

Name: _____

Geography

Homework Booklet



Year 8

Term 4: Climate change and desertification

Homework 1	Learn keywords	Due date:	Completed?
Homework 2	Guided Reading Activity	Due date:	Completed?
Homework 3	Prepare for knowledge test	Due date:	Completed?

Geography Homework Tasks Term 4

Homework 1 - Learn the keywords below for a mini test. You could read through the words, write them out, create a match up activity or get someone to test you.





Keyword	Definition
Climate	The long term average weather conditions (Measured over 30 years)
Global warming	The rise in average temperatures around the world.
Drought	A long period of time without rain.
Famine	An extreme shortage of food, often due to crops dying.
Greenhouse gases	Gases that trap and reflect heat back towards the Earth.
Desertification	When a dry region become even drier, often because the area has been stripped of vegetation (plants) leading to soil erosion.
Desert	An area that gets very little rain. You can get hot and cold deserts.
The greenhouse effect	The trapping of the sun's warmth in the atmosphere, acting like a blanket around the Earth.

Homework 2 – Complete the guided reading activity below.
You may wish to write your answers out on paper, so you have more space.

Homework 3 - Learn the facts below, and in the knowledge organiser at the end of this booklet, for a knowledge test next lesson. You could highlight the key information, create revision cue cards or get somebody to test you.

Take 10 UK Climate Change

Case study knowledge is important. Learn these 10 facts and apply them to your 6 and 8 mark questions.

<p>Sea levels could rise, covering low lying areas e.g. East Anglia.</p> 	<p>Scottish ski resorts may have to close to the lack of snow.</p> 
<p>Droughts and flood become more likely as extreme weather increases.</p> 	<p>There will be an increased demand for water in the hotter summers.</p> 
<p>Crops such as oranges, grapes and peaches could be grown in a hotter climate.</p> 	<p>London could be at risk as the Thames Barrier is unlikely to cope with sea level rise.</p> 
<p>In 1997 the UK signed up to the Kyoto Protocol to limit carbon emissions.</p> 	<p>In 2015 the UK signed the Paris Accord to keep global warming below 2°C.</p> 
<p>National strategies: Investment in nuclear/renewables, public transport upgrades, car taxation, etc.</p> 	<p>Local strategies: park and ride, bike hire schemes, congestion charges, car sharing, etc.</p> 

5 What has caused the Arctic shipping route to open up?

6 How many risks has the climate risk assessment report released?

7 How much does the damage caused by flooding cost each year?

1 What could be the cost of flooding in the UK by 2050?

2 Why will there be hosepipe bans frequently?

3 What are the impacts of hot weather?

4 What are some of the opportunities the UK is facing?



Climate change will make UK new holiday destination

Southern European tourists may come to the UK to escape increased heat while British holidaymakers will remain here rather than travel to France or Spain, according to a report by the Department for Environment, Food and Rural Affairs.

But the main risk is that global warming will cause flooding that could cost up to £12 billion every year because of heavy rainfall in the winter and rising sea levels, affecting up to 3.6 million people by 2050.

There will also be regular hosepipe bans because of droughts, especially in the South East where there is already a shortage this winter. Hot weather will kill crops, devastate wildlife and increase risk of diseases.

Heatwaves could kill up to 6,000 more people every summer by the 2050s and businesses will lose up to two days as employees struggle to work in the heat. However there are also "opportunities" for the UK in reduced energy bills during warmer months, up to 24,000 fewer deaths from the cold in winter and growth in new crops like peaches or sunflowers.

The opening of the Arctic shipping route due to ice melt will make it easier and cheaper to transport goods and some species of fish, like plaice and sole, should become more abundant around the UK.

"Hotter summers and warmer year-round temperatures may make the UK a more attractive for foreign and domestic holiday makers. In particular, the UK could be well placed to attract visitors deterred by the uncomfortably high temperatures in southern Europe projected to result from climate change," read the report.

The Climate Risk Assessment Report sets out the 100 greatest risks for the UK over the next century due to rising temperatures predicted by the Met Office.

Flooding, that currently causes £1.3 billion worth of damage every year, is expected to become a massive problem, costing £12 billion per year not including surface flooding. The impact will also be felt on health with the number of people killed by floods increasing from 18 today to up to 52 by the 2050s and the number of people affected mentally rising from up to 7,000 to 11,500.

At the same time a lack of water will also be a problem. In the South East and Anglia, where there is already currently a drought, most people will be considered to be living under "water stress" meaning water meters will have to be introduced and there may be restrictions imposed.

Caroline Spelman, the Environment Secretary, pointed out that the floods in

2007 cost £3 billion in England alone. She warned that failure to prepare for further disasters will cost even more unless preparations are made now. "This world class research provides the most comprehensive case yet on why we need to take action to adapt the UK and our economy to the impacts of climate change," she said. "It shows what life would be like if we stopped our preparations now, and the consequences such a decision would mean for our economic stability." Sir Bob Watson, Defra's chief scientist admitted it was a "mixed bag" for the UK.

Although tens of thousands of people in Britain may be saved by more warm winters there will still be cold snaps. He also pointed out that other problems will emerge because of the effect of climate change on other parts of the world. For example food prices are expected to go up because of droughts in the main agricultural areas, water shortages could cause more conflict and millions of people will become "climate change refugees". "If we have a warmer world we should then in principle have the adverse effects of heat stress mortality but at the same time it should be off set by less people dying by winter," he said.

8 What does 'water stress' mean?

9 What may happen if we don't prepare for flooding?

10 How could the climate save thousands of lives in the winter?

12 Why may there be greater conflict over water?

11 Why could food prices rise across the world?

Knowledge Organiser: Climate change and desertification

Overview of topic		Keywords
<p>What is climate change? What is the greenhouse effect? What are the main causes of pollution? What are the impacts of climate change? How do the impacts of climate change vary in different countries? How can we reduce the effects of climate change? What are governments doing to combat global warming? What is desertification? How will climate change affect desertification?</p>		<p>Climate - The <u>long term</u> average weather conditions (Measured over 30 years) Global warming - The rise in average temperatures around the world Drought - a long period of time without rain Famine - an extreme shortage of food, often due to crops dying Heatwave - a period of extremely hot weather Greenhouse gases - Gases that trap and reflect heat back towards the Earth Desertification - When a dry region become even drier, often because the area has been stripped of vegetation (plants) leading to soil erosion. Desert - An area that gets very little rain. You can get hot and cold deserts.</p>
Key concept #1 <i>What is the difference between weather and climate?</i>	Key concept #2 <i>What are the effects of climate change around the world?</i>	Greenhouse effect - The trapping of the sun's warmth in the atmosphere, acting like a blanket around the Earth.
<p>Climate is the long term, average weather. This is different in different part of the world. In our last topic we looked at different ecosystems and how they were spread around the world. Each ecosystem has a different climate, and they all have different day to day weather patterns. <u>Climate change</u> is the <u>long term</u> change in the average weather conditions in an area.</p>	<ul style="list-style-type: none"> - <u>More violent</u> storms - Melting of sea ice - More droughts - Sea level rise - Coral bleaching - Crops will die, causing famine. - Changes in weather patterns - Habitat loss for wildlife - Increased risk of disease 	<p style="text-align: center;">The Greenhouse Effect</p> <p>The diagram illustrates the greenhouse effect in five steps: 1. The sun's radiation travels toward the earth. 2. About half is reflected or absorbed by clouds and the atmosphere. 3. The rest reaches the earth, where it is absorbed by oceans and land. 4. The earth also releases heat back toward space. 5. Some of this heat passes directly through the atmosphere. 6. But most of it is captured and retained by greenhouse gases.</p>
Key concept # 3 <i>How can we adapt to climate change?</i>		Geographical Skill - Interpreting a line graph
<p>Many families may choose to become <u>environmental migrants</u> and move their entire families to greener areas where there is more water and vegetation for their animals (like in Ghana). Low-lying islands, like the Maldives have paid to add sand to some islands to stop them becoming underwater by 2050. Re-planting trees can reduce the amount of CO_2 and increase oxygen levels instead. This can also prevent desertification.</p>		<p>The graph shows that global average temperatures have increased by $1.2^{\circ}C$ from 1880 to 2016. Average temperatures increased the most from 1970 - 2020. This is shown on the graph by the line being steepest between 1970 and 2020.</p>