Theme Overview

Year	**3**	**Term**	**Spring Term 1**
Theme	**Volcanoes and Earthquakes**	**Big Question**	**What is lava and where does it come from?**

Focus of unit and scope of unit:
This unit focuses on the location and impact of volcanoes and earthquakes over the world. It enables children to understand what is below the Earth's surface and the impact this has on the physical geography and some natural disasters of the world. The children focus on Iceland and understand how its position on the Earth means it is subject to regular volcanic and earthquake activity.
Children understand that the Earth gives us natural resources such as rocks and learn how to categorise these.
The children understand that may countries experience volcanoes and earthquakes and this impacts on the technology that is developed there. The children learn about strengthen structures to create an Earthquake proof tower.

Caring	Creative	Critical	SMSC/Equalities/British Values
The children work together to make an earthquake [proof tower. The work together using their knowledge of volcanoes and earthquakes to create a safety leaflet. The children understand what makes up the Earth's crust and recognise the importance of looking after the Earth.	The children come up with their own groupings for rocks based on observation. They come up with creative ideas to design their own Earthquake proof tower using chosen resources. They design their own safety poster for children for volcanoes in Iceland.	The children carry out investigations and make observations about rocks and soils. The children make different structures with shapes and test different ways of reinforcing their ideas using this to improve designs. The children use Digi maps to look at the human and physical features of Iceland and use their knowledge of tectonic plates to understand the frequency of earthquakes and volcanoes.	The unit develops awe and wonder in the power of the World's natural forces and resources. The children understand that the world can work together to protect each other and that it is important to follow rules to support this. The children enhance their understanding of living in other countries and some of the differences and similarities. Children learn about Mary Anning and fossils to ensure children understand the importance of women in science.

Big Start	Big Finish	Experience
Be a geologist for the day	Testing Towers	Virtual Reality Workshop

<table>
<tr><td>Year 3</td><td colspan="3">Spring Term 1: What is lava?</td></tr>
<tr><td rowspan="2">Sequence of Learning</td><td colspan="2">Previous Learning</td><td>Next Steps in Learning</td></tr>
<tr><td colspan="2">How to identify everyday materials including rock and perhaps soil/compost (Year 1). How to identify and compare everyday materials including rock (Year 2). How to identify different habitats and growing plants (Year 2).</td><td>Children will continue to learn about materials and their properties including how materials can change state and how materials can be separated through sieving and filtering.
Children will more independently plan and carry out investigations and present their results in differe4nt ways.
They will evaluate their findings and use these to draw conclusions.</td></tr>
<tr><td rowspan="4">Knowledge and Skills</td><td>Planning an Investigation</td><td>Carrying Out an Investigation</td><td>Presenting Evidence and Drawing Conclusions</td></tr>
<tr><td>• I can ask questions and I recognise that there are different types of enquiries.
• I can set up a simple practical enquiry and I am beginning to understand how to make a test fair.
• I make suggestions about what observations and measurements to make and what equipment I need</td><td>• I am beginning to make systematic and careful observations.
• I sometimes use standard units.
• With help, I can use information sources provided to find things out.
• I gather data and using a pre-prepared table, I can record data.
• I record my findings using a drawing and/or words.</td><td>• I present my data in a variety of ways using e.g. Venn diagrams, bar charts, simple scatter graphs and keys.
• I can use my results when I talk about what happened and am starting to link to my
• I am beginning to recognise if I have an unusual result and begin to offer suggestions as to why this was.</td></tr>
<tr><td colspan="2">Substantive Knowledge</td><td>Famous Scientists</td></tr>
<tr><td colspan="2">Rocks
• Compare and group rocks based on their appearance and physical properties, giving a reason.
• Know about and explain the difference between sedimentary, metamorphic and igneous rock.
• Know how fossils are formed.
• Know how soil is made.</td><td></td></tr>
<tr><td>Vocabulary</td><td colspan="3">Mineral: a natural substance that makes up rock.
Rock: made from one or more minerals. Permeable: allows water to pass through.
Impermeable: doesn't allow water to pass through.
Crystals: minerals that join together to make igneous rock.
Ore: rock or mineral that contains metals
Igneous: rock formed from magma. Magma: hot liquid rock. Sediment: small bits of rock.
Sedimentary: rock made from sediment. Names of some rocks, e.g. granite, marble, sand, clay, limestone.
Humus: part of soil made from dead plants and animals – gives soil a dark colour</td></tr>
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<tr><td>Year 3</td><td colspan="3">Spring Term 1- Volcanoes</td></tr>
<tr><td rowspan="2">Sequence of Learning</td><td colspan="2">Previous Learning</td><td>Next Steps in Learning</td></tr>
<tr><td colspan="2">This unit builds on learning in KS1 about the weather and human and physical features of the UK. It expands their knowledge of the world by focusing on a European country.
The children have previously learnt how to use simple maps and keys to find information.</td><td>In upper KS2 the children will learn compare human and physical characteristics of global locations across the world.
They will increase their locational knowledge to world biomes and climate zones.
They will extend their knowledge of keys and use these o help create scaled sketch maps.
They will answer geographical questions independently.</td></tr>
<tr><td rowspan="4">Knowledge and Skills</td><td>Locational Knowledge</td><td colspan="2">Place Knowledge
Human and Physical Knowledge</td></tr>
<tr><td>Know, name and locate the main countries and at least six cities in the UK: London, Cardiff, Belfast, Edinburgh, Derby, Birmingham

Know about, locate and name some of the world's most famous volcanoes: Vesuvius (Italy), Eyjafjallajökull (Iceland), Mount St Helens (USA), Krakatoa (Indonesia), Mount Etna (Italy)</td><td colspan="2"><u>Earthquakes and Volcanoes – focus on Iceland.</u>
1. Know the earth is made up of a mantle and core.
2. Know the mantle is broken into tectonic plates that are constantly moving.
3. Know the main causes of earthquakes and why Iceland has regular earthquakes.
4. Locate and describe the distribution of earthquakes in Europe.
5. Know how volcanoes are formed.
6. Know the impact of Eyjafjallajökull (Iceland) erupting on people, place and economy.
7. Understand what people in Iceland can do to predict and protect themselves from volcanic activity.</td></tr>
<tr><td colspan="2">Mapwork</td><td>Fieldwork</td></tr>
<tr><td colspan="2">.To use maps, atlases, globes and digital technology to describe and compare the key geographical features of the areas studied.
Know how to use a simple key.</td><td></td></tr>
<tr><td>Vocabulary</td><td colspan="3">lava / crater / magma chamber
Tsunami
Earthquake
Core
Tectonic Plates
countries</td></tr>
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<tr><th>Year 3</th><th colspan="3">Spring Term: Earthquake Proof Tower</th></tr>
<tr><td>Sequence of Learning</td><td colspan="2">Previous Learning</td><td>Next Steps in Learning</td></tr>
<tr><td></td><td colspan="2">Children have designed and make a range of simple products in KS1. They have made drawings of their designs and tried making mock ups before final product.
They have begun to use a range of equipment such as scissors to help cut paper and card.
Children have begun to understand how they can make simple structures stronger and more stable.</td><td>Children will learn to use layering to reinforce structures.
They will begin t create structures to support electrical components.
They will begin to understand that 3D structures can be created from nets and b manipulating materials and shapes.
Children will become more independent in upper KS2 to produce a step by step plan and a detailed diagram and to evaluate their products against a success criteria.</td></tr>
<tr><td>Knowledge and Skills</td><td>Design</td><td>Make</td><td>Evaluate</td></tr>
<tr><td></td><td>• Create a design that meets a range of requirements.
• Consider the equipment and tools needed when planning.
• Describe a design using an accurately labelled diagram, and in words.
• Choose a material for both its suitability and its appearance.</td><td>• Follow a step-by-step plan, choosing the right equipment and materials.
• Use a range of tools and equipment with accuracy.
• With some support measure, mark out, join, assemble materials and components with increasing accuracy.</td><td>• Identify how I could improve my product.</td></tr>
<tr><td></td><td colspan="2">Cooking & Nutrition / Construction & Structures / Textiles / Mechanisms</td><td>Famous Designers</td></tr>
<tr><td></td><td colspan="2">• Create an earthquake proof tower.
• Identify features of a structure e.g. an earthquake proof tower.
• Identify suitable materials to be selected and used for a structure, considering weight, compression, tension.
• Extend the knowledge of wide and flat based objects being more stable.
• Identify triangles as strong shapes.
• Know how to strengthen, stiffen and reinforce structures.</td><td>• Architect of Skytree tower - Nikken Sekkei</td></tr>
<tr><td>• Vocabulary</td><td colspan="3">Strengthen
Reinforce
Shaft
Camber curve
Tension</td></tr>
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