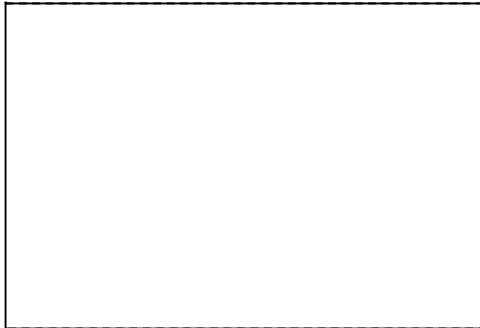


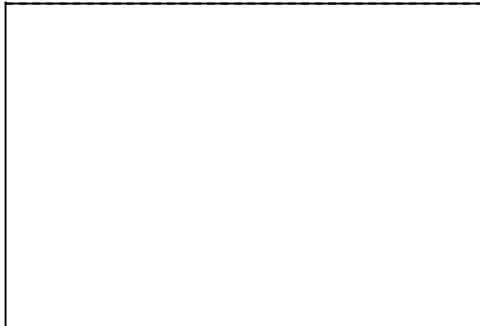




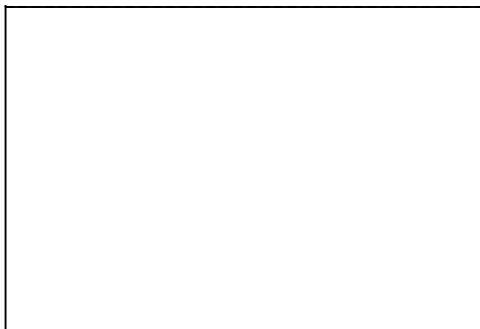
Equatorial



Temperate



Mediterranean



Tropical



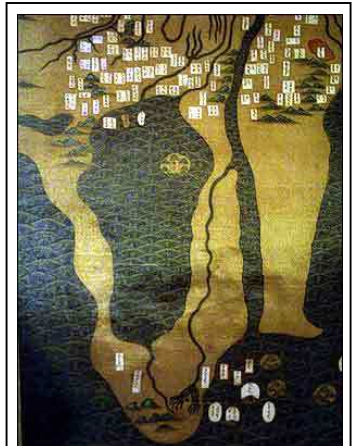
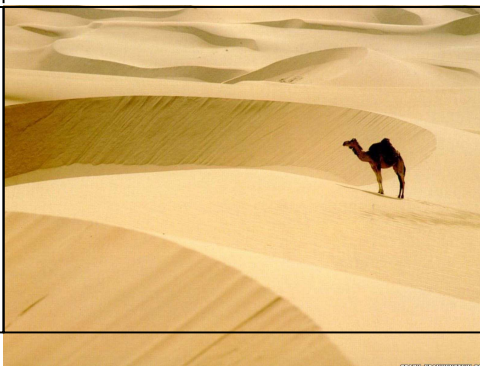
Mountain



Polar



Desert



The oldest map of the African continent  
Created in China in 1389





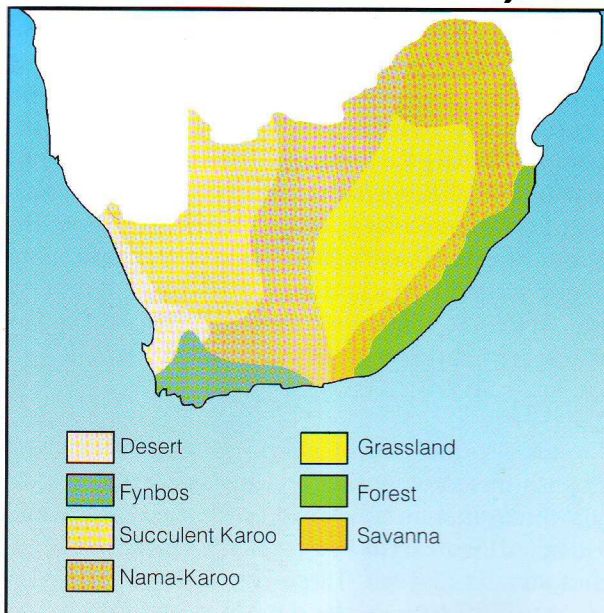
## Tundra



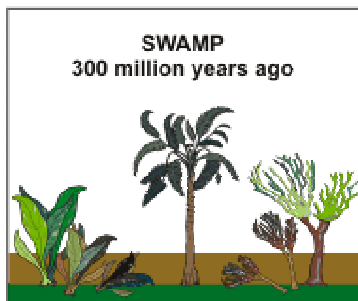
## Coastal climates



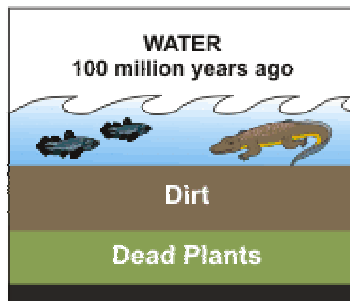
## South Africa's climatic regions



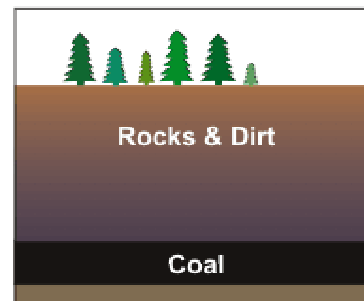
## HOW COAL WAS FORMED



Before the dinosaurs, many giant plants died in swamps.



Over millions of years, the plants were buried under water and dirt.



Heat and pressure turned the dead plants into coal.

			
Saharan rock painting	People of Meroë in Egypt	The Nok people of West Africa using a furnace	Bantu tribes of West Africa reach the southern tip of Africa
			
Axum grows and becomes rich through trade with Arabia	The Byzantine Emperor Justinian rules in North Africa	Arabs invade North Africa	Fatimids seize control of Egypt
			
Mamelukes take over Egypt	The Christian kingdom of Ethiopia is created	The people of Ghana, Mali and Songhai mine gold from rocks	The forest kingdom of Ife grows around the Niger
			
Portuguese caravels reach the mouth of the Congo	The Dutch arrive at the Cape Colony in the south	French, British and Portuguese Settlers along the coast of the Cape	Britain seize control of the Cape colony
			
European countries win land in Africa	War breaks out between the Boers and the British	The Great Trek of the Boers	



De Beers Mining



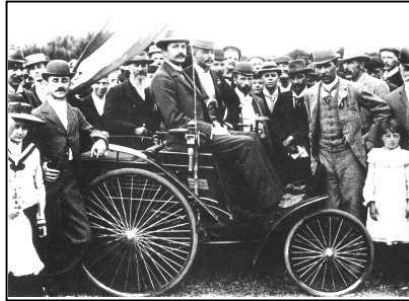
 <p>Romans fight the Second Punic War for Spain's gold in 215BC</p>	 <p>Great Britain moves to a pure gold standard in 1717</p>	 <p>The Venice Mint makes gold ducats in 1422</p>	 <p>South African Gold Rush 1885</p>
 <p>Egyptians developed gold smelting around 3600BC</p>	 <p>Tutankhamun's funeral mask made from gold around 1223BC</p>	 <p>The Burgerspond, struck at Heaton's Mint, England in 1874, for South Africa</p>	 <p>Californian Gold Rush 1848</p>
 <p>Roman Emperor Trajan conquers Dacia for its gold in 100AD</p>	 <p>The Phoenicians trade with Spain for gold in 700BC</p>	 <p>Australian Gold Rush 1846</p>	 <p>Gold mine opened at Eersteling near Mokopane in 1871</p>
 <p>The Portuguese call West Africa the "Gold Coast" by 1471AD</p>	 <p>Private ownership of gold (apart from jewelry and coins) banned 1933-1975</p>	 <p>Kimberley's big hole</p>	

What information is collected by weather balloons?





How did the discovery of gold change South Africa?



The first diamond  
found in South  
Africa

What is the Reserve Bank?



The only organization in the country that is allowed to mint coins and print banknotes. It holds the country's reserve stocks of gold.





A river erodes the outside of a meander and deposits sediment on the inside, making a loop.

Eventually the loop gets cut off completely and forms a lake called an oxbow lake.

V-shaped valley Upper stage

Flood plain Middle stage

Meander Lower stage

The loop grows longer and narrower until the river finally breaks through.

The river flows past the ends of the loop and they slowly become silted up.

Compass needle

Orienting lines

Orienting arrow

Direction of travel-arrow

Turnable Compass Housing

Location

Marine locations have mild climates with little temperature variation, while interior locations have much more extreme climates.

Prevailing winds and ocean currents  
These bring warm and cold temperatures to land areas. They also bring moisture or take it away.

Latitude

The distance north or south of the Equator.

The more latitude increases, the more the annual average temperature decreases.

Landforms

Landforms like mountains that winds encounter, cause winds to rise, cool down and precipitate. Rain shadows form when air descends away from the wind, warming and absorbing available moisture.

Elevation

Air at higher elevations (at the same latitude) is cooler and holds less moisture than air at lower elevations.

Factors that  
influence climate

Uses of coal		
For fuel	In industry	At home

Warm Agulhas Current

Cold Benguela Current

Diseases after monsoon season	Crops in monsoon areas

Mapping word mix& match

Physical features	things in the natural environment, such as rivers and mountains
Mountain peak	where the land and the sea meet
Coastal plain	low-lying land that is near to the sea
Escarpment	high, flat inland parts of a country
Cape	a steep slope between a plateau and a lower area
Bay	a dent or curve in the coastline
Coast	a piece of high land that goes into the sea
Plateau	the highest point at the top of a mountain





Feeling under  
the weather

Call the  
Cape doctor!



Why can dust storms be bad?

For the  
environment

For people

**What is a  
squall?**

What does the  
word Typhoon  
mean in  
Chinese?

Warm ocean water  
making humid air &  
clouds

Abundant low-level  
moisture to help develop  
a thunderstorm

Winds coming together  
to force air upward

Trigger (cold front or  
converging winds) to lift  
moist air

Humid air to form  
storm clouds

Light winds outside to  
steer it and let it grow

Unstable atmosphere  
(temperature decreases  
rapidly with height, or  
when air overlays moist  
air near Earth's  
surface)

Strong atmospheric level  
winds, turning with  
height in a clockwise or  
veering direction

Climate

Maritime  
Climate

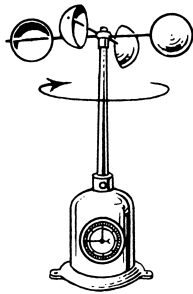
Continental  
climate

Humid

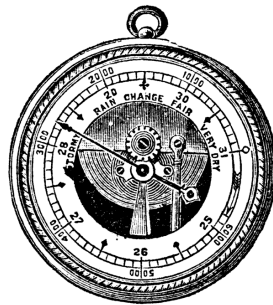
**ANNUAL  
RAINFALL**

**EVAPORATION**

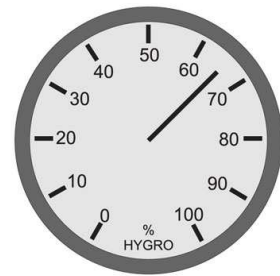




Anemometer



Barometer



Hygrometer

A gauge for  
recording the  
speed and  
direction of  
wind

An instrument  
that measures  
atmospheric  
pressure

Measuring  
instrument for  
measuring the  
relative humidity  
of the  
atmosphere

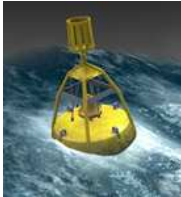
## Wind Speed



WEATHER STATIONS



WEATHER BALLOONS



OCEAN BUOYS

WEATHER SATELLITES



SEDIMENT ANALYSIS

ICE CORES



TREE RINGS

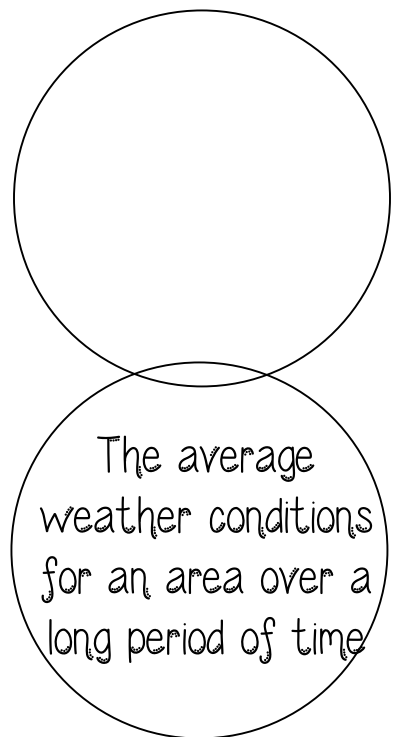
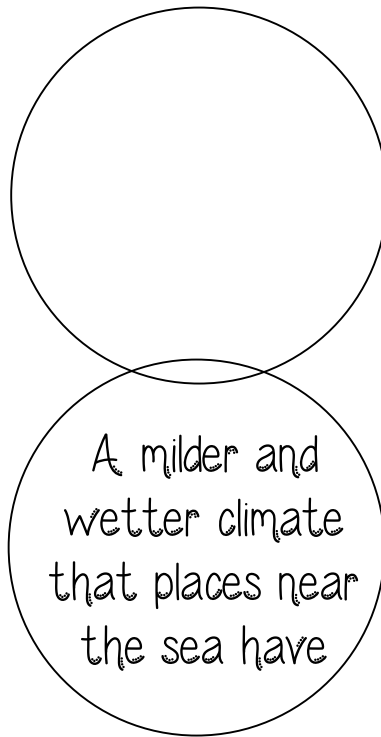
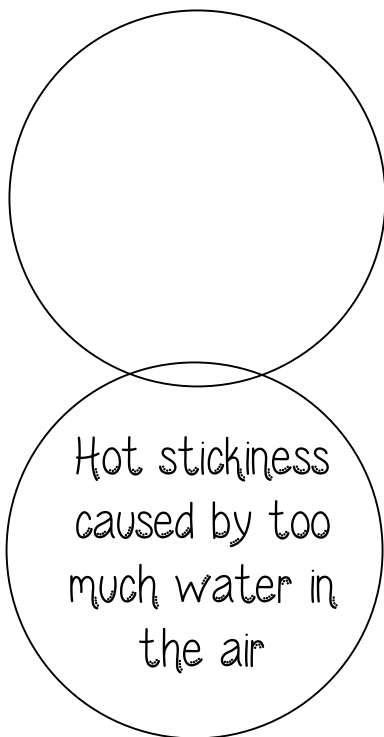
## Strong South African Winds

Strong south-  
westerly wind  
in KwaZulu-  
Natal

Unpleasantly  
hot, dry wind  
in some  
coastal areas



Temperature	how hot or cold something is
Cloud cover	the amount of clouds covering the sky
Rainfall	the amount of rain that falls over an area
Wind speed	how fast or strong the wind is blowing
Solar radiation	the heat of the sun
Precipitation	different forms in which water falls to the ground
Atmosphere	the layer of gas that surrounds the Earth
Weathering	the breaking down of the rocks that make up Earth's surface by weather and actions of plants and animals
Humidity	the amount of water vapour in the air



Tributary	Catchment area

Source	River system

	Permeable		Groundwater
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# Mouth

The water that had been soaked into the ground and absorbed into a layer of permeable rock

The start of a river or stream

A stream or river that flows into a bigger river

Where a river flows into the sea

The area drained by a river and its tributaries

Water can soak through

All the rivers and streams in a catchment area

The climates of inland areas



**Cecil Rhodes, founder of De Beers Consolidated Mines in 1888.**

**De Beers is the world's leading diamond company.**

What are Placer deposits?

How do people mine for placer gold?



Non-renewable	Ore	Fuel	Industry
Open-pit mine	Shaft	Ventilation	Lift
A disease that attacks people's lungs which makes it difficult for them to breathe	Something that we can only use once	A rock that contains large amounts of a certain mineral	Something we burn to give us energy
A very organized way of making things often in large factories	Mines that remove large areas of soil and rock from the surface	Hole that goes deep down into the ground	A way to push cooled, fresh air into small spaces such as a mine

Roof supports	Impact	Pollution	Silicosis
Mine dumps	Tunnels	Ventilation	Chemicals
A lifting machine that transports miners and rocks in a mine shaft	Lengths of wood or metal that stop the tunnel roofs falling down	A powerful effect or damage	Causing damage to air, water, soil with dirt and/or chemicals
Large piles of waste rock	Horizontal passages that pass through rocks	Pipes that take air around the mine tunnels and shafts	Strong substances that are used in mining, industry and farming

Highveld			
Great Karoo	Olifants	Cape Point	Asbesberge
uKhahlamba- Drakensberg	Gariiep-Orange	Tugela	Algoa Bay
Limpopo	Namaqualand	Soutpansberg	Lowveld
Mzimkulu	Vaal	Little Karoo	Waterberg