Theme: Leave only footprints Year 5 **Term:** Spring term (11 weeks)

Heatherlands Primary School

Curriculum drivers: The curriculum is underpinned by the school's Curriculum Drivers: Community, Communication and Consolidation. The spiritual, moral, social and cultural development of our pupils and their understanding of the core values of our society are also woven through the curriculum and developed through 'The Heatherlands Way' values of independence, resilience, motivation, aspiration and respect. The curriculum also consolidates the fundamental British values of democracy, the rule of law, individual liberty, and mutual respect and tolerance of those with different faiths and beliefs.

We have identified the key concepts or overarching ideas within each subject. To enable the children to access them, we call these the **'Big Ideas'.**

Key knowledge and skills

Geography

Big ideas: Location, diversity, impact

Locational Knowledge:

- Locate the Arctic Circle and Antarctica's place on the Earth and on a map, finding out the route taken by the Endurance Expedition. **(location, diversity, impact)**

Place Knowledge:

- Locate Antarctica and identify its specific physical geography including Antarctica's size, makeup and surrounding oceans. **(location, diversity, impact)**
- Study the Antarctic ice types and fauna. **(location, diversity)**
- Study photographs, weather patterns, and maps to gain in depth knowledge of climate zones around the world. **((location, diversity, impact)**

Human and Physical Geography:

- Identify different forms of land and terrain. (**LOCATION, DIVERSITY, IMPACT)**
- To recognize the features of Antarctic geomorphology: the study of landforms, their processes, form and sediments at the surface of the Earth. (**LOCATION, DIVERSITY, IMPACT)**
- Describe and understand the Water Cycle (Science). (**LOCATION, DIVERSITY, IMPACT)**
- Identify key environmental issues including climate change & global warming. Discuss the impact of climate change and the consequences for the future. (**LOCATION, DIVERSITY, IMPACT)**

Key knowledge and skills

Science (see separate planning)

Big ideas: Investigation, explanation, observation

Enquiry: How have ideas about the Solar System changed over time?

- Understand that it takes a year for the Earth to orbit the sun. **(observation, explanation)**
- Know the sun is a star at the centre of our solar system. **(observation, explanation)**
- Understand the other planets in the solar system take different lengths of time to orbit the sun. **(observation, explanation, investigation)**
- Recognise the position of the planets in the solar system. **(observation, explanation)**
- Know that a moon is a celestial body that orbits a planet. **(observation, explanation)**
- Recognise that the Earth, Sun and Moon are spherical. **(observation, explanation, investigation)**
- Give examples of evidence to prove that the Earth, Sun and Moon are spherical. **(observation, explanation, investigation)**
- Explain why people have not always believed that the Earth was spherical. **(observation, explanation)**

SC1

- To report findings from enquiries, including conclusions, causal relationships and explanations in oral and written forms such as displays and other presentations **(observation, explanation)**
- To identify scientific evidence that has been used to support or refute ideas or arguments **(explanation)**

LOCAL AREA STUDY - To recognise indicators of pollution in the local area.

- Identify key environmental issues including climate change & global warming. Discuss the impact of climate change and the consequences for the future. **(location, diversity, impact)**
- Know that most forms of transportation still use fossil fuels and therefore contribute towards climate change *(especially air travel).* **SDGs (impact)**
- Ask questions to carry out an investigation and express the opinions from a range of points of view. **(diversity, impact)**
- Use digital technology and locate annotated photographs on a map.
- Independently present data and findings using maps, graphs and digital technology to show a conclusion that is supported with evidence.

Sustainable development goals

Goals 13, 14, 15 – Climate action, Life below water, Life on land

Pollution- impact of pollution in our local environment (linked to Geography)

History

Big ideas: chronology, innovation & impact

Key Question: Who was Ernest Shackleton? Who was Amelia Earhart? Who is Tim Peake? *(A study of the lives of significant individuals from the past who have contributed to national / international achievements)*

- Know who Ernest Shackleton, Amelia Earhart & Tim Peake were/are? **(impact)**
- Know why these people are significant in history? **(impact)**
- Discuss how these famous explorers have contributed to national / international achievements in exploration. **(impact)**

Chronology

- Place current study on a time line in relation to previous studies.
- Recall and sequence key events of time studied.
- Use relevant terms and periods when labelling a timeline.
- Know that timelines can be used to represent both long and short periods of time, including both periods of stasis as well as rapid change.

Range and depth of historical knowledge

- Study different aspects of life of different people – differences between men and women.
- Examine causes and results of great events and the impact on people.

Interpretations of history

- Compare accounts of events from different sources. Fact or fiction.
- Offer some reasons for different versions of events.

Historical enquiry

- Begin to identify primary and secondary sources.
- Select relevant sections of information.
- Make confident use of library, e-learning and research.

Design & technology

Big ideas: Design, problem solving & skills & expertise

- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose such as a working mechanism – wind turbine. **(design, problem solving)**
- Create own design criteria based on an initial evaluation of products. **(design, problem solving)**

Computing (see separate planning)

Big ideas: coding, design & online safety

Quizzing

- Explore different types of quizzes and identify their features, strengths and weaknesses. **(design)**
- Explore the features of 2Quiz and experiment with creating quiz questions. **(design)**

<table>
<tr>
<td>

Select appropriate materials, tools and techniques with confidence for the desired effect. (design, problem solving, skills and expertise)
Generate, develop and communicate their ideas through discussion, pattern pieces and the use of annotated drawings, exploded diagrams, including making accurate measurement. MATHS (design, problem solving, skills and expertise)
Start to understand how sustainable and innovative they are and the impact products have beyond their intended purpose. (design, problem solving, skills and expertise)
Evaluate existing products through testing and seeking the views of others to create design criteria.(design, problem solving)
Explore working mechanisms, identify the components and how they function. (design, problem solving
Understand how mechanical systems such as pulleys and gears create movement. PE (skills and expertise)
Use understanding of mechanisms to create a wind turbine structure. GEOGRAPHY (problem solving, skills and expertise)
Evaluate the sustainability of their product, its impact on the user and the world around them. (skills and expertise)
Continually evaluate their outcome, using appropriate tests and taking into consideration the views of their intended users by seeking the views of others. (design, problem solving
Evaluate the work of global individuals who have developed sustainable products and historical engineers involved in the development of pioneering inventions. (design, problem solving)

</td>
<td>

Explore additional features of quizzes, such as title screens and content pages. (design)
Apply knowledge of 2Quiz to design an educational quiz based on a chosen topic. (design)
Refine, test and share completed quizzes. (design)

Coding

Understand some ways that code can be simplified so that it is easier to read and runs more efficiently. (coding)
Program a computer simulation using 2Code. (coding)
Know what decomposition and abstraction are in Computer Science. (coding)
Understand what a function is and how functions work in code. (coding)
Understand what datatypes are and how they are used when coding with variables. (coding)
Read code, predict outcomes and identify and fix bugs. (coding)

</td>
</tr>
<tr>
<td>Key vocabulary:

Antarctica, Longitude, Latitude, Prime Meridian, Equator, Northern Hemisphere
Southern Hemisphere, Tropic of Cancer, Tropic of Capricorn, Landmass
Terrain, South Magnetic Pole, Time zones, Expedition, Continent
Explorer, Endurance, Seasons, Ice mass, Glaciers, Fauna, Mountains, Volcanoes
National Research Station

Mechanisms, gears, components, design, design criteria, exploded diagram, annotated drawing, innovative, make, evaluate, design criteria, model, effectiveness, scale, turbine, sustainable, global, pioneer, engineer, inventions</td>
<td>planet, orbit, sun, moon, Earth, solar system, moon, spherical bodies, rotates, axis, day, night, shadows, time zones

National, international, achievements, explorers, primary sources, secondary sources, evidence, past, events, cause, effect

Quizzes, features, strengths, weaknesses, additional features, title screens, content pages, refine, test, share
Code, simulation, decomposition, abstraction, function, datatypes, variables, outcomes, bugs</td>
</tr>
<tr>
<td colspan="2">Previous linked learning to consolidate: Scott of the Antarctic – Y2 ‘Poles Apart’ topic – Y2, ‘Shake, rattle and roll’ - Y3 topic

What comes next? Microbits – Year 6 DT, Local area study ‘Fantastic Jurassic’ Year 6</td>
</tr>
</table>