



Rain, rain don't go away!

It is summer again and over the majority of the country this means time for summer rains.

Unlike many other countries, South Africa is not well endowed with water resources. This has much to do with our annual rainfall, at a yearly average of only 464 mm much less than the world average of 860 mm.

Over much of South Africa, summer (mid-October to mid-February) is characterised by hot, sunny weather – often with afternoon thunderstorms that clear quickly, leaving a warm, earthy, uniquely African smell in the air. The Western Cape, with its Mediterranean climate, is the exception, getting its rain in winter.

Unfortunately, South Africa is also known for its extreme climatic events, such as floods and droughts.

SO HOW DOES RAIN FORM?

Rain is a form of precipitation, just like snow, dew, frost, hail and the like. Water droplets form from warm air, which rises in the sky and then cools.

Water vapour (invisible water) always exists in the air, especially in warm air, which can hold more water than cold air. When enough of these droplets collect, we see them as clouds. If the clouds are big enough and have enough water droplets, the droplets form even bigger drops. When these drops get heavier, they fall as rain.

WHY IS RAIN IMPORTANT?

Water is the most important substance needed to sustain life. Water, in the form of rain, forms an integral part of the hydrological cycle. It feeds the rivers, fills in oceans and seeps into the ground. Without rain we will not be able to keep our rivers flowing, fill our dams, grow our crops, or feed our underground resources.

CLIMATE PHENOMENA

In South Africa, our rainfall (or lack of it) is often influenced by climate phenomena such as El Niño and El Niña. The Pacific Ocean is a huge mass of water which

MAKE A CLOUD IN A GLASS

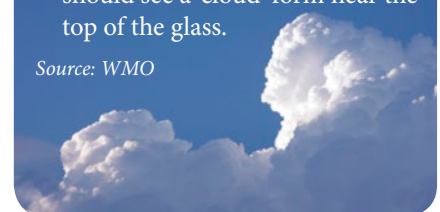
For his experiment, you will need:

- | | |
|-----------------|--------------|
| 1 A clear glass | 2 Warm water |
| 3 Ice | 4 Metal dish |

Instructions:

- 1 Place the ice into the metal dish.
- 2 Pour a small amount of warm water into the bottom of the glass.
- 3 Wait until the fish is really cold. Then place it on top of the glass.
- 4 Watch the inside carefully. You should see a 'cloud' form near the top of the glass.

Source: WMO



can control many climate features in its region, since changes in the ocean result in characteristic changes in the atmosphere. In turn, this alters climate and weather patterns across the globe (including South Africa).

El Niño (Spanish for 'little boy') is the warming of sea-surface temperatures in the



equatorial Pacific Ocean which influences atmospheric circulation, and consequently rainfall and temperature. For South Africa this usually means hot temperatures and less rainfall. In other parts of Africa, notably on the eastern coast, the El Niño phenomenon has been known to cause heavy rainfall and floods.

El Niña (Spanish for 'little girl') is the cooling of sea-surface temperatures in the equatorial Pacific Ocean which influences atmospheric circulation, and consequently rainfall and temperature in specific areas around the world. The effects of El Niña tend to be opposite to those of El Niño. □

DID YOU KNOW?

- Every minute of the day the Earth receives about 900 million tons of rainfall.
- Réunion, a small island in the Indian Ocean, holds the record for receiving the most rain in a week's time. It was set in February 2007 when a powerful storm poured more than 5 metres of rain on the island.
- The lowest recorded rainfall in the world is in Arica, northern Chile. On average, less than 1 millimetre of rain falls every year.
- The heaviest annual rainfall in the world was recorded at Cherrapunji, India, where 26 470 millimetres of rain fell between August 1860 and 8 January 1861.

Source: *World Meteorological Association*

OTHER RESOURCES

www.weathersa.co.za
www.weatherwizkids.com
<http://eo.ucar.edu/webweather/>
<http://www.theweatherchannelkids.com/weather-games/>

SEE A RAINDROP

For this experiment, you will need:

A shoebox lid	Ruler
Flour	Bowl
Fine mesh sieve	

Instructions:

- 1 Fill the shoebox lid with flour.
- 2 Use the ruler to smooth out the top, so that it is level.
- 3 When it rains, hold the shoebox lid out in the rain until about 15 to 25 raindrops have fallen into the flour. Bring the lid inside to see what you have found.
- 4 Set the sieve over the bowl. Carefully pour the flour from the lid into the bowl. Shake the sieve gently.
- 5 The little lumps left behind are preserved raindrops. Carefully dump them out onto a table and measure them.

Explanation:

Most raindrops are relatively small because big ones usually break apart as they fall. Raindrops usually vary in size from 0,2 mm to 0,6 mm in diameter. The world's biggest raindrop fell near Hilo, Hawaii. It only measured 8 mm across (that's smaller than your baby fingernail).

Source: www.weatherwizkids.com

