



The content of this unit of work is aimed at KS2, but could be adapted for use by other age groups or have additional extension activities included. It may be necessary to tailor the resources to the group of children being taught, by selecting slides and information to be included.

Please be aware that climate change can be upsetting for some pupils to learn about and discuss. Please take this into consideration when selecting which areas to discuss with your class. You know your own pupils so you may want to look at the activities and decide how you think your children will react to the specific topics.

Links to the National Curriculum

Science

- Recognise that environments can change and that this can sometimes pose dangers to living things.
- exploring the impact humans have on the environment.

Geography KS2

- Place knowledge: understand geographical similarities and differences through the study of human and physical geography of a region of the United Kingdom, a region in a European country, and a region within North or South America
- Physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle
- Human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water

LEARNING OBJECTIVE	LEARNING ACTIVITIES	RESOURCES
Starter.	<p>How much do you know about Climate Change? Ask the children the following questions to establish what they already know and use this to measure a/c at the end of the unit of work.</p> <ul style="list-style-type: none"> • What is weather? • What different types of weather can you think of and describe? • What affects the weather? • How can we measure the weather? • What's your favourite type of weather and why? • How does the weather affect your life, what you can do, and where you can go? • Can you think of different jobs that are affected by the weather? For example, farmers rely on a good balance of rain and sun for crop growth. • What is the difference between weather and climate? • What kind of climate would you like to live in? • What is climate? • What affects the climate of an area? • What is the equator, and how does it affect climate? • What is climate change, and how does it affect the weather? • What are some examples of extreme weather? • How do you feel about climate change and its effects? 	Slide 2
I can describe the difference between weather and climate.	<p>Slide 4 – Watch the video: Weather and climate. You will need to scroll down to this video</p> <p>Read through slides 5-6 - Weather</p> <p>Slide 6 – Watch the video and read the information. What Climate does the UK have?</p>	Slides 3 -8
I can keep a weather diary.	<p>Introduce the children to the weather diary by reading through slide 10. Hand out the activity sheets – weather diary and weather forecasts symbols.</p> <ul style="list-style-type: none"> • Using the Weather Diary Activity Sheet, you are going to record the weather for each day. 	<p>Slides 9-10</p> <p>Weather Diary Activity Sheet</p>

LEARNING OBJECTIVE	LEARNING ACTIVITIES	RESOURCES
	<ul style="list-style-type: none"> • For each day, draw a symbol to show what the weather is like - for example, a cloud symbol, a sun, or raindrops. • You could be as specific as you like – recording the weather just once a day, or perhaps in both the morning and evening, or even every hour. • Record the temperature (°C) each day at a specific time using a thermometer. • Measure the rainfall each day by placing a beaker outside and measuring the amount of water that fills it each day. • Measure the wind by using a bubble mixture to create bubbles and timing how long the bubbles take to drift across a metre of ground (if they just drop then there is no, or very little wind). <p>This can be carried out at home or as group work activity in the school grounds.</p> <p>You may need to demonstrate how the children can collect the data to fill in their weather dairy especially the instructions in bold above.</p>	Weather Symbols Information Sheet
I understand what Climate Change is.	<p>Slide 12 - What words do you think of when you hear Climate Change?</p> <p>Ask the children to tell you the words that they think of when they hear Climate Change and write them on flip chart paper and this can then be displayed on the working wall.</p> <p>Slide 13 – Watch the video - https://www.bbc.co.uk/bitesize/articles/z4g3f82#z2n27yc. Scroll down to the Blue Peter video.</p> <p>Watch the clip from Blue Peter as Mwaksy and Maddie find out about carbon dioxide and the pioneering work of climate scientist, Eunice Foote.</p> <p>Read the information on climate change – ask the children to decide if the statement is true or false. Every statement made is TRUE</p> <ul style="list-style-type: none"> • The climate across the world has changed naturally over thousands and millions of years. • In the past, the UK has experienced both freezing ice ages and warm tropical climates. • Over the past 100 years, more carbon dioxide has entered the Earth’s atmosphere. • The atmosphere helps to keep our planet at just the right temperature to live on. • The extra carbon dioxide in the atmosphere acts like a greenhouse. It lets the Sun's rays through to heat up everything, but stops the heat from escaping. • The increase in gases from human activity is making our planet warm much faster than it naturally would. • World climates are changing. It seems extreme weather is now happening more frequently. <p>Run through slides 14-20 Impact of Climate Change. Ask why each one shown is caused by Climate Change.</p> <p>Drought Evaporation from the ground can increase in warmer temperatures. Soil becomes dry and more heat makes more water evaporate from the ground, which can further worsen the drought as the ground has no moisture.</p> <p>Melting Glaciers, Sea Ice and Ice Sheets Greenhouse gas emissions and carbon dioxide have higher temperatures in the atmosphere. This results in cold areas warming leading to glaciers melting and calving off into the sea which raises the sea level causing more water to go on land.</p> <p>Flooding Precipitation becomes more frequent and intense due to climate change. As the oceans get warmer, this increases the amount of water evaporating into the air. When this air, full of moisture, moves over onto land it produces more severe precipitation. The land quickly becomes saturated and the water falling as precipitation cannot infiltrate the land so becomes run off that causes flooding.</p> <p>Forest Fires As the climate changes, there are more warmer and drier conditions that can increase forest fires as there is a lack of water.</p> <p>Hurricanes With the earth having a warmer and moister atmosphere, this causes warmer oceans that make hurricanes be stronger and produce more rainfall.</p> <p>Deforestation Trees absorb and store carbon dioxide. If forests are cleared, they release carbon dioxide and other greenhouse gases.</p> <p>Hunger As world temperatures and sea levels rise, it results in more droughts, floods, hurricanes and forest fires. This makes it very difficult in some areas for farmers to grow food.</p>	Slides 11-20

LEARNING OBJECTIVE	LEARNING ACTIVITIES	RESOURCES
I can suggest ways that humans can help reduce climate change.	<p>Read slides 22 and 23 that highlight the impact that Climate Change has had on the UK and the significance of 2020.</p> <p>Activity Hand out the activity sheet Save the Planet. Ask the children to work in pairs or small groups and look at each statement, discussing their ideas with each other.</p> <p>They should then write their own idea in the space available (shown with the ?) and feed this back to the rest of the class.</p> <p>Ideas could generate a class discussion.</p>	<p>Slides 21-24</p> <p>Save the Planet activity sheet</p>
I can suggest ways that The Alnwick Garden can contribute to stopping Climate Change.	<p>Read the information on slide 26 about The Alnwick Garden Carbon Reduction Plan.</p> <p>Activity – slide 27. Differentiated sheets are available for this activity.</p> <p>TAG Climate Scenario</p> <ul style="list-style-type: none"> • You are an Environmentalist and have been employed by The Alnwick Garden. • When you visited The Alnwick Garden, you visited various parts of the Garden. • On top of what The Alnwick Garden is already doing to reduce their carbon footprint, you have been asked to think of something extra that The Alnwick Garden could adopt to help reduce the carbon footprint even further. • Your ideas could be sent into The Alnwick Garden to be displayed in our Apiary • Your idea could possibly be adopted across The Alnwick Garden. <p>For any ideas that you would like to forward to us, please do this by uploading to the following email address: communityandeducation@alnwickgarden.com or sending a copy into this address: Community and Education, The Alnwick Garden, Alnwick , Northumberland, NE66 1NQ</p>	<p>Slides 25-28</p> <p>Differentiated TAG Climate Challenge activity sheets</p>
Climate Change Key Vocabulary	<ul style="list-style-type: none"> • Weather • Climate • Anemometer • Thermometer • Precipitation • Run-off • Equator • Mediterranean Climate • Temperate Climate • Ocean • North Pole • South Pole • Continent • Environmentalist • Flood • Hurricane • Drought • Carbon Footprint • Sustainable • Recycling 	<p>Slide 29</p>