

**Global Dimension & Climate Change- Flooding
KS3 - Scheme of Work**

Overview: This Module is designed to use creative methods to help explore more directly the global dimension and climate change impacts, such as flooding. Pupils will explore physical issues related to flooding such as the built environment, health and biodiversity, as well as consider equality, justice, politics and economy related to flooding. Pupils will also be able to investigate how communities affected by flooding may become more resilient to impacts of climate change and reduce their risk and susceptibility to flooding.

Most children will: be able to explain the physical and socio-economic impacts of flooding in two different countries. They will also be able to analyse how flooding affects the incidence of diseases and biodiversity loss and suggest measures to help communities prevent and prepare for flood risks.

Some children will not have made so much progress and will: be able to suggest how flooding in these two countries are different and why this affects flood impacts and general susceptibility to flooding.

Some children will have progressed further and will also: be able to identify and understand inequalities in each location and how these can increase or decrease susceptibility to flooding risks in the long-term.

Learning Objectives	National Curriculum & Cross Curricular	Key Resources:
<p>Pupils will be able to provide examples of the impact of water around the world.</p> <p>Pupils will be able to describe the consequences of flooding around the world.</p> <p>Pupils will be able to make comparisons between the impacts of flooding in different places around the world.</p> <p>Pupils will be able to suggest how flooding may impact the biodiversity of an area.</p> <p>Pupils will be able to provide specific examples of biodiversity loss due to flooding.</p>	<p>Geography – weather and climate, population and urbanisation</p> <p>Art</p> <p>Technology</p> <p>English</p> <p>Maths</p> <p>ICT</p> <p>Literacy / Numeracy</p> <p>Creativity</p>	<p>Powerpoint files</p> <p>Post-it notes</p> <p>Computers/laptops</p> <p>Design/craft materials</p> <p>Hose pipe/water</p> <p>Rulers/graph paper</p> <p>ICT/Internet usage is encouraged in this Module, so it may be helpful to book access in advance; otherwise may print relevant website pages and disseminate to students.</p> <p>Overall Outcome:</p> <p>Pupils will become more aware of the consequences of flooding in two different parts of the world, and the vast range of impacts that flooding can have on humans, organisms and the environment. They will be able to make connections with the global significance of climate change.</p>
<p>Pupils will recognise the ways in which flooding and diseases are linked.</p> <p>Pupils will be able to suggest why some diseases spread following flooding.</p> <p>Pupils will recognise that there is a difference in preparedness for flooding between the UK and Pakistan, and differences are linked to recovery from floods.</p> <p>Pupils will be able to describe some basic flood defences.</p>	<p>Vocabulary:</p> <p>Flooding</p> <p>Biodiversity</p> <p>Disease</p> <p>Cholera</p> <p>Dysentery</p> <p>Flooding preparedness</p> <p>Design & structure (buildings)</p> <p>Global</p> <p>Rights</p> <p>Entitled</p> <p>Poverty</p> <p>Equality</p> <p>Adaptation</p> <p>Ecosystem</p> <p>Survival</p> <p>Extinct</p> <p>Susceptibility & risk</p>	<p>Assessment:</p> <p>Various tasks can be assessed throughout this SoW, from literacy activity to the testing of design/structure of homes in flooded areas. It depends on whether the work is completed as a citizenship lesson or within a particular subject.</p> <p>Unit Extension</p> <p>The overall topic could be extended by investigating drought and how this affects two different parts of the world. Similar things (e.g. susceptibility and risk, preparedness and prevention, disease, biodiversity etc.) could be compared and reasons why drought is happening could be addressed (i.e. linked to climate change).</p>



Learning Objectives	Key resources	Suggested Activities	Cross-curricular & other	Outcomes	Extension(s)
(1) Thinking about too much water					
<p>1. All pupils will be able to provide examples of the impact of water around the world.</p> <p>2. Most pupils will be able to describe the consequences of flooding around the world.</p> <p>3. Some pupils will be able to make comparisons between the impacts of flooding in different places around the world.</p>	<p>Session1_Flooding.ppt (available to download)</p> <p>Computers/laptops</p> <p>World map</p> <p>Post-it notes</p> <p>Post card materials (e.g. crafts, pictures from magazines etc.)</p>	<p><u>Introduction:</u> Use 'Session1_Flooding.ppt' to help explain that the topic of this Module will be to investigate water and impacts of flooding around the world (linked to climate change). In this session, they will be looking at flooding specifically in Cockermouth. Cumbria and Nowshera, Pakistan. Explain to pupils there are many differences between these places (geographically, socially, politically etc.) and illustrate this on a map.</p> <p><u>Questions & Research:</u> Pupils are given a post-it note and have to think of one question that they have about flooding and stick it on the board. These will be reviewed at the end of the topic.</p> <p>Give pupils time to explore and read the following news reports and information from websites (or find their own)*:</p> <p>Pakistan: www.bbc.co.uk/news/world-south-asia-12308913 (article only, not video) www.telegraph.co.uk/news/worldnews/asia/pakistan/7935485/Pakistan-floods-disaster-is-the-worst-in-the-UNs-history.html http://news.nationalgeographic.com/news/2010/08/100812-russian-wildfires-pakistan-floods-global-warming-science-environment www.floodvictimshelp.com</p> <p>Cockermouth: http://news.bbc.co.uk/1/hi/8366360.stm (article only, not video)</p> <p>*For the BBC and other newspaper articles, ask pupils to: read the newspaper article. Then read it again and identify the effects of flooding on:</p> <ul style="list-style-type: none"> • People • Buildings • Environment 	<p>Geography, Science, Citizenship, English, Group work, Literacy.</p>	<p>Pupils will begin to explore why water is important, different values of water in different parts of the world, and the impacts too much water can have in different parts of the world.</p>	<p>Undertake the 'Water Shortage in Kenya' resources available through the TES - Four KS3 lesson plans focussing on global water shortage.</p> <p>http://www.tes.co.uk/teaching-resource/Water-Shortage-in-Kenya-6036210/</p>

		<p>Ask pupils to consider what might have caused the floods and also how the causes and effects of the floods may be different in different parts of the world.</p> <p><u>Postcard task:</u> In pairs, ask pupils to create postcards from young people for each of Cockermouth and Nowshera, Pairs may swap their postcards with other teams to reply - have them think of questions they want to ask about each place and consider what they thought about from the Wants and Needs task. Discuss as a class.</p> <p><u>Brainstorm:</u> Get pupils to think of how water is important in our everyday lives and what we would do if we had very little or too much water. Discuss flooding – how is it linked/not linked to climate change? (e.g. extreme weather leading to river flooding, surface water flooding (i.e. overflowing storm drains/sewers), or coastal erosion – is all flooding linked to climate change? Climate change may increase the frequency and severity of extreme flood events, but also human behaviour plays a part, e.g. building too close to the sea or in flood plains, or not having modern drainage infrastructure may increase otherwise low risks of impact to human society). Ask pupils to suggest how/why the impact of flooding may differ in different parts of the world.</p>			
(2) Introduction to the impact of flooding in 2 different countries					
<p>1. All pupils will be able to suggest how flooding affects communities around the world.</p> <p>2. Most pupils will be able to compare the impacts of flooding between the UK and Pakistan in terms of impact and response/recovery in detail.</p>	<p>Session2_Flooding.ppt (available to download)</p> <p>Video playing facilities</p> <p>Computers/laptops</p> <p>Design/craft materials</p> <p>Hose pipe/water</p> <p>Area to use to</p>	<p><u>Photo Task:</u> Show 'Session2_Flooding.ppt'. Photographs of flooded places are shown with a before and after approach. Ask pupils where they think these photos may have been taken and why there are many differences. Get them to write down how they think the people in the images are feeling.</p> <p><u>Video:</u> Show pupils http://www.terre.tv/en/1425_minimising-flood-risks-in-europe-through as an introduction to flooding in Europe and the effects that it can have. Then shown them www.youtube.com/watch?v=67QP0DAUleI Ask pupils to draw a table comparing the two case studies with cause, effect and consequences as sub titles on the tables.</p> <p><u>Building a house:</u> Ask pupils in teams to research housing design and structure differences between Pakistan and the UK. They should focus</p>	<p>Science, Geography, Citizenship, English, Group work, Literacy, Art, technology.</p>	<p>Pupils will begin to make linkages between severity of flooding impact and the ability to respond/recover in different parts of the world, and give reasons for these differences.</p>	<p><u>Letter writing task:</u> Pupils can summarise their findings in a letter to the Prime Minister explaining what we they have learnt about flooding at home and abroad. Ask pupils to read out some examples.</p>

<p>3. Some pupils will be able to suggest why there are differences in flood impact and response/recovery between different places around the world.</p>	<p>simulate flooding</p>	<p>their research on design, structure and images of what buildings look like.</p> <p>Subsequently, pupils can build their structures and test using hose pipe or bucket of water. Ask pupils to time how long it takes to knock the houses down/significantly damage the building and what they conclude from this.</p> <p><u>Comparison:</u> Pupils to consider and suggest why there are differences in housing design and structure between the UK and Pakistan, with economical reasons highlighted. Produce information cards to summarise these differences and why they occur.</p>			
<p>(3) Flooding and biodiversity</p>					
<p>1. All pupils will recognise the impact of flooding on species of plants and animals in flood hit areas.</p> <p>2. Some pupils will be able to give specific examples of the loss of biodiversity due to flooding between the UK and Pakistan.</p> <p>3. Some pupils will be able to explain why there are differences in the prevention and recognition of the loss of biodiversity due to flooding in different parts of the world.</p>	<p>Session3_Flooding_Biodiversity.ppt (available to download)</p> <p>Computers/laptops</p>	<p>Show 'Session3_Flooding_Biodiversity.ppt'.</p> <p><u>Newspaper article task:</u> Pupils are given a news article which they looked at in Session 1 either on the flooding in the UK or on the flooding in Pakistan. They need to review the article and now consider the effects of flooding on plants and animals and present these to the class. These can be summarised on the board and discussed.</p> <p>Pakistan: www.bbc.co.uk/news/world-south-asia-12308913 (article only, not video) www.telegraph.co.uk/news/worldnews/asia/pakistan/7935485/Pakistan-floods-disaster-is-the-worst-in-the-UNs-history.html http://news.nationalgeographic.com/news/2010/08/100812-russian-wildfires-pakistan-floods-global-warming-science-environment www.floodvictimshelp.com</p> <p>Cockermouth: http://news.bbc.co.uk/1/hi/8366360.stm (article only, not video)</p> <p><u>News report:</u> Pupils work in pairs and are provided with one topic to research:</p> <ul style="list-style-type: none"> • Sugar cane and cotton in Pakistan • Buffalo and cows in Pakistan • Cows and sheep in Cockermouth 	<p>Geography, Science, Citizenship, English, Group work, Literacy.</p>	<p>Pupils will understand that flooding impacts all living things in a particular area, not just human beings, and loss of biodiversity may have short and long-term impacts on society (where the flood occurred or even farther afield).</p>	<p><u>Long-term effects:</u> Pupils discuss the long-term effects of losing biodiversity (due to flooding or otherwise), with specific examples given from extinct species.</p>

		<ul style="list-style-type: none"> Wheat and Corn in Cockermonth <p>They need to research how this animal or plant has been affected by flooding and how this is impacting the population. They then need to write a short script on their findings for a nature programme and practice their performance. Pupils will present this to the class in the form of a news report and everyone will use the information to fill in an information table. Discuss the overall affects of flooding on plants and animals and link this to the economy i.e. farm animals, crops etc.</p> <p><u>Motto:</u> Ask pupils to develop a 'motto' for saving species and how they will carry this out. Ensure they think about how this can be implemented on a global scale and what kinds of strategies they need to come up with to carry it out.</p>			
(4) Linkages between flooding and disease					
<p>1. All pupils will be able to explain how flooding may increase incidence of diseases.</p> <p>2. Most pupils will be able to state specific examples of diseases in flood hit areas and explain significance of these.</p> <p>3. Some pupils will be able to consider fairness/equality to post-flooding impact between two different places.</p>	<p>Session4_Flooding_Disease.ppt and Session4_Doctors_report.doc (available to download)</p> <p>Computers/laptops</p>	<p>Introduce the session using 'Session4_Flooding_Disease.ppt'.</p> <p><u>Doctors report:</u> Pupils are given a report from a Doctor working in Pakistan following the flooding. The report explains the serious threat of epidemic diseases such as diarrhoea and cholera following the flood. The Doctor is desperately trying to cope and needs your help in this lesson.</p> <p>See also: www.guardian.co.uk/world/2010/aug/16/pakistan-floods-children-disease www.telegraph.co.uk/news/worldnews/asia/pakistan/7953864/4.6-million-Pakistan-flood-victims-still-without-shelter-UN-says.html</p> <p><u>The differences:</u> Why don't we get cholera and serious epidemics of diarrhoea in Britain? Have pupils discuss this in thinking pairs and explain their answers. Link this to healthcare in Britain and the healthcare provided in Pakistan. Discuss whether this is fair and how they feel about it.</p>	<p>Geography, Science, Citizenship, English, Group work, Literacy, Maths and data analysis</p>	<p>Pupils will explore how flooding may impact communities beyond physical infrastructure and affect the health of humans on a large scale. They will also consider how (inequality) in healthcare may affect communities differently.</p>	<p>Pupils may use the World Health Organisation website to find out about diarrhoea, cholera and typhoid. They can produce suggested treatments for these diseases in the form of a leaflet to be 'sent' to the Doctor in Pakistan.</p>
(5) Preparation and prevention of flooding					
<p>1. All pupils will recognise that there is a difference in</p>	<p>Session5_Flood_Preparedness_Prevention.ppt</p>	<p>Introduce the session using 'Session5_Flood_Preparedness_Prevention.ppt'.</p>	<p>Science, Geography, Citizenship,</p>	<p>Pupils will begin to link environment,</p>	<p><u>Money, Money, Money:</u> Ask pupils to</p>

<p>preparedness for flooding between the UK and Pakistan.</p> <p>2. Most pupils will be able to explain why there is such a difference in flooding preparedness and the impact this has on flood recovery.</p> <p>3. Some pupils will be able to explain how flood prevention works and how effective these measures are.</p>	<p>and (available to download)</p> <p>Flood prevention examples – laptops/computers</p> <p>Materials for building this.</p>	<p><u>Quote:</u> Watch the BBC news video www.bbc.co.uk/news/world-south-asia-12308913. Ask pupils what could have been done? How does this make you feel? Compare this to an interview done in Britain following the floods in Cockermouth http://news.bbc.co.uk/1/hi/8366360.stm</p> <p><u>Flood prevention:</u> Pupils are provided with the challenge of designing flood prevention measures to suit Cockermouth and Pakistan – these measures are intended to help communities adapt (i.e. becoming more resilient) to climate change impacts, of which flooding is one. Pupils may build model communities/rivers/defences, draw/sketch them to plan, or write an action plan to implement these defences. They need to ensure that their models/sketches/plans are appropriate to the UK or Pakistan.</p> <p>See examples/information for Cockermouth & Pakistan: www.ckermouthfloodactiongroup.org.uk www.telegraph.co.uk/news/uknews/6645342/Environment-Agency-failed-to-heed-flood-warnings.html www.bbc.co.uk/news/world-south-asia-11102446 www.belfasttelegraph.co.uk/news/world-news/pakistan-strengthens-flood-defences-14921026.html</p> <p>Pupils could also research methods used in China & the USA where areas are flooded including rural areas to prevent the cities being hit. Also look at Zuiderzee works and the Delta works in the Netherlands who are far along in terms of flood prevention.</p> <p>Pupils will then feedback to the class to see what they have found out and which ones are the most effective in different situations. Discuss the limitations of this in terms of cost, skills, people. How could this be improved?</p>	<p>English, Group work, Literacy, Art, Technology.</p>	<p>society, and economy when designing their flood protection measures in the UK and abroad.</p>	<p>investigate how much money is spent on flood prevention in various countries. Ask them to compare the amounts spent compared to each country's flood risks, and if these risks are likely to increase due to climate change. What do they conclude about fairness/equality susceptibility and risk?</p>
---	--	---	--	--	--

(6) Summary of the impact of flooding in 2 different countries

<p>1. All pupils will be able to summarise their findings about flooding between two different countries.</p>	<p>Session6_Flooding_Council.ppt and (available to download)</p> <p>Previous</p>	<p>Introduce the session using 'Session6_Flooding_Council.ppt'.</p> <p><u>Venn Diagram:</u> Pupils will summarise their thoughts about flooding in the UK and Pakistan using the Venn Diagram. Pakistan is one circle and the UK is the other. Common themes are included in the middle such as damage to buildings. This should allow pupils to gather their</p>	<p>Science, Geography, Citizenship, English, Group work, Literacy, Debating and</p>	<p>Pupils will consolidate their learning from previous sessions to make informed</p>	<p><u>Review of topic:</u> To summarise the entire flooding topic, pupils may use 2 post-it notes.</p>
---	---	---	---	---	--

<p>2. Most pupils will be able to suggest how flood prevention may be improved in other countries.</p> <p>3. Some pupils will be able to suggest economical and political reasons for these differences in impacts, preparedness and recovery in different countries.</p>	<p>session's resources/outcomes to refer back to</p> <p>Laptops/computer</p>	<p>thoughts for the topic and prepare them for the next part.</p> <p><u>Flooding Council</u>: Pupils are going to argue a key question covering both areas hit by flooding. They are split into two teams, with a team leader assigned to each. Pupils need to research using the material from previous lessons, books and the internet.</p> <p>They should consider in detail:</p> <ul style="list-style-type: none"> - Disease - Biodiversity - Flood defences - Infrastructure - Population and food supplies <p>Finally the Chairperson will summarise the findings of the Council and agree on an Action Plan for the future for each area.</p>	<p>public speaking skills.</p>	<p>debates and decisions about impacts of flooding in 2 very different parts of the world.</p>	<p>On one, they write one thing they have learnt in the topic, and on the other, they write one question they still have about flooding. This can be linked to the questions presented in the first session.</p>
---	--	--	--------------------------------	--	--