

Whitmore High School

Year 8 Geography

# EXTREME ENVIRONMENTS



## DESERTS

Name: .....

## What is a Desert?

1) Fill in the blanks in the paragraph below using the words in the list:

*Antarctica*      *1 metre*      *10*      *250mm*      *ice*      *temperature*  
*pebbles*      *Asia*      *25*      *rainfall*      *salt*      *sunshine*

A desert is an area of the World with fewer than \_\_\_\_\_ of \_\_\_\_\_ per year. Deserts can be both hot and \_\_\_\_\_. They can be found all over the World and the largest of all is found in \_\_\_\_\_. Only about 20% of deserts contain sand, many of them are made of \_\_\_\_\_, \_\_\_\_\_ or bare rocks. Roughly \_\_\_\_ % of the Earth's land is desert.



Chihuahuan Desert, USA



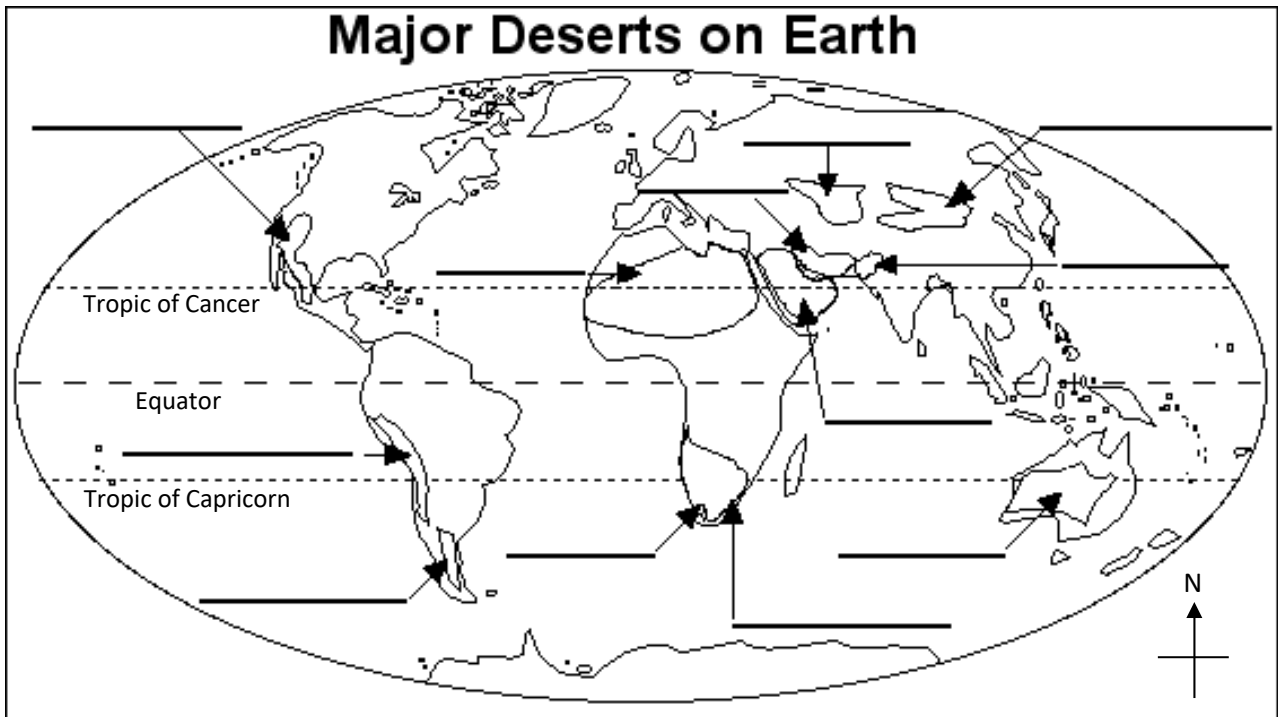
Uyuni Desert, Bolivia

2) Make a list of the words that you associate with deserts. (think of weather, people, animals etc.)

3) What are the main reasons that all deserts tend to have very few people, plants and animals living there?

## Where are the World's Deserts?

Complete the World map below by shading in the deserts and labelling them (use an atlas and the descriptions below):



**Arabian** - covering most of Saudi Arabia.

**Atacama** - running down the west coast of South America (in Chile).

**Australian** - hot deserts covering much of west and central Australia.

**Gobi** - a continental desert in central Asia, east of the Turkestan.

**Iranian** - northeast of the Saudi Arabia and west of the Thar.

**Kalahari** - covering much of the SE tip of Africa.

**Namib** - running down the SW coast of Africa.

**North American** – SW of the USA and Mexico.

**Patagonian** - in the SE of South America.

**Saharan** - a huge desert covering much of northern Africa.

**Thar** - in the NW of India.

**Turkestan** - in southern Russia.

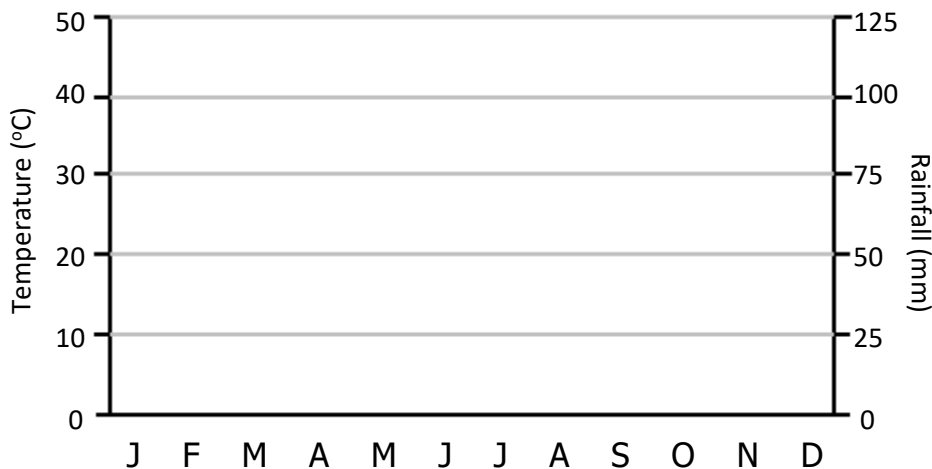
# The Climate of Hot Deserts

Read the following passage

What is the climate of hot deserts?

In the hot deserts, unlike in Britain, there is a big difference between day and night time temperatures. As the hot deserts rarely have any cloud, the sun (which is high in the sky) easily heats the ground during the day and temperatures can rise to nearly 50°C. At night, with no cloud to keep in the heat in, temperatures often fall to below freezing. Hot deserts have two seasons in a year; summers are very hot, while winters, although warm when compared to Britain, are much cooler. There is hardly any rainfall except for small amounts in the winter.

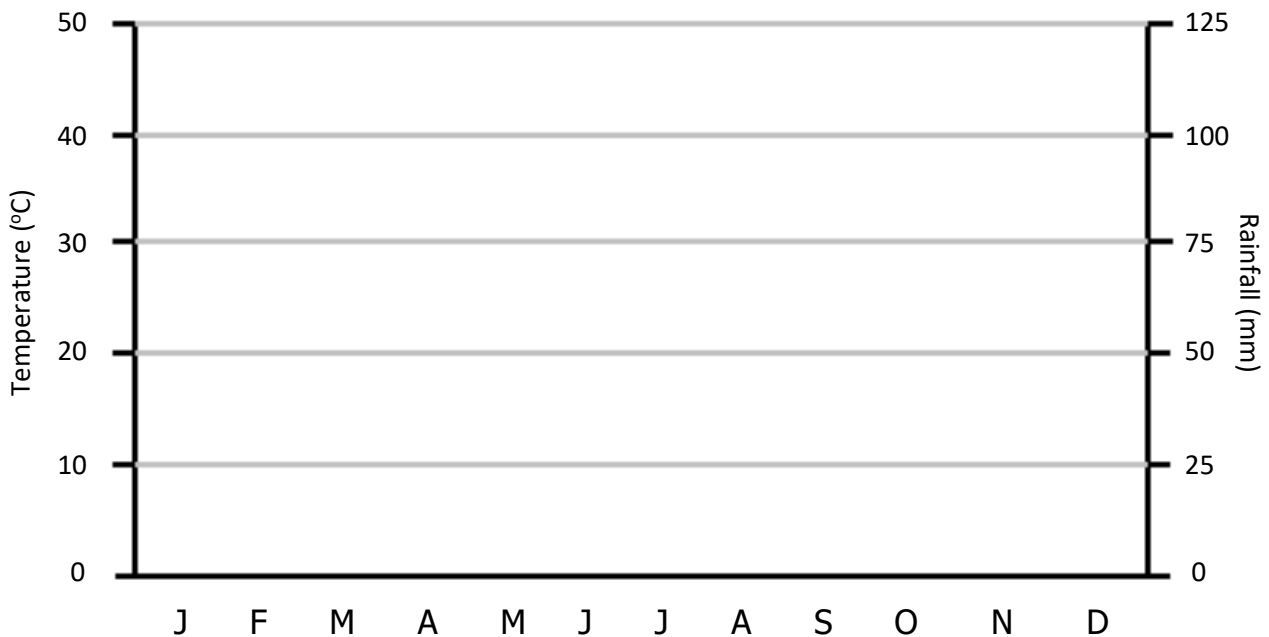
1) Use the information above to sketch a climate graph for a hot desert on the outline below:



2) Now use the data in the table to plot the actual climate data for a desert area.

	J	F	M	A	M	J	J	A	S	O	N	D
Temp °C	13	15	19	24	29	34	33	31	29	22	15	13
Rain mm	20	15	8	5	4	0	0	0	5	10	14	18

## The climate of Timbuktu, Mali



3) Cross out the underlined words that don't belong in the paragraphs below:

a) The hot desert is very (cold/hot) in (summer/winter) and during the (day/night). It is much colder in (summer/ winter) and during the (day/ night). The amounts of cloud and rainfall are (large/ small).

b) This is because in the (summer/winter) the sun is directly overhead. This (cools/heats) the ground very well. As there is (little/much) water the heat cannot (evaporate/condense) it. This means that the air remains (wet/dry) so rainfall is (common/rare).

4) Complete activities 1, 3 and 4 from your Interactions textbook page 13.

5) Produce a weather forecast for a typical summer's day in Timbuktu. Refer to temperature, rainfall, cloud cover, sunshine, wind and mention the night-time. The example on the next page may help you:

Example:

Forecast for **Barry** issued at: 1pm 5<sup>th</sup> March 2018

**Today:** Mostly dry and sunny, with light winds getting stronger later. Chance of light rain in the evening.

**Tonight:** Dry with mostly clear skies and a widespread moderate frost. Perhaps a few freezing fog patches. Patchy cloud will affect the higher areas and should keep it warmer.

**Outlook for Tomorrow:** Many places fine and sunny again, once the early fog has cleared. Clouding over during the day becoming windy and possibly wet later.

Your Forecast:

Forecast for **Timbuktu** issued at 1pm 23<sup>rd</sup> July 2019

**Today:** .....

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**Tonight:** .....

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**Outlook for Tomorrow:** .....

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## Life in the Hot Deserts

How do animals and plants survive in this extreme climate?

- Watch the DVD Planet Earth - Deserts.
- Now complete some research on one animal that lives in the hot desert. You must find the following information:
  - How it is adapted to the climate
  - What special features it has
  - What it feeds on
  - Details on its way of life
  - Pictures, maps or other information
  - Your information will be presented as an A5 leaflet
- For each of the animals and plants below, add information around the picture to explain how it is adapted to its environment:

1

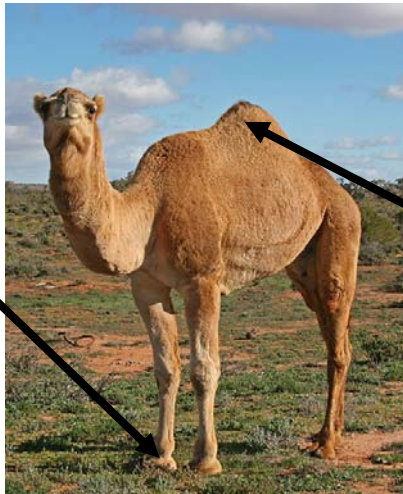
Desert Hare





2

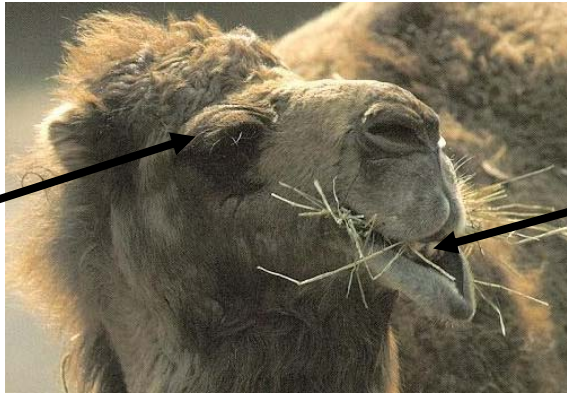
Dromedary Camel



Four horizontal lines for writing notes.

Four horizontal lines for writing notes.

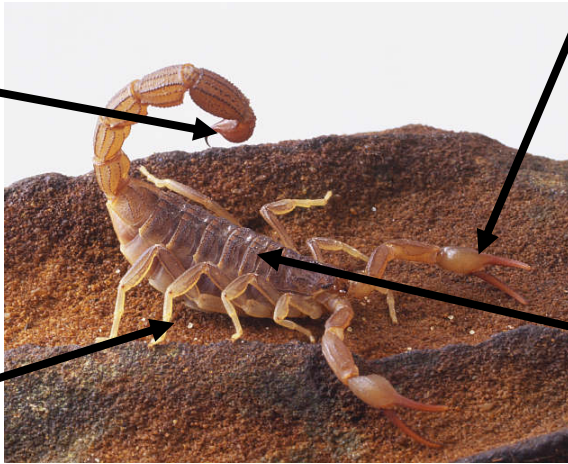
Four horizontal lines for writing notes.



Four horizontal lines for writing notes.

3

Desert Scorpion



Three horizontal lines for writing notes.

Three horizontal lines for writing notes.

Three horizontal lines for writing notes.

Colour  
Three horizontal lines for writing notes.



4

Roadrunner

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5

Barrel Cactus

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6

Tumbleweed

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## Your Desert Animal

- Produce your own animal adapted to life in the harsh desert environment.
- Use ideas from the animal on the previous pages and your own research.
- Think of the adaptations required for this environment and incorporate as many of these as you can (see below).
- Draw your animal and add detail around it to explain how it is adapted.
- Give information on its size, weight, what it eats and how it lives in this environment.

### Desert adaptations

Store water

Conserve water

Burrow

Avoid the heat

Hibernate

Stay near water

Lose heat

Eat anything

Be poisonous

Move quickly

Have tough skin

Store food

# Living and Surviving in the Hot Desert

1) Watch the DVD Sahara and take notes on how the native people of the area survive. Use the headings below to help:

Clothing: .....

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.....  
.....



Houses: .....

.....  
.....  
.....



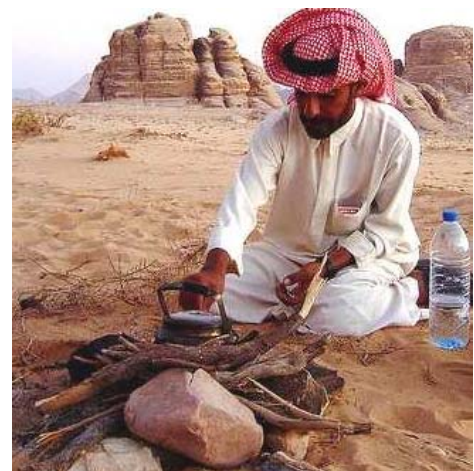
Farming: .....

.....  
.....  
.....



Food and drink: .....

.....  
.....  
.....



2) Explain what is meant by a nomadic lifestyle. ....

.....  
.....

One of the reasons that tribes in and around the Sahara desert move about is to find water and land to graze their animals on. This land is only found in a few places and in the rainy season. However there are a number of places where water is found all year round. Places like this are known as an **oasis**.



Huacachina Oasis, Peru, South America

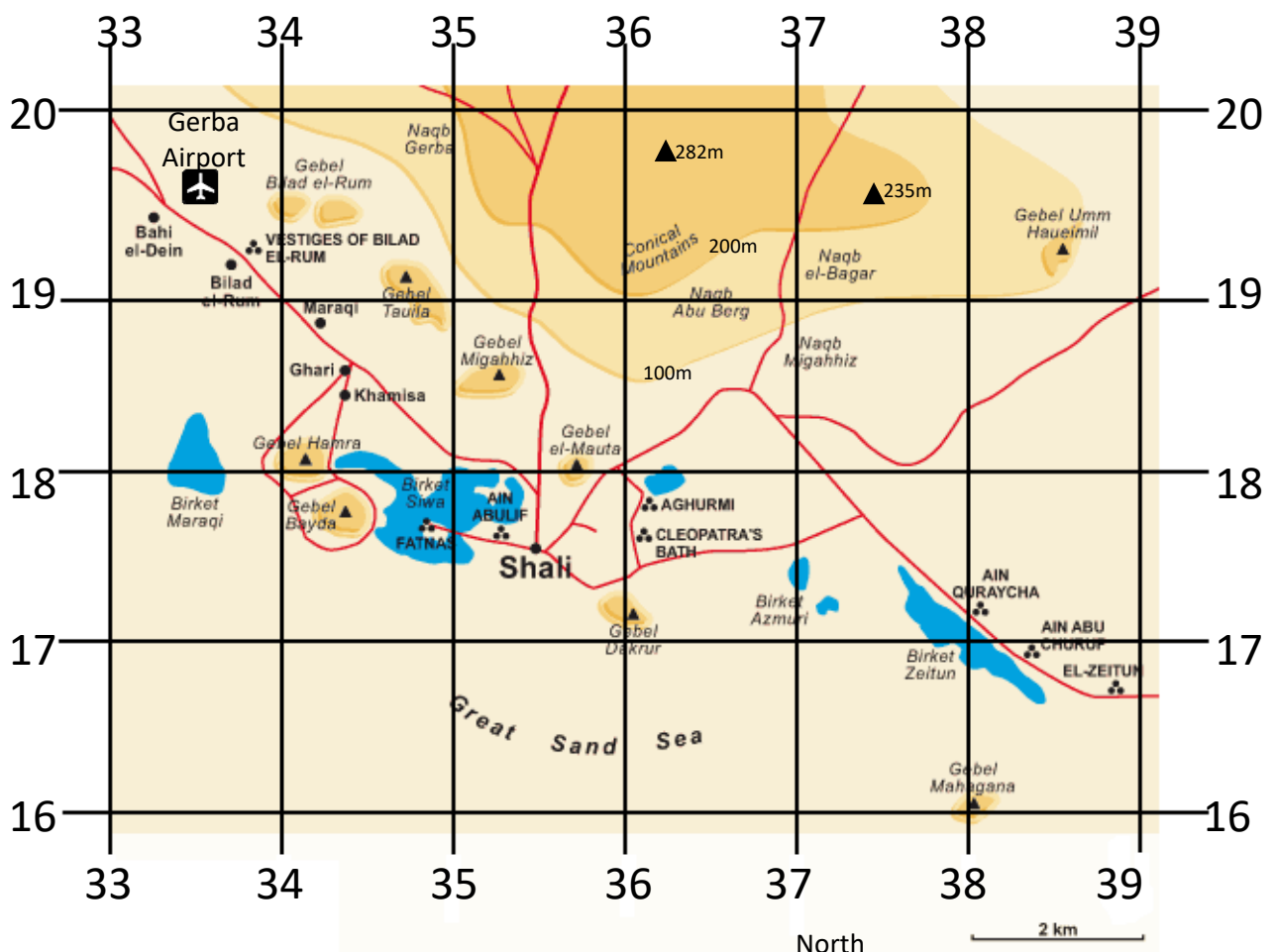
### Research Project

The oasis pictured above is a beautiful area within the Peruvian desert. It is very popular with tourists.

Your task:

- ⊕ Research the tourist facilities and activities in the area.
- ⊕ Find out what is happening to the oasis.
- ⊕ Suggest ways of making the area more sustainable in the future.
- ⊕ Your report should be on no more than one piece of A4 paper and include maps (hand drawn if you can), photographs etc.

Look carefully at the map of the Siwa Oasis in Egypt below:



**Map Skills Exercise:**

1) What is the four figure reference for:

a) Gerba Airport \_\_\_\_\_

b) Shali \_\_\_\_\_

c) Gebel Umm \_\_\_\_\_

2) What is the direction from

a) the Airport to Shali \_\_\_\_\_

b) Shali to Birket Maraqi \_\_\_\_\_

c) Birket Maraqi to Conical Mountains \_\_\_\_\_

3) How far is it:

a) in a straight line from Shali to El-Zeitum \_\_\_\_\_

b) Along the roads from Shali to El-Zeitum \_\_\_\_\_

4) What is the height of the highest point on the map?  
\_\_\_\_\_

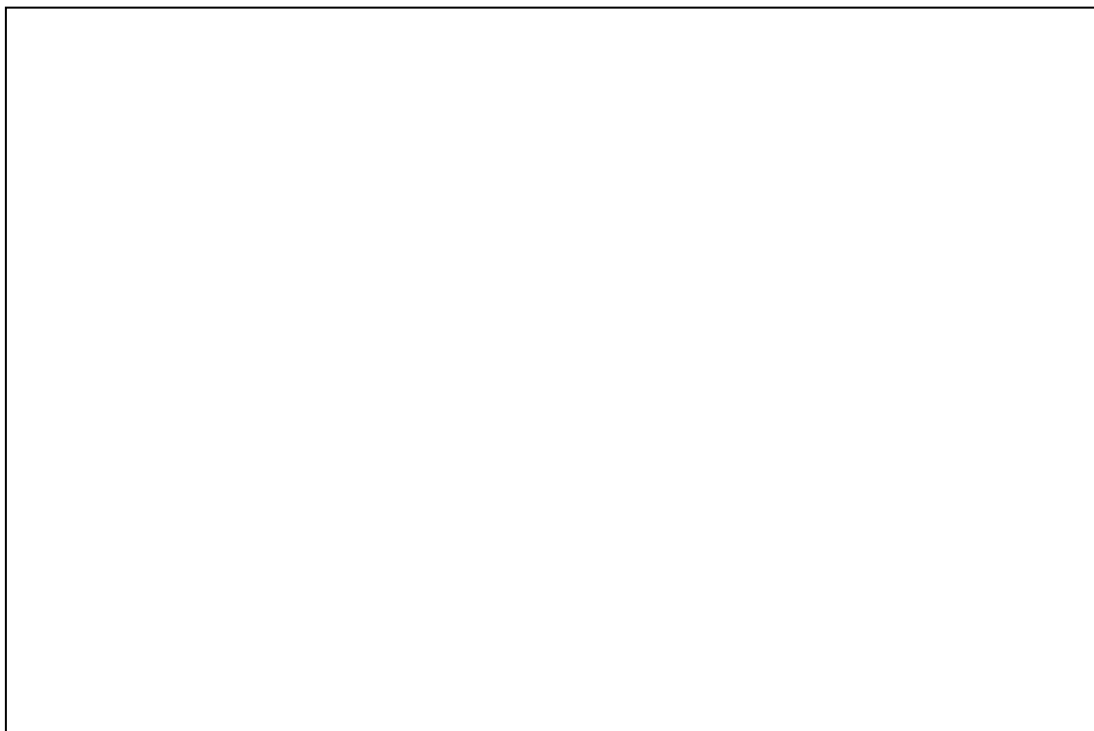
5) What is the six figure grid reference for:

a) Cleopatra's Bath \_\_\_\_\_

b) Ghari \_\_\_\_\_

c) Ain Quraycha \_\_\_\_\_

6) Draw a sketch map below to show a route from the airport to visit all of the main historic sites on the map (include scale, arrows to show the route, roads and the sites you visit).



## Tourism in the Desert

Some desert areas are very popular with tourists. Especially those: which have historic sites; offer sports activities or other unusual holidays.

- Bring in a tourist brochure or information on one of the following areas:

**Egypt**

**Morocco**

**Jordan**

**Israel**

**Australia**

**Dubai**

**Nevada, USA**



The Sphinx, Egypt



Off-roading in Morocco



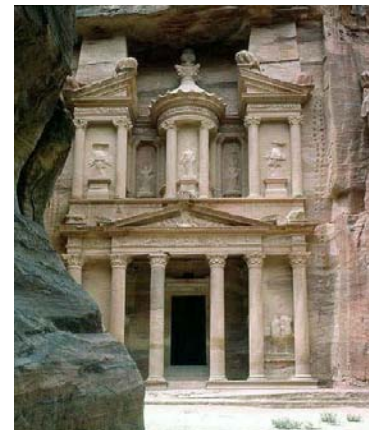
Camping, Nevada Desert



Sand Skiing, Morocco



Golf in the desert, Dubai



Camping, Nevada Desert

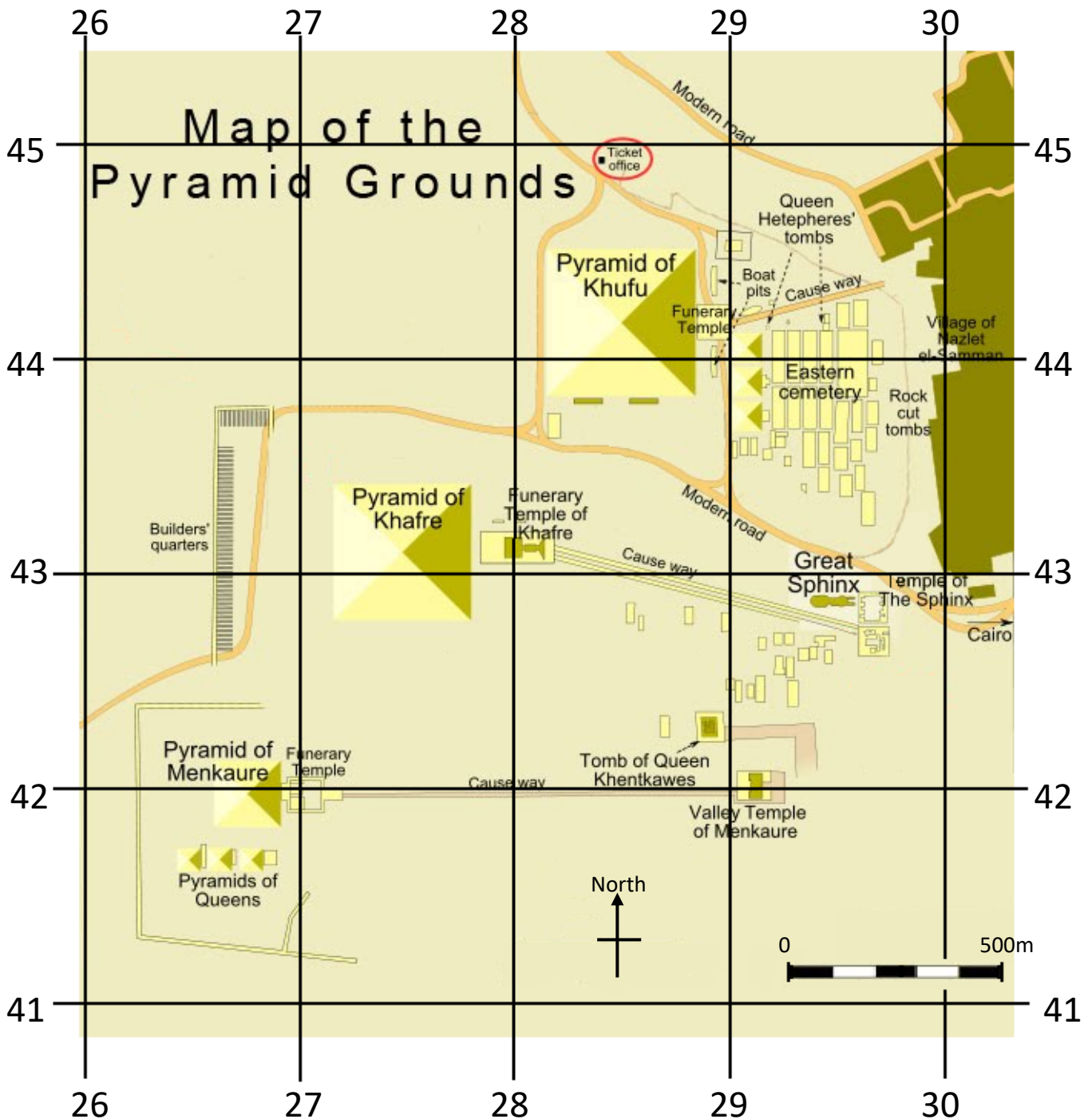
### Exercise:

- Design a holiday brochure in the area you have researched.
- It should be in the form of a tour taking in many of the sites and activities on offer. Include maps, pictures etc.

# EGYPT

Egypt has some of the most famous historic sites in the World

Look carefully at the map below of the sites at Giza:





## Exercise:

Use the map on the previous page to produce a guide to the sites at Giza on A3 paper. It should include:

- a sketch map in the centre
- pictures of the sites
- a description of the route (use grid references, directions, distances)
- any other information that you can find



Pyramid of Khufu



Pyramid of Menkaure



Temple of the Sphinx



Temple of Queen Khentkawes



Pyramid of Khafre



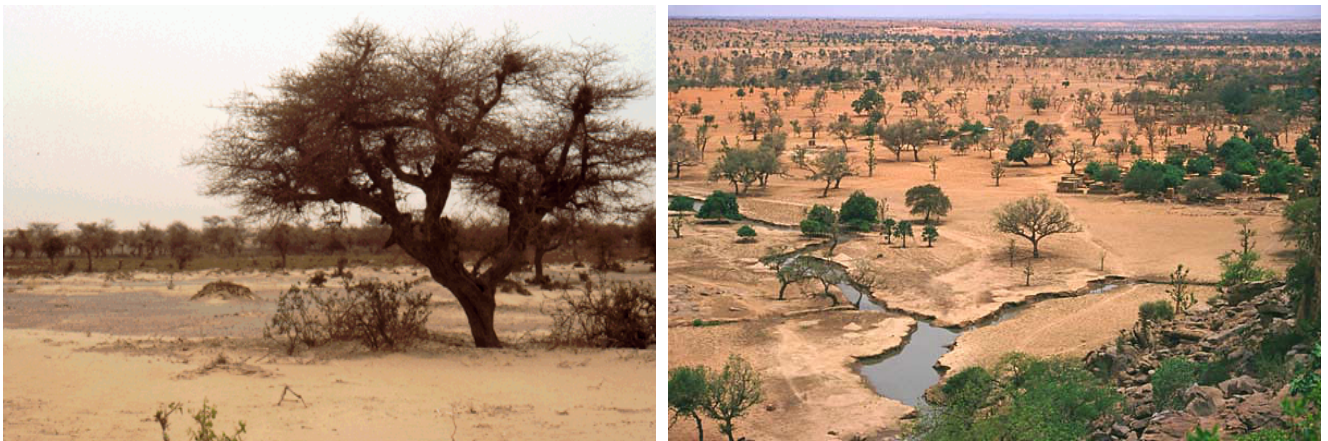
The Great Sphinx

# The Future for the World's Hot Deserts

Although not much is likely to change in the actual hot deserts of the World, the fringes of these deserts are changing. These semi desert areas are very 'fragile' environments. Many of these semi-arid (dry) areas are turning into desert. This process is known as **desertification**.

## Desertification

This is when land turns to desert because the land is over-used or because the climate is changing.



Semi-arid scrub land in central Africa

1) Describe the land in the picture above. \_\_\_\_\_

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2) Why is this environment described as fragile?

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3) Describe the location of the semi-arid areas on the map below: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



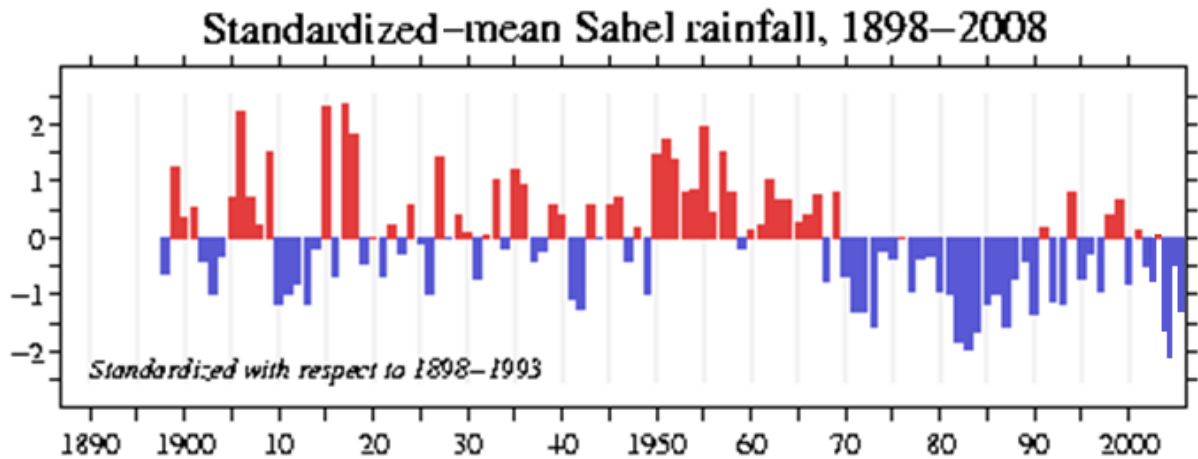
4) Use an atlas to name six countries that are in the Sahel region of Africa:

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.....	.....
.....	.....

5) Use the graph below to explain why the Sahel has had many droughts in the last twenty years. \_\_\_\_\_

\_\_\_\_\_

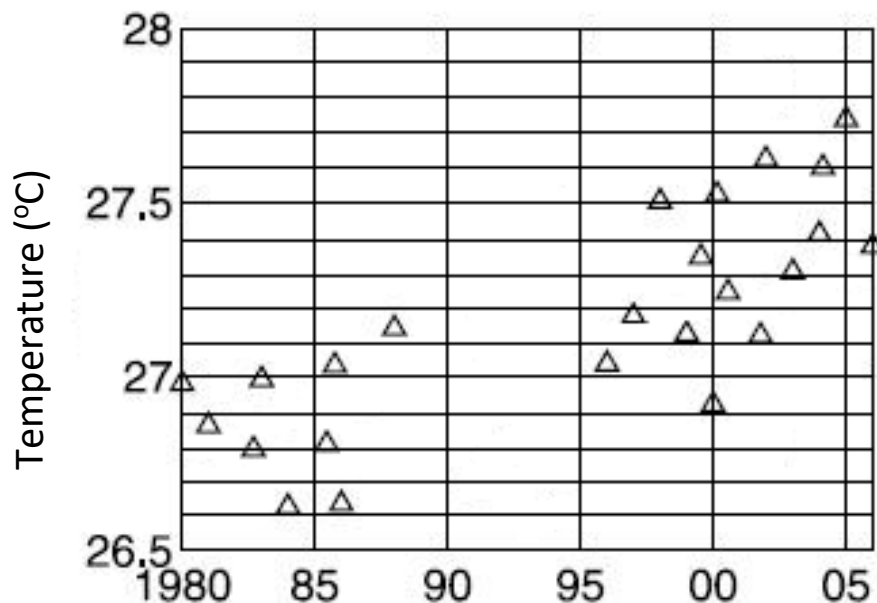
\_\_\_\_\_



6) Look at the climate data for the Sahel below. The figures for 1990–95 are not on the graph.

a) Add them from the table below:

1990	1991	1992	1993	1994	1995
26.9	27.1	27.3	27.3	27.4	27.3

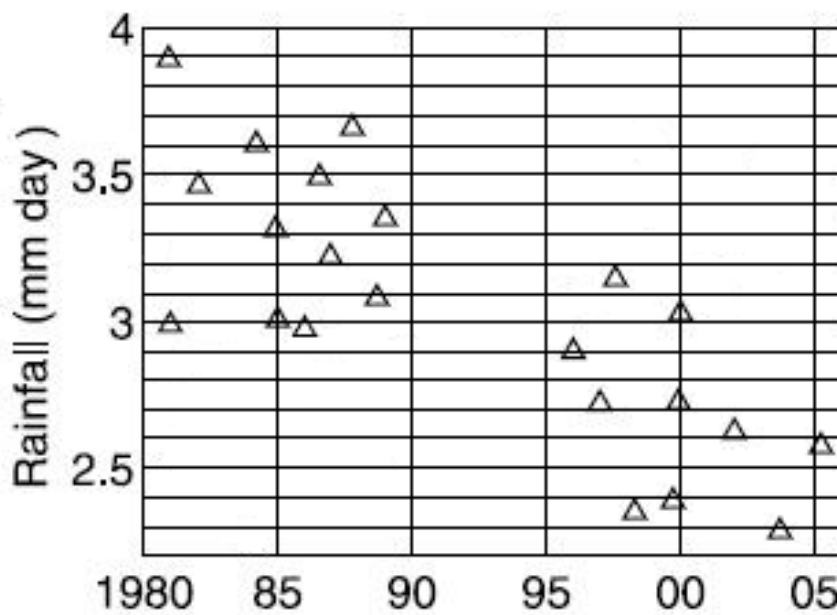


- b) Add a best fit line onto your graph.
  - c) Describe the trend shown by the graph.
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7)

- a) Now complete the graph for rainfall using the figures below:

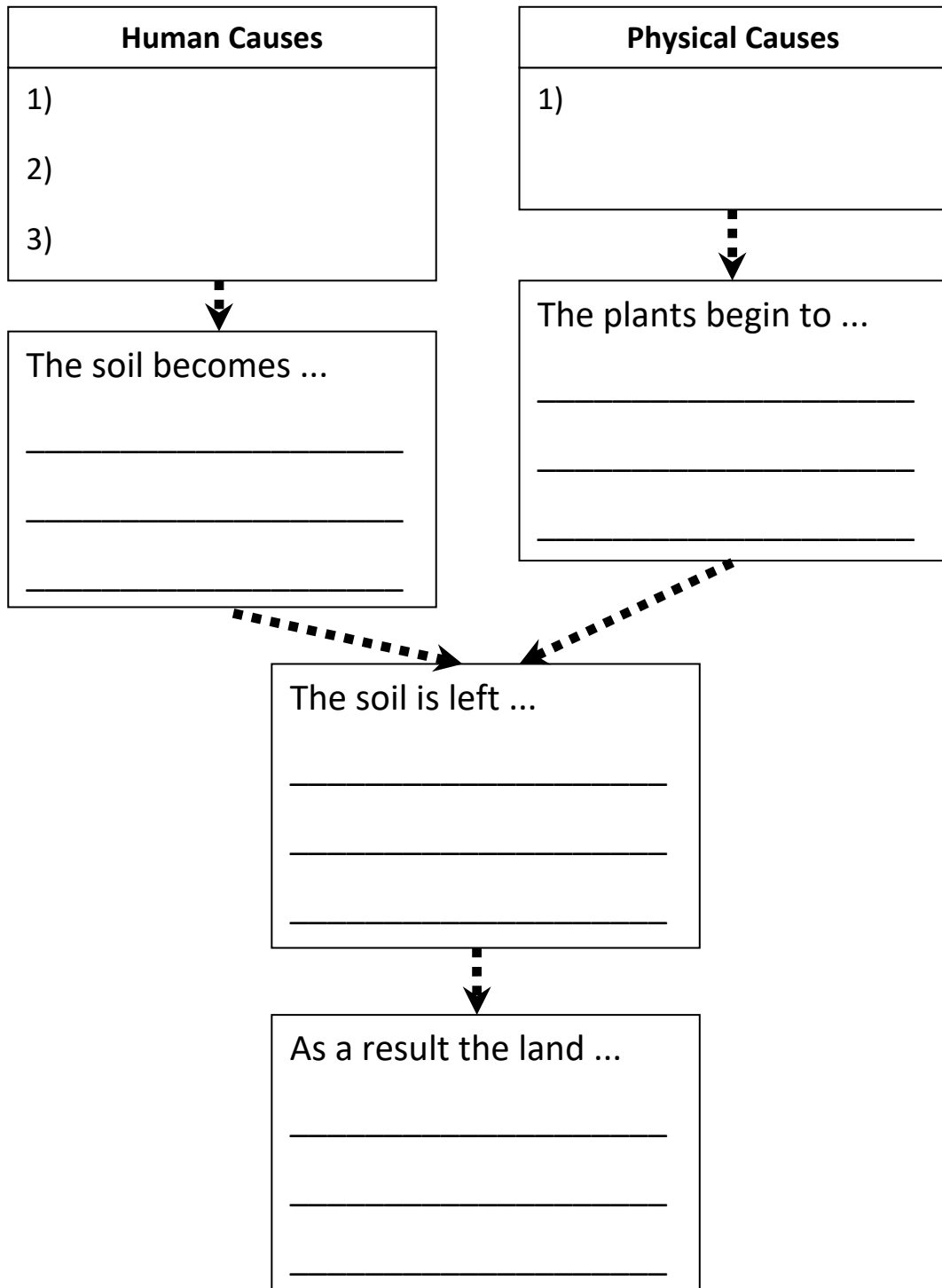
1990	1991	1992	1993	1994	1995
3.3	3.4	3.1	2.9	2.9	2.7



- b) Add a best fit line onto your graph.
  - c) Describe the trend shown by the graph.
- 
-

8) After watching the video and the PowerPoint complete the questions below:

a) Complete the diagram below to show how desertification happens:



9) Complete the exercises on soil erosion from the Interactions textbook pages 35-36.

10) What are the results of widespread drought and desertification likely to be on poor LEDCs in Africa (discuss with your partner and write down your ideas).

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11) Describe and explain different methods used to try and prevent desertification from happening:

Farming Methods:

Water Saving Methods:

Other Methods: