

# Geography Grade 7

## Term 1

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# MAP SKILLS

## Local maps and street maps

### Find 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 an index to find places

### Vocabulary

**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.*

The index of street names 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.

### Activity 1

Use the map index below to answer these questions.

1. On which page will you find Wipers Road?
2. On which page will you find William Nicol Street?
3. What is the grid reference for Wildebeest Street?
4. In which suburb is Wiek Street?
5. In what suburb is Windsor Place?
6. You can see the name Wolfson Rd in the top right corner of the index.  
Why is this name there?

Westway Rd

# Index to Street Names

Wolfson Rd

STREET NAME	SUBURB NAME	PG	GRID	STREET NAME	SUBURB NAME	PG	GRID	STREET NAME	SUBURB NAME	PG	GRID	STREET NAME	SUBURB NAME	PG	GRID
Westway Rd	Douglasdale	14	DB 96	Wildebess Rd	Greenhills	71	DQ 59	Willow Cl.	Bucleuch	18	DC 109	Winter St	Noordgesig	104	DZ 88
Westwood Way	Saxonwold	81	DQ 99	Wildebess Rd	Verwoerdpark	132	EE 112	Willow Cl.	Kelland	53	DM 91	Winterberg	Bosmont	79	DU 91
Westwood Ave	Melrose Nth	56	DD 103	Wildebess St	Rant-en-dal	26	DG 69	Willow Cr.	Kyalami Est.	6	CV 106	Winterberg	Northcliff	79	DR 91
Wethered Rd	Greenside	81	DQ 97	Wildebess St	Leondale	156	EJ 118	Willow Cr.	Eldorado Pk	148	EJ 85	Winterberg Ave	Eastvale	93	DU 147
Weti St	Wattville	115	DZ 132	Wildebess St	Leondale	156	EJ 118	Willow Cr.	Kagiso	74	DS 71	Winterberg Rd	Finsbury	96	DW 54
Wewer Cl.	Crystal Pk	65	DM 140	Wildebraam St	Weltevreden Pk	52	DM 88	Willow Cr.	St Andrews	84	DQ 111	Winterberg Sth	Airode Sth	188	EQ 109
Wewer Rd	Birch Acres	21	DE 121	Wildepruim St	Esther Pk	38	DK 118	Willow Pl.	Hurlingham	33	DJ 99	Winterberg St	Leachville	138	EB 133
Wewer Rd	Randpark Rdg	30	DK 88	Wilderness	Maokeng	10	CW 122	Willow Pl.	Kelvin	35	DG 107	Winterhoek Ave	Oakdene	130	EE 101
Wewervool Rd	Helikon Pk	71	DU 57	Wildesering Ave	Weltevreden Pk	52	DM 87	Willow Rd	Benoni A.H.	42	DJ 136	Winterkoring Ave	Birch Acres	21	DD 121
Wexford	Broadacres A.H.	3	CW 95	Wildesering St	Elsark	135	EE 124	Willow Rd	Carlswald	6	CV 107	Winze Dr	Fleurhof	104	DW 85
Wexford Ave	Dainfern	3	CV 95	Wildesering St	Elsark	135	EE 124	Willow Rd	Eastleigh	59	DO 115	Winze Dr	Stormal	104	DW 86
Wexford Ave	Parkview	81	DS 98	Wildesering St	Elsark	135	EE 124	Willow Rd	Eairleigh	88	DU 126	Wipers Rd	Klippoortje A.H.	134	EA 118
Wexford Ave	Westcliff	81	DS 99	Wildesering St	Elsark	135	EE 124	Willow Rd	Northcliff	53	DP 90	Wisani St	Chibvelo	146	EG 78
Weyers St	Airode Sth	175	EP 110	Wildesering St	Elsark	135	EE 124	Willow Rd	Primrose	85	DU 115	Wisbeck Rd	Muibaart	152	EH 102
Whale Cl.	Lawley	185	EU 73	Wildesering St	Elsark	135	EE 124	Willow Rd	Waterval Est.	80	DQ 93	Wisconsin Ave	Eldorado Pk	147	EG 83
Whale Pl.	Lawley	184	EU 72	Wildesering St	Elsark	135	EE 124	Willow Rd	Dalpark	138	EC 136	Wistaria Rd	Krugersdorp Nth	25	DJ 57
Wheatley St	Regents Pk	130	EA 104	Wildesering St	Elsark	135	EE 124	Willow St	Dalpark	138	EC 136	Wistaria Rd	Primrose	111	DU 114
Wheaton Rd	Benoni	115	DU 130	Wildesering St	Elsark	135	EE 124	Willow St	Kempton Pk	61	DL 124	Wistaria St	Esther Pk	38	DK 118
Wheal St	Selby	107	DY 98	Wildesering St	Elsark	135	EE 124	Willow St	Lenasia	166	EL 76	Wistaria St	Van Dyk Pk	137	ED 130
Wheeler Peak St	Lenasia Sth	200	EV 79	Wildesering St	Elsark	135	EE 124	Willow St	Plantation	114	DX 125	Wisteria St	Brackendowns	174	EL 106
Wheeler St	Outlands	24	DJ 64	Wildesering St	Elsark	135	EE 124	Willow Ter.	Westdene	115	DV 131	Wisteria St	Brackendowns	174	EL 106
Whelan Cl.	Rivonia	34	DF 103	Wildesering St	Elsark	135	EE 124	Willow Way	Northcliff	80	DQ 93	Wisteria St	Lenasia	167	EL 77
Whirlwind St	Rhodesfield	61	DN 123	Wildesering St	Elsark	135	EE 124	Willowbrook Pl.	Sandown	34	DK 103	Wisteria St	Spoorhul	148	EJ 85
Whisker Ave	Kyalami Est.	6	CV 105	Wildesering St	Elsark	135	EE 124	Willowgrove Rd	Dainfern	3	CV 95	Wit	Witfontein	22	DE 128
Whistlers Gate	Cedar Lakes	3	CY 94	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Eldorado Pk	148	EG 86	Wit Deep Rd	Boksburg	112	DV 120
Whitaker St	Belgravia	109	DU 106	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Deep Rd	Lenasia	112	DX 119
Whitby Rd	Ferryvale	206	EY 154	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Selcourt	164	EJ 150
White	Parkdene	114	DZ 125	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
White Ash St	Fourways Gdns	3	CX 96	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
White Cr.	Roshill	119	DZ 147	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
White Rhino St	Mgantsa	10	CY 124	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
White Rose St	Boltonia	25	DK 115	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
White St	East Germination	111	DX 115	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
White Stinkwood St	Protea Glen	123	EE 73	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
White-eye Ave	Princess	50	DD 77	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Whitehall St	Hurst Hill	80	DU 94	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Whiteland Rd	Hazelde	133	EE 116	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Whithead St	Witfield	87	DU 122	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Whitehouse Ave	Farrarmere	98	DT 132	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Whitehouse Ave	Farrarmere	90	DT 133	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Whitford Rd	Klippoortje A.H.	133	EA 116	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Whitford Rd	Webber	133	EA 116	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Whitley Rd	Melrose Nth	56	DD 104	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Whitley St	Airfield	90	DT 133	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Whitman St	Farrarmere	89	DR 131	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Whitney Rd	Witfield Gdns	57	DM 108	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Whittaker Cl.	Emerdale	199	EW 75	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Whittaker's Way	Bedfordview	84	DU 110	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Whittle Rd	Greenowide	157	EF 123	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Whitworth Rd	Heriotdale	110	DX 109	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Whizana St	Etwatwa	68	DP 150	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Whizana St	Etwatwa	68	DP 152	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Whydah St	Crystal Pk	65	DM 140	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Wicklow Ave	Parkview	81	DR 98	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Wicklow Rd	Kenmare	49	DL 74	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Widcombe Pl.	Lone Hill	4	CZ 99	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Widgeon St	Florida Lake	77	DT 83	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Widgeon St	Lenasia	145	EK 75	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Widman St	Regents Pk	130	EA 104	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Widow St	Moteong	10	CY 121	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Wiedeman St	Klippoortje A.L.	134	EB 119	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Wielman Cr.	Daveyton	66	DP 144	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Wiek St	Bardene	82	DT 125	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Wieke St	Sharonlea	13	DE 32	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Wiellevale St	Atlasville	63	DP 129	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Wierda Rd East	Sandown	34	DK 103	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Wierda Rd West	Wierda Valley	56	DL 103	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Wierda Rd West	Wierda Valley	56	DL 102	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Wiese St	Rynsord	117	DV 139	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Wigan Ave	Crown Gdns	128	ED 96	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Wight St	Roodpoort	76	DR 79	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Wilbers Rd	Estera	134	EC 119	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Wilcox St	Towery	130	EC 101	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Wild Chestnut St	Protea Glen	123	EE 73	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Wild Chestnut St East	Protea Glen	122	EE 72	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Wild Olive Rd	Fourways Gdns	3	CX 95	Wildesering St	Elsark	135	EE 124	Willowmore Rd	Jukskei Pk	14	DB 93	Wit Rd	Spring	142	ED 150
Wild Olive St	Greenfields	188	EU 111	Wildesering St	Elsark	135	EE 124</								

## Using a street map to find places and describe a route

Street maps help you to find places and to describe the **route** from one place to another. Each street has a name to help you explain which route to take. The point where the streets cross each other is called an **intersection**.

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.

### Vocabulary

**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.

### Activity 2

Study the street map of Germiston below and answer the following questions:

1. Give the grid squares for:
  - a. Lambton Mall
  - b. Colin Mann School
  - c. Germiston Medicross Centre
2. Name the main road in grid square EB 117.
3. Name the suburb in grid square EA 118.
4. Name the grid square where there is a convent.
5. Draw the symbol for:
  - a. Police station
  - b. Place of Interest
  - c. Hotel

Remember to use the correct colours.



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## Sketching maps and explaining routes

**Vocabulary**  
**Sketch map:** rough drawing that looks like a map.

A sketch map is not as detailed as a proper map. It is a rough drawing that shows only important details that will help a person find the way.



## Map conventions

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

### 1. A title

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

### 2. A map key and symbols

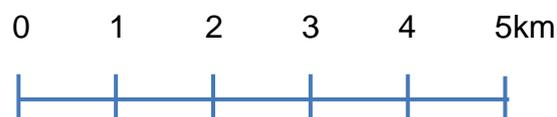


A map key explains the symbols used on the map. The key above shows a simple map key. Look for other map keys in your atlas.

### 3. A scale

#### Vocabulary

**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.



### 4. 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 point your map correctly towards north. The four **cardinal points** are the four main points on a compass: north, south, east and west.

### Activity 3

Complete the following 8 point compass rose in your workbook.



### Activity 4

**Sketch maps to show the route from one place to another.**

Study the sketch map below and answer the questions.



1. Using the 8 compass points, give the direction from the Ken Sports Field to:
  - a. Sunshine Primary
  - b. The railway station
  - c. Spar
2. Why are only some street names on the sketch map?
3. List 2 differences between the sketch map above and the street map of Germiston on page 5.
4. Draw the symbols used to show:
  - a. traffic lights
  - b. the railway
  - c. the hospital
5. Give directions from the hospital to the Spar.

### Activity 5

#### **Draw a sketch map of a route.**

Draw a sketch map of a route from your classroom to the tuck shop. Follow the steps below.

1. Walk the route and make notes and rough sketch of what you see. Include:
  - the main places where they need to turn and the direction
  - some obvious features that will help them recognise where they are
  - any grassy areas, tarred areas or steps
  - anything else that will help them find their way.
2. Work out the approximate distance of one part of the route. You can estimate distances between places in metres. A long pace is about one metre. A netball court is 30 metres long, whereas a soccer field is 100 metres long. 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 key 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.

## **Determine and show compass directions on a local sketch map**

### Vocabulary

**Analogue Watch:** a watch that tells the time with hands

**Bisecting :** Dividing an angle in two equal parts

A map is usually drawn with north pointing to the top of the page and the north-south line parallel to the side of the page. If this is not the case, a north-pointing arrow will be shown on the map.



## How to find north in the southern hemisphere

### Method 1

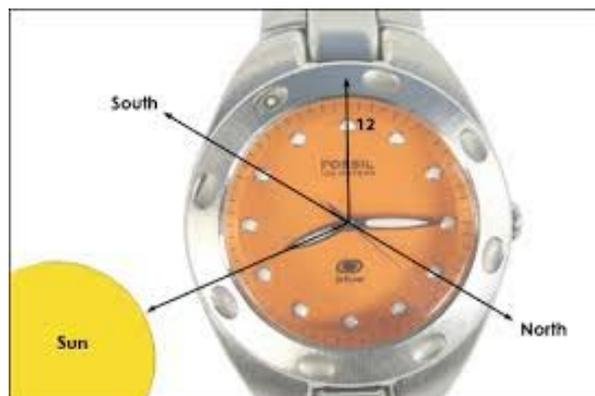
1. Go outside your classroom to an open space.
2. Decide where the sun rises and where the sun sets.
3. Now point to the east (sunrise) with your right arm and to the west (sunset) with your left arm. North is directly in front of you.



### Method 2

You could also use an **Analogue Watch** and a thin stick like a toothpick or match to find "True North".

1. Go outside your classroom to an open space.
2. Hold your watch steady or place it on a level piece of ground.
3. Hold the toothpick or match vertically over the number 12 on the watch. It will cast a straight line shadow.
4. Turn the watch until the shadow falls across the number 6, crossing over the centre of the watch.
5. The north-south line is the line **bisecting** the angle between the hour hand and the shadow line.



### Activity 6

1. Go back to your classroom. Draw a simple sketch plan of your classroom. Show the door, windows, any cupboards, your teacher's desk and mark the position of the rows of desks.
2. Now add in the four map conventions – a title, scale, key and north direction arrow.

## Explain a route verbally and estimate distances

Giving clear and simple directions is an important skill that you need to develop. You could use phrases like:

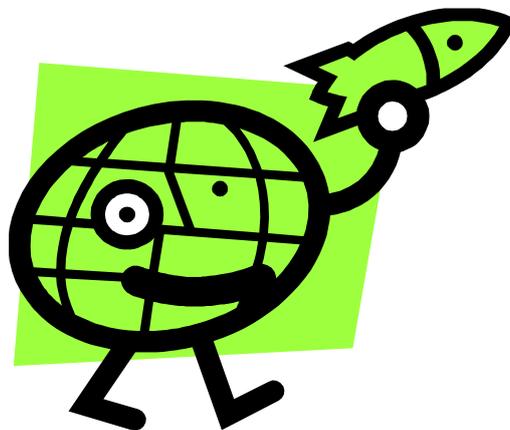
- ✧turn left or turn right
- ✧go straight for 10 metres or 3 street blocks

When you explain a route, you need to give the person an indication of roughly how far it is.

### Activity 7

#### Explain the route verbally

1. Work in pairs. Your teacher will give you a route to explain verbally. You will have 5 minutes to prepare, before explaining the route to another group. Remember to give them an estimate of the distance they will need to walk.
2. Discuss whether the directions given were clear enough. Did the group understand where to go? How could the learners improve their verbal directions? Did they give a good estimate of distance?



## Section C: FORMAL ASSESSMENT

### Project: Draw a sketch map of your local area

#### Vocabulary

**Land use** - how people use the land, e.g. for farms, houses, factories.

#### Instructions

In this project, you will draw a sketch map of the area around your home or school. 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.

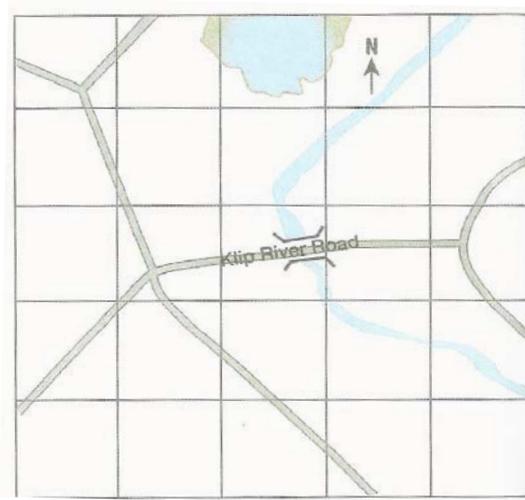
Remember to:

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

#### Guidelines to follow when drawing your sketch map

1. Walk around your sketch map area. Make notes about the 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

- emergency services if there are any in your area
  - public facilities like swimming pools and libraries
  - the names of roads, places and shops.
2. 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.
  3. 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 1cm will represent 50m or 100m).
  4. Now go home and start drawing your sketch map. Draw a frame on a piece of paper. Use a pencil and ruler to draw a grid inside the frame (draw the lines lightly). The grid will help you to draw places in the correct place on your sketch map.



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5. 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. Work out what scale you will use and make sure your map fits on your piece of paper, and is not cramped up in the middle.

**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.

## Record your observations of land use and different kinds of vegetation

Show different ways the land is used on your sketch map, e.g. buildings, farms, industry, open space, parks and kinds of vegetation.

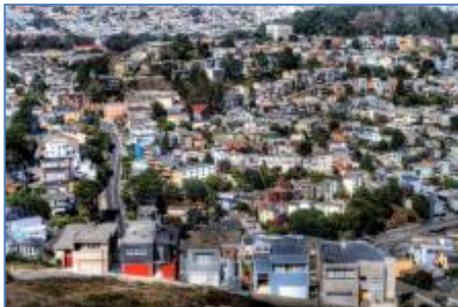
Here are some photos of land uses. Use these ideas to help you identify and include different land uses in your sketch map.



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



There is more space for agricultural land use outside a town



Residential land use is usually located around the town centre.



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

## Show the four cardinal compass directions on your sketch map

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

### Project rubric

<u>Criteria</u>	<u>Mark Allocation</u>	<u>My mark</u>
The local area is named. The frame has been drawn. The grid squares have been drawn inside the frame.	3	
Main roads or paths have been marked.	3	
Symbols have been drawn on the map to represent landmarks and places of interest.	4	
The symbols have been explained in a key on the map.	4	
The sketch map has symbols to show land use. These are shown on the key.	3	
The four compass points are shown.	2	
The line scale has been calculated accurately and drawn on the sketch map.	5	
The sketch map has a clear and accurate title.	1	
General appearance and neatness	5	
<b>TOTAL</b>	<b>30</b>	

## Section D: Distance and scale

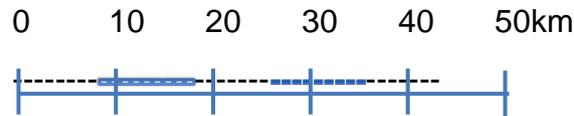
### Map scales

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

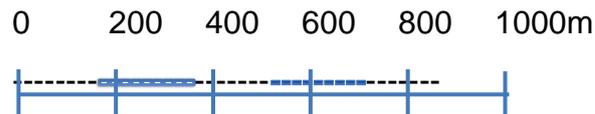
When you draw maps of places, you need to show things smaller than they are. However, you need to be able to see on the map how far distances really are. Imagine packing lunch in the car and getting ready for a long journey, and arriving in 10 minutes, or going to a friend's house for tea and walking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

These are some of the reasons why you need to be able to calculate distances from maps.

## Line scales



In the line scale above, 1 cm represents 10 km on the ground.



In the line scale above, 1 cm represents 200 m on the ground.

### Activity 8

Look through your atlas. Find at least five examples of different line scales.

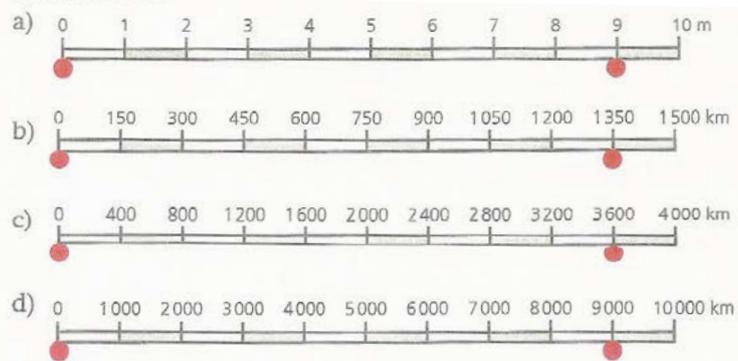
What distance on the ground does 1cm on each scale represent? You may find some line scales that do not use 1cm spaces.

1. Write down your findings in the format shown below:

- Map of (put the map title and page number here): 1cm on the line scale represents (your answer, for example, 1km) on the ground, e.g. Map of Gauteng, page 21: 1cm on the line scale represents 10km on the ground.

2. Match the lines scales below with the places alongside that you think they would be used for e.g. a) the world.

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



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## Word scales

A word scale explains in words what the scale is. It is a simple statement, for example:

1 cm represents 100 km.

This means that 1 cm on the map represents 100 km on the ground.

### Vocabulary

**Direct** : going straight from one place to another along the shortest route.

*A direct line between two places is a straight line.*

### Activity 9

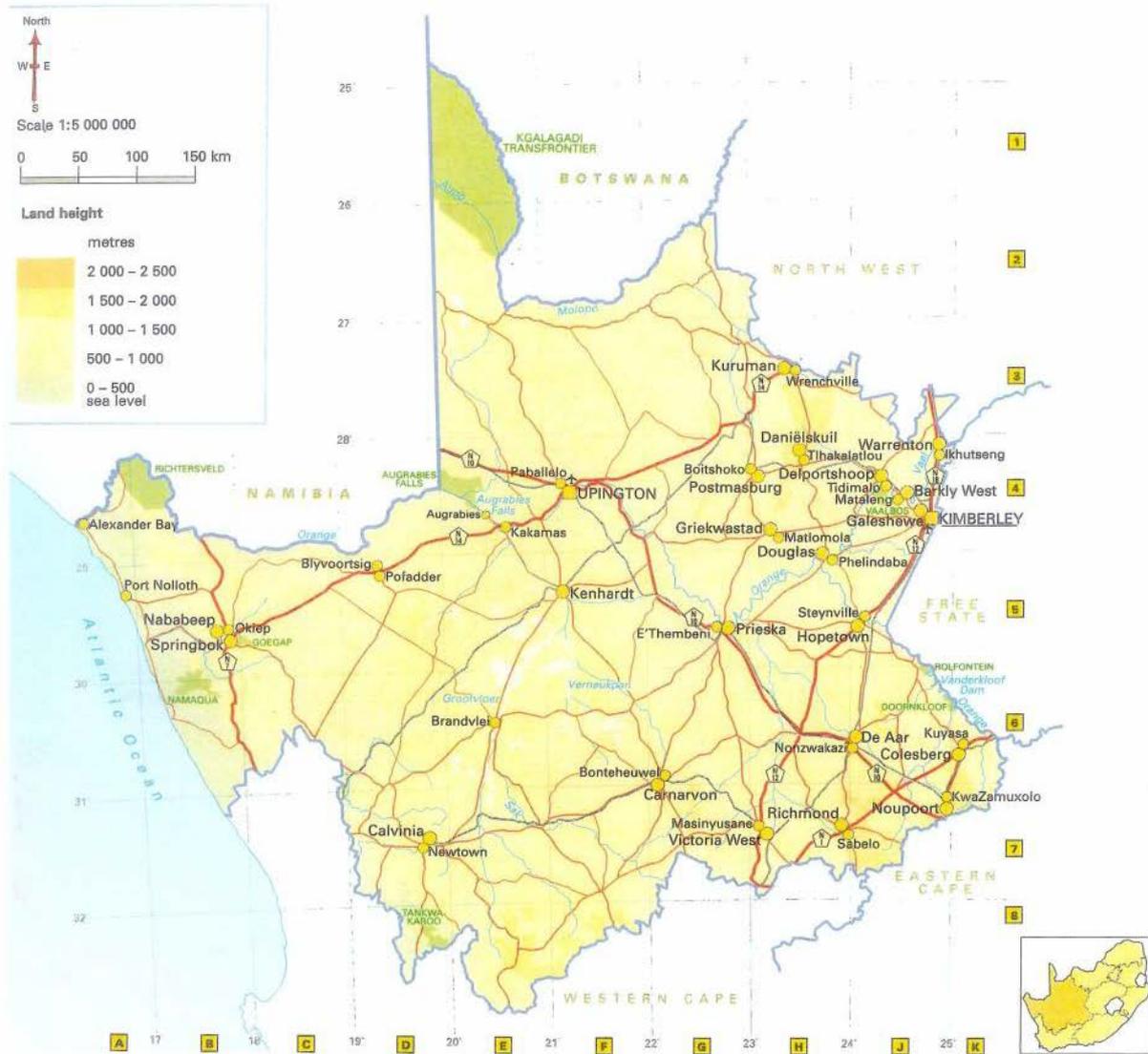
A. Refer to the map of the Northern Cape.

1. Write out the scale on the map in words. (1)
2. Draw a line scale exactly the same size as it is on the map. (1)
3. Use a ruler to measure the direct distance between:
  - a. Calvinia to Carnarvon
  - b. Upington to Kenhardt
  - c. Prieska to Hopetown
  - d. Carnarvon to Victoria West
  - e. Hopetown to Kimberley (5)
4. Hint: calculate as follows: \_\_\_\_\_ cm X \_\_\_\_\_ km = \_\_\_\_\_ km  
 Calculate the straight line distances between:
  - a. De Aar to Hopetown
  - b. Upington to Kuruman
  - c. Springbok to Pofadder
  - d. Victoria West to Noupoot
  - e. Kimberley to Upington (5)

B. Draw a line scale to show a scale of 1 cm represents 75 km. The line scale should cover a distance of 600 km. (3)

**TOTAL: 15**

# 28 South Africa's provinces Northern Cape



**Legend:**

- national route
- arterial/main road
- secondary road
- railway
- international boundary
- provincial boundary
- built-up area
- river
- perennial pan
- dry pan
- protected area
- airport

**Neighbouring country:** NAMIBIA

**Neighbouring province:** FREE STATE, NORTH WEST, EASTERN CAPE, WESTERN CAPE

**Provincial capital:** KIMBERLEY

**Dam/river:** Orange, VAALBOS

**Nature reserve:** Richtersveld, Au-grabies Falls, Au-grabies Falls, Namaqua, Tankwa Karoo

Facts about Northern Cape	Northern Cape	South Africa
Population 1996	840 321	40,7 million
Share of national population %	2	100
Area in km <sup>2</sup>	361 830	1 219 090
Level of urbanization %	77,1	53,5
Children under 15 years old %	33	34,2
Matric pass rate %	64,3	48,9
Illiteracy: adults over the age of 20 years %	43	38
Earning less than R500 per month %	42	26
Living in informal dwellings %	14	11,2
Without electricity %	21,5	37
Tap in dwelling %	49,7	41,8
Phone / cell in dwelling %	30,8	38,2
Number of doctors per 10 000 population	2	2,9
Motor vehicle theft rate per 100 000 population	47,1	201,6

© South African Institute of Race Relations

## Different scales for different maps

### Large scale maps

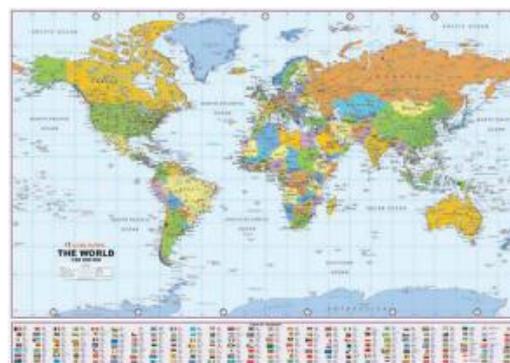
Local street maps are examples of large scale maps. The area being represented by the map has been scaled down less. The scale on a street guide could be: 1 cm on the map represents 100 m on the ground.



A street map is an example of a large scale map.

### Small scale maps

A map showing a large area is an example of a small scale map. A small scale map shows **more** of the area but in **less** detail. There is not enough space to include all the towns and streets. The scale on a map of South Africa could be: 1 cm on the map represents 250 km on the ground.



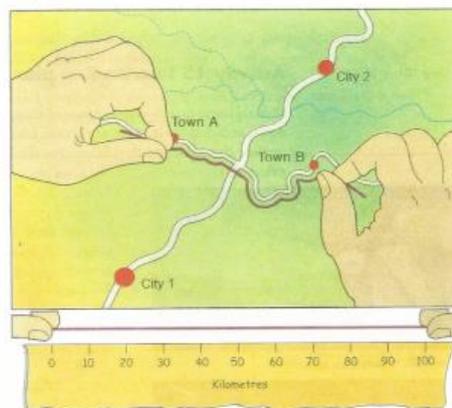
The world map is an example of a small scale map

### Measure indirect distances on a street map

Most routes between places are not straight lines. Most roads are curved, with lots of twists and turns. To measure these indirect routes we use a piece of string or thread.

Mark the string at point A, work your way along the string from point A to point B, and make another mark on the string at point B. Now lay out the string straight along the line scale OR measure the distance on your ruler and work out the distance using the scale.

Why is it not a good idea to use wool to measure a curved distance?



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#### Vocabulary

**Estimate:** a rough calculation or a good guess of the **amount** or value of something.

## Calculating distances on maps (direct and indirect routes)

### Use the scale to estimate distances on a map

#### Check estimates with accurate measurement

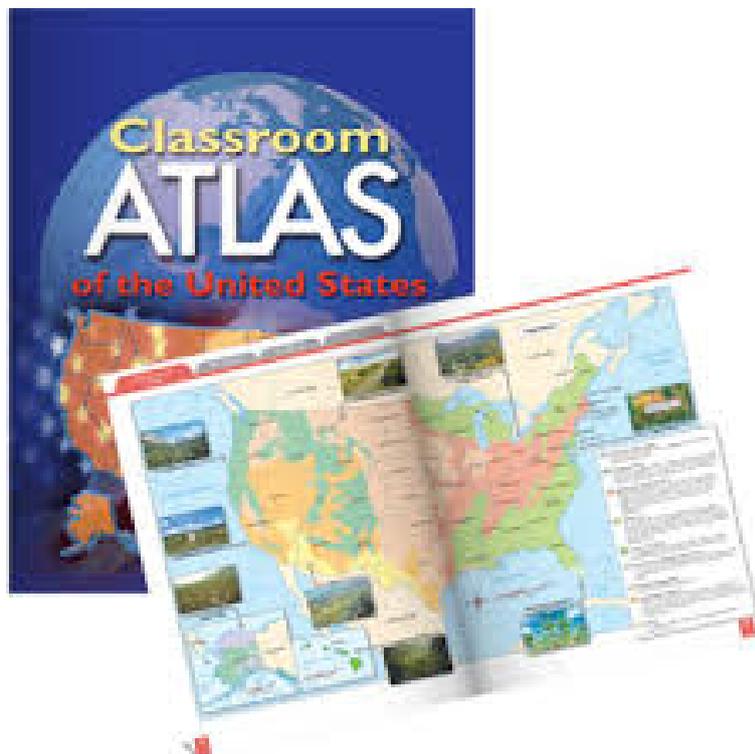
When you use a map, you don't always need to measure the distance exactly. Often, you only need an **estimate**, rather than an exact measurement. Estimating a distance on a map is a skill that you can learn. The more you practise estimating, the more accurate your measurements will become.

### Activity 10

Refer to the map of the Northern Cape on page 17

1. Estimate the distances between the places on the map in kilometres and write it in the 2<sup>nd</sup> column.
2. Only once you have estimated all the distances, do you check your estimates with accurate measurements (column 3).

Places	Estimates	Actual measurement
Kenhardt to Pofadder	_____ km	_____ km
Uppington to Prieska	_____ km	_____ km
Pofadder to Calvinia	_____ km	_____ km
Kimberley to Kuruman	_____ km	_____ km
Richmond to Carnarvon	_____ km	_____ km



## Section E: Current events

### Places in the news on a world map

Every day there are reports and stories in the news to do with geography: disasters, world sport tours, weather, farming, wars and politics. When important events happen somewhere in the world, do you know where those places are? The pictures below show some important events that took place in 2017.

### Top Events in 2017



1. Throughout this year, learners will take turns to bring news stories from papers, magazines and the Internet for the current events map in the classroom.
2. Mark on a label the grid reference of the place you are talking about.

## Latitude and longitude of places in the news

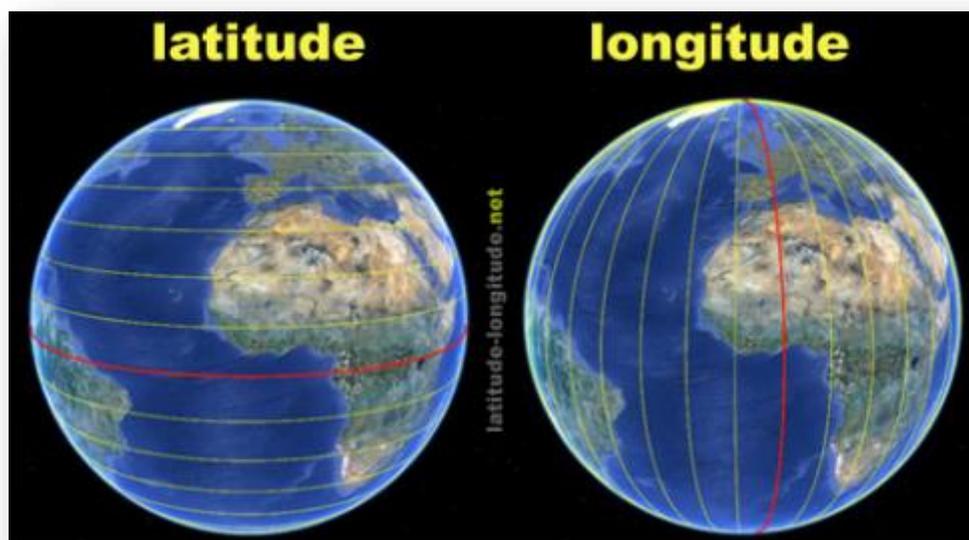
In the same way that you used a grid reference to find places on a street map, you can use **latitude** and **longitude** to find places on a world map.

### Vocabulary

**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 degree line

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.



## How to give a reference using latitude and longitude

When you give a reference for a place, you always start with the number of degrees north or south, then the number of degrees west or east.

### Activity 11

#### Use grid references

Use an atlas to answer the following.

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
  - a. Bloemfontein
  - b. Polokwane.
3. Use an atlas to complete the table below. Fill in the two main lines of latitude and longitude that make up the grid reference for each country listed.

	Country	Latitude	Longitude
1	Brazil		
2	Egypt		
3	Libya		
4	Japan		
5	India		
6	Australia		
7	New Zealand		
8	Zimbabwe		

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