

Year 3- Disaster Strikes



Term:	Summer 1
Subject focus:	Science and Design Technology
Non-Fiction:	Explanation
Fiction:	Poetry

Concepts	
Science	Design Technology
Phenomenon/Nature	Innovate/Technique/Evaluate
<p>This science focused topic gives children the opportunity to learn more about the planet Earth. With knowledge of a number of continents and countries around the world, children will now explore what is happening underneath the Earth's crust and the effects of this. Children learn about how volcanoes are formed, what happens when they erupt and the effects this has on the land and people in the area.</p> <p>Another focus of this unit is the movement of tectonic plates and earthquakes around the world. Children will learn about how people, living in places that are at risk of natural disasters, adapt their living conditions to deal with the effects of them.</p> <p>This unit explores the concepts of phenomenon and nature and prepares children for future topics where they will learn about flooding and drought (<i>Water Year 6</i> and <i>Desert Survival Year 5</i>). They will also be able to draw upon the knowledge in this topic when they go on to learn about how humans are also destroying the planet (<i>Saving Planet Earth, Amazonia- Year 4</i>).</p> <p>The children will learn how buildings are adapted in earthquake zones and the ways in which people protect themselves against this natural disaster, this knowledge can later be drawn upon when children learn about World War II and the use of shelters and adaptations to buildings to help protect people during the Blitz.</p> <p>After learning about how communities adapt to living in areas prone to flooding, the children will design and make a small floating garden. They will need to draw upon their knowledge of the properties of materials and suitable ways to join materials together. Later on, in KS2, children will continue to develop these skills when they make a shelter for the desert (<i>Year 5 Desert Survival</i>) and a shelter to withstand an impact (<i>Year 6 World War II</i>).</p>	

Science

National Curriculum

<p>Science</p> <ul style="list-style-type: none"> • I can examine and do practical experiments on various types of rocks in order to group them on the basis of their physical properties • I can simply describe how fossils are formed when things that have lived are trapped within rocks • I can explain that soils are made from rocks and organic matter 	<p>Design Technology</p> <ul style="list-style-type: none"> • I can use my knowledge of existing products to design my own functional product • I can create designs using annotated sketches, cross-sectional diagrams and simple computer programmes • I can safely measure, mark out, cut, assemble and join with some accuracy • I can make suitable choices from a wider range of tools and unfamiliar materials and plan out the main stages of using them • I can investigate and analyse existing products and those I have made, considering a wide range of factors • I can strengthen frames with diagonal struts • I can understand how mechanical systems such as levers and linkages or pneumatic systems create movement 	<p>Computing</p> <ul style="list-style-type: none"> • I can use a range of input and output devices efficiently • I understand that the internet is a large network that enables computers to share information • I can make choices on which program is best for a given task • I know I need to keep my password and personal information secure • I can recognise acceptable and unacceptable behaviour online • I can use a search engine to find web pages • I understand that not all websites are as reliable as others
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**Year 3
Science
Disaster strikes**

Foundation subject Knowledge and skills

<p>What are the main concepts?</p>	<ul style="list-style-type: none"> • Know that the Earth has four layers (crust, mantle, outer core, inner core) • Know the properties of the different layers • Volcanoes: Know that a volcano is a rupture in the earth's crust that allows hot lava, volcanic ash and gases to escape from a magma chamber below the surface • Know that magma is extremely hot molten rock that lies beneath the surface • Know that there are around 1500 active volcanoes in the world • Know that if a volcano has erupted in the last 10000 years it is considered active • Know the names and locations of the top 5 most active volcanoes • Understand how magma travels through a volcano to the Earth's surface • Earthquakes: know that the Earth's crust is divided into tectonic plates • Know the names of some of the plates and the countries within the plates • Understand how earthquakes occur and the amount of energy an earthquake gives out is called its magnitude.
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	<ul style="list-style-type: none"> • Know that there are two ways to measure the power of an earthquake. Machines called seismographs measure the power of an earthquake at its epicentre on a scale called the Richter scale. Another measure is the Mercalli scale, and this is based on people’s observations during an earthquake • Know that some plates are moving apart (North America and Eurasian plate). Here you get earthquakes and eruptions • Know that some plates are pushing into each other (Nazca and South America). Here you get earthquakes and volcanoes • Know that some plates are sliding past each other (Pacific and North American). Here you get earthquakes but no volcanoes • Know that the edges of plates are called faults. Faults can rub together, push toward each other, or pull away from each other • Know that earthquakes happen frequently in the Ring of Fire • Use an atlas to locate significant earthquakes around the world • Know when significant earthquakes occurred and place on a timeline • Know the damage to the physical and human environment that can occur due to a volcano and earthquake • Use satellite images and aerial photographs to identify the effects of a volcano and earthquake <p><i>Flooding and Drought will be covered in a lot more depth in Yr 5 and Yr 6 but children should have an awareness that these are also types of natural disasters</i></p> <ul style="list-style-type: none"> • Flooding: know how flooding occurs • Know the places in the UK which are most likely to be flooded • Know of places around the world where flooding is a risk often • Drought: now how drought occurs • Know the places in the world which experience periods of drought
<p>How can we inquire this concept?</p>	<ul style="list-style-type: none"> • Know where in the world there are active volcanoes • Know in the world where there are dormant volcanoes • Know which parts of the world are most likely to experience earth quakes, tsunamis, hurricanes, tornadoes, wild fires and/or droughts • Identify plates on a map which are moving, pushing into each other or sliding past each other • Use a range of sources and research skills to find out about natural disasters in Japan-linking to previous knowledge from Asia topic • Understand a major event, what happened, what effect it had, what was put in place to help afterwards and what can be done to prevent harm in the future.
<p>How does this effect the world today?</p>	<ul style="list-style-type: none"> • Understand some of the effects that natural disasters have on people and places • Understand some of the prevention methods used for natural disasters • Understand some historical disasters and the lessons which were learnt from them and how people adapt to live in these areas • Know how natural disasters can affect animals and habitats • Know how natural disasters can have an impact on farming, food for people and the exportation of food • Know how farmers in high risk areas try to prevent their crops from being destroyed • Know of organisations which help countries/places when a natural disaster strikes • Know of scientists who study volcanoes and the work they do to help to keep people safe e.g. Emma Liu • Understand how natural disasters can affect the homes of people • Know how some communities try to prevent risk to their homes • Know how London is protected from flooding by the Thames Barrier

	<ul style="list-style-type: none"> • Know the effect of flooding in some parts of the UK
How can we apply this to the future?	<ul style="list-style-type: none"> • Understand what we can do to help prevent some natural disaster • Understand more recent natural disasters and what has been put in place to help them not to reoccur • Understand that some disasters e.g. wild fires can be caused by humans and are preventable • Understand the consequences of deforestation on the world, not just the area affected • Know some of the current movements to try to prevent the damage caused by natural disasters

Design Technology

Year 3

Design Technology: Construction

Year 3	<ul style="list-style-type: none"> • Research floating farms and crops • Understand why some places in the world need to ensure that their crops can float • Understand what floating is and what materials do float • Design a floating garden, considering the materials used, the flowers/plants which would grow in it • Use a range of joining techniques, materials and equipment to ensure that the product floats and does not get flooded • Consider the use for their floating garden e.g. to make be used in a garden for aesthetics, to have inside the home as a feature etc • Make a floating garden (can be individual or group) • Evaluate end product against design criteria
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Writing Outcomes

Non-Fiction

Scientific explanation of the causes of natural disasters

Fiction

Poems with onomatopoeia