

## Earth Matters—Curriculum Driver

Year 3/4 Spring Term B

**Topic Question:** Nature vs Humans - what can we do to protect our wonderful world?

**Linked people of study:** Greta Thunberg

**Linked texts:** The Firework Makers Daughter - Philip Pullman, Dear Greenpeace by Simon James, Here We Are - Oliver Jeffers, Window by Jeannie Baker, Tidy by Emily Gravett, The Lumberjack's Beard by Duncan Beedie, Escape From Pompeii

**Trips/Visitors:** Visit from local environmental groups - Surfers Against Sewage, Cool Earth, Beach Guardians, Local Beach clean.

**Topic Composite/Finale:** A local beach clean—our way to help our local environment.

**Prior Learning Topic:** Link to previous work on rainforests and environmental issues. Year 1/2 unit into the woods looking at habitats and local environments and looking after our planet.

**Future Learning Topic:** There is No Planet B, Space



### History

**Intent:** Children will have a good knowledge of historic Natural disasters. They will understand what happened, why it happened and its impact on the people involved.

Natural disasters including: Hurricane Katrina, Boxing day Tsunami, Pompeii, New Zealand Christchurch earthquake.

**Hooks from old learning (YR;Y1/2):** (YR) Super heroes, (Y1/2) Voyage of the mystery—life in the past, Castles and Coasts—settlers,

**Skills and Knowledge Components Focus**

**Year 3**

Children pose own questions to gain an understanding of the topic.

Question why something happened and how it impacted people.

Language specific to topic (e.g. mummified)

**Year 4**

Beginning to think about the impact of historical events/people.

Generate purposeful questions

Question why something happened and how it impacted people long term.

Language specific to topic (e.g. mummified)

**Sticky Knowledge:** Name and talk about some natural disasters that have occurred in history.

**Key Vocabulary:** tornado, hurricane, tsunami, earthquake, volcano, eruption, flood, richter scale, beaufort scale, natural disaster

**Subject Composite:** Children will create information pages /factfiles for a variety of famous historical natural disasters.

**Impact:** Children have a good knowledge of historical natural disasters and the impact of them.

**Hooks for new learning (Y5/6):** There is No Planet B, Space

### Geography

**Intent:** Children will learn about the destructive powers of nature, from volcanoes and earthquakes to tsunamis and tornadoes. Through discussion and practical tasks, children will learn about how and why these natural phenomena occur, and the ways in which they affect people and the environment. For the 2nd part of this unit, children will understand the impact of climate change and its effects on the planet and will find out/discuss ways to help reduce this.

**Hooks from old learning (YR;Y1/2):** (YR) - On the move —vehicles, travel and transport.(Y1/2) Voyage of the mystery—life in the past, Castles and coasts—settlers.

**Skills and Knowledge Components Focus**

**Year 3**

Use maps, atlases, globes and digital / computer mapping to locate countries and identify features of the UK.

Use aerial photographs.

Use fieldwork to support studies

**Year 4**

Locate on a map, human and physical characteristics of Europe (including Russia) and the wider world.

Study rivers, mountains, volcanoes earthquakes and natural disasters.

Use maps, atlases, globes and digital / computer mapping to locate countries and identify features of Europe.

**Sticky Knowledge:** Know the 4 layers of the earth - inner core, outer core, mantel and crust.

The earth's crust is made up of large areas called tectonic plates that join together.

Name the key parts of a volcano. Volcanoes are made when pressure builds up inside the earth. This affects the earth's crust causing magma to sometimes erupt through it. Know where most volcanoes are found.

Earthquakes are caused when the earth's tectonic plates suddenly move.

Explain how tsunamis occur.

**Key Vocabulary:** tornado, hurricane, tsunami, earthquake, volcano, eruption, flood, richter scale, beaufort scale, natural disaster, climate change, greenhouse gases, plastic pollution

**Subject Composite:** Children will take part in a local beach clean as a way to help protect the planet in their local environment.

**Impact:** Children will have a good knowledge of natural phenomena including how the earth is made up and the impact of plate tectonics. They will be able to explain how volcanoes, earthquakes, tsunamis and tornadoes are formed,

**Hooks for new learning (Y5/6):** There is No Planet B, Space

### Science

**Intent:** The children will learn the names of different parts of plants, and the jobs they do. They will work scientifically and collaboratively to investigate what plants need to grow well, and will present their findings to their classmates. Furthermore, they will have chance to predict what will happen in an investigation into the transportation of water within plants. They will work in a hands-on way to identify the parts of a flower, and will explore the different stages of the life cycle of a flowering plant.

The children will explore a variety of ways to identify, sort, group and classify living things. They learn how animals are split into 'vertebrates' and 'invertebrates' and begin to consider the differences between living things within these classifications. They use and create classification keys to group, identify and name living things from the local habitat and beyond. This unit also introduces children to the idea that environments are subject to human-made and natural changes, and that these changes can have a significant impact on living things. Throughout the unit children work scientifically by gathering, recording and presenting information in different ways

**Hooks from old learning (YR;Y1/2):** Into the woods (Plants and seasonal changes) Dinosaurs and discovery (living things and their habitats).

**Skills and Knowledge Components Focus**

**Year 3**

Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers

Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant

Investigate the way in which water is transported within plants

Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal

**Year 4**

Recognise that living things can be grouped in a variety of ways

Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment

Recognise that environments can change and that this can sometimes pose dangers to living things

**Sticky Knowledge:** Name parts of a plant., Explain what plants need to grow.. Explain how water moves through a plant.

Explain the life cycle of a plant. MRS GREN

An environment contains many habitats and these include areas where there are both living and non-living things

**Key Vocabulary:** Roots, stem, trunk, leaves, flowers, anchor, nutrients, transport, seeds, carbon dioxide, sunlight, absorb. Air, light, water, nutrients, soil, investigate, explore, predict, observe. Observation, prediction, conclusion. Petals, sepal, stamen, anther, filament, stigma, style, ovary, ovule, pollen tube, pollen, pollination, fertilisation. Dispersal, fertilisation, germination, life cycle, stages.

Movement, respiration, sensitivity, growth, reproduction, excretion, nutrition, organisms, life processes, habitat, environment, endangered species, extinct, classification, vertebrates, invertebrates, specimen, characteristics,

**Subject Composite:** Children will take part in a local beach clean as a way to help protect the planet in their local environment.

**Impact:** Children will be able to name parts of a plant and explain what plants need to grow. They will be able to explain how water moves through a plant and understand the lifecycle of a plant.

They will know the key life process using MRS GREN and be able to sort and classify living things including vertebrates and invertebrates. They will be aware of the impact of factors on the environment and how this can affect habitats and will be able to list ways to prevent this.

**Hooks for new learning (Y5/6):** There is No Planet B (Living things and their habitats), WW2 (Living things and their habitats).

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### Art and Design

**Intent:** SCULPTURE

Children explore the work of other artists and then create a sculpture made from changing materials that would have been thrown away.

**Hooks from old learning:** (YR, Y1, Y2) Let's Crawl (YR), Castles and Coasts (Y1/2).

**Skills and Knowledge Components Focus**

**Year 3**

Introduce sculpture materials including clay and tools to create decorations on clay including engravers and embossing tools.

Different pencils for different purpose and effects.

Combine materials and give reasons for choices.

Respond to the work of others and say how it makes them feel or think and give reasons as to why.

Begin to use a sketchbook for practice and to show development of their own ideas and to explore technique and composition.

Manipulating clay using fingers and tools.

Decoration techniques such as embossing, engraving and imprinting.

Draw outlines with reference to size and shape.

Begin to research great artists and designers through time.

Begin to include elements of other artists work in their own.

Be able to appraise the work of other artists and designers and architects, and to say how their work links to their own.

**Year 4**

Begin to experiment with different tools for line drawing.

Decorate fabric using different materials to finish.

Use more hardwearing materials (card, cardboard, wood) for creating 3D structures.

Talk about their intention and how they wanted their audience to feel or think. Continue to use art as a tool in other curricular areas, eg: RE or Literacy. As a response to work or as a starting point to learning.

Use joining techniques such as slotting, tying, pinning and sewing when creating 3D structures.

Begin to develop an understanding of the work of an architect to tie in with work on 3D structures and sculptures.

Begin to critique their own and others' work alongside set criteria.

**Key Vocabulary:** Michelle Reader, Subodh Gupta, Derek Gores, Wim Delvoe, Subodh Gupta, reduce, reuse, recycle, repurpose,

**Subject Composite:** Children create a sculpture from recycled materials.

**Impact:** Children will know about the importance of reduce, reuse and recycle and will be able to design and make a 3D piece of art choosing appropriate and well thought out use of recycled materials based on knowledge of known artists and their work.

**Hooks for new learning (Y5/6):** Space—sculpture focus, Groovy Greeks—Greek pottery

### Design Technology

**Intent:** Children Design an earthquake resistant structure. Identify a need for earthquake resistant structures. Research current earthquake resistant structures and architecture ie the Transamerica pyramid in San Francisco, the Yokohama landmark tower in Japan, the Beijing national stadium and the Japanese pagoda. Design a new structure using learnt ideas. Make a new structure. Test our new structure. Evaluate our structure design.

**Hooks from old learning:** (YR, Y1, Y2) Let's Crawl—(YR) - building bug hotels, (Y1/2) Goldilocks—chair building

**Skills and Knowledge Components Focus**

**Year 3**

Design an appealing and functional product with a clear purpose and use for themselves and others. Sketch and label diagrams of their design ideas. Discuss their ideas and explain the purpose, choice of materials, any necessary changes and how it will be made. Explain what they are making, why they are making it and what they will need to use.

Select and name appropriate tools and equipment needed from a suggested range. Know and choose which equipment is used for cutting, shaping joining and finishing from a suggested range. Know some characteristics of materials and components and select from a wide range of these, depending on use.

Explore and analyse existing products. Consider why products are good (or not) and how effective they are at meeting their purpose. Suggest ways of improving their own and others' work. Consider how some products have helped the world.

Explore how to make structures stronger, stiffer and more stable using more / other materials. Explore different ways of joining things together.

**Year 4**

Design an appealing and functional product for a particular audience. Create design criteria for a product. Use sketches, labelled diagrams and notes to explain their design. Explain their ideas, the purpose, choice of materials, any necessary changes and how it will be made. Explain what they are making, why they are making it and what they will need to use, using the design criteria.

Select and name appropriate tools and equipment needed. Know and choose which equipment is used for cutting, shaping joining and finishing. Know the characteristics of materials and components and select, depending on use.

Explore and analyse existing products against a set of criteria. Consider how products were made, why they are good (or not) and how effective they are at meeting their purpose. Suggest ways of improving their own and others' work based on how effective the product is. Consider how some people and products have helped the world.

Explore how to make structures stronger, stiffer and more stable using a variety of materials. Explore and different ways of joining things together (both moving joints and fixed joints).

**Key Vocabulary:** shape, base, foundations, structure, stability, shock absorbers,

**Subject Composite:** Children will design, make, test and evaluate their own earthquake resistant structure.

**Impact:** Children will make earthquake resistant structures and test them, explaining what works well and why.

**Hooks for new learning (Y5/6):** Victorians—bridges

### Computing

**Intent:** Teach computing - Desktop publishing - Year 3

Children will become familiar with the terms 'text' and 'images' and understand that they can be used to communicate messages. They will use desktop publishing software and consider careful choices of font size, colour and type to edit and improve premade documents. Children will be introduced to the terms 'templates', 'orientation', and 'placeholders' and begin to understand how these can support them in making their own template for a magazine front cover. They will start to add text and images to create their own pieces of work using desktop publishing software. Children will look at a range of page layouts thinking carefully about the purpose of these and evaluate how and why desktop publishing is used in the real world.

**Teach computing - Photo editing - Year 4**

In this unit, children will develop their understanding of how digital images can be changed and edited, and how they can then be re-saved and reused. They will consider the impact that editing images can have, and evaluate the effectiveness of their choices.

**Hooks from old learning:** (YR, Y1, Y2) Digital Writing Year 1, Digital painting Year 1, and Digital Photography Year 2.

**Skills and Knowledge Components Focus**

**Year 3**

Use different font sizes, colours and images purposefully. Create and implement programmes to accomplish given goals. Use technology to present data and digital content. Recognise unacceptable behaviour online. Identify a range of ways to deal with inappropriate content. Continue to use technology safely and respectfully.

**Year 4**

Know how to use digital tools responsibly to communicate. Use search technologies effectively and safely. Use technology safely, respectfully and responsibly. Know what it means to be a responsible digital citizen.

**Key Vocabulary:** text, images, font size, colour, return, backspace, and shift keys, templates, orientation, placeholders, edit, image, rotate, crop, filter, effects, cloning, retouching, duplicate, copy and paste,

**Subject Composite:** Children will create a magazine page based on our topic 'extreme earth'. They will use images to edit and change.

**Impact:** Children will know how to create simple algorithms to make repeated sounds and their own podcasts.

**Hooks for new learning (Y5/6):** Children will further develop their image editing skills in Year 5 - Vector drawing.

### Music

**Intent:** Children will learn the lyrics and melody to Popocatepetl, creating notation and melody in up to 4 parts. They will create graphic scores to represent a storm and waves. Learn to play a tune on the ukulele and perform these. They will also listen to a selection of music based on the topic.

**Hooks from old learning:** (YR, Y1, Y2) Playing chords C, F and G7 from songs played in ancient Egypt topic: Mummy Rag / Two Piles of Stones

Stick notation and pitched notation of rhythm syllables from Musical Forests Rainforest Song ostinatos

Following melody on musical stave - woodchopper song

Layers of sound - body percussion choir of rainstorm

Performing in 4 parts - the Human drum Kit - body percussion

**Skills and Knowledge Components Focus**

**Year 3**

Sing songs from memory with accurate pitch and in tune. Show control in voice and pronounce the words in a song clearly (diction).

Maintain a simple part within an ensemble.

Play notes on instruments clearly and including steps/ leaps in pitch.

Improvise (including call and response).

Compose and perform simple melodies (limited notes).

Start to use musical dimensions vocabulary to describe music—duration, timbre, pitch, dynamics, tempo, texture, structure. Use these words when analysing music/performances

Use musical dimensions together to compose music

Describe different purposes of music in history/ other cultures.

**Year 4**

Sing in tune, breathe well, and pronounce words, change pitch and dynamics.

Sustain a rhythmic ostinato/ drone/ melodic ostinato (riff) (to accompany singing) on an instrument (tempo/ duration/ texture). Perform with control and awareness of what others are singing/ playing. Improvise within a group using more than 2 notes.

Compose and perform melodies using three or four notes

Create accompaniments for tunes using drones or melodic ostinatos

Listen to several layers of sound (texture) and talk about the effect on mood and feelings. Use more musical dimensions vocabulary to describe music—duration, timbre, pitch, dynamics, tempo, texture, structure, rhythm, metre, riff, ostinato, melody, harmony.

**Key Vocabulary:** beat, pace, rhythm, pulse, melody, texture, timbre, pitch, dynamics, tempo, structure, shape, pattern, notation, phrase

**Subject Composite:** Can sing and play a 4-part round on a melodic instrument. Can describe, compare and evaluate Listening Pieces with musical vocabulary. Can collaborate on musical ideas to write, read and play a composition. Can accompany singing with chordal instrument

**Impact:** Children will be able to create their own sounds, based on the style they have listened to. They will prepare this for a performance during assembly.

**Hooks for new learning (Y5/6):** Increase from pentatonic scale to the octave C major pentatonic to a minor or G minor pentatonic. Introduce new rhythm syllables. Introduce a new genre of listening pieces. Use different stimulus to inspire composition