate: to inject a vaccine as a protection against a disease, p. 39

vaccine: a medicine made of the germs or virus that causes a disease; it is injected into the skin to prevent a person from getting that disease, p. 60

varieties (plant): different kinds of plants that are in the same family, p. 70

virus: a substance, smaller than bacteria, that causes disease, p. 56

viticulture: the making of wine, p. 166

W

wattles: trees used for building with mud or clay, p. 121

winnowing: the process of separating grain from chaff by throwing it into the air or blowing air through it, p. 166

word scale: a way of expressing a map scale using words, p. 12

World Heritage Site: a natural or historical site that is very important to all people, p. 116

wrenched: taken away from a person or object unwillingly, by force, p. 163

Y

yield (crop): the amount (in tons) of a crop produced per hectare, p. 70

Index