



How has our understanding of space developed over time?

Why This? Why Now?

This topic builds on the previous learning of the children. In Year 3, they have learnt about light and shadows in science and in Year 5, the children have already learnt about forces including gravity, friction and air and water resistance. In Year 4, the children have developed their map skills focusing on Europe, which lays the foundation for the map skills developed in Year 5, focusing on the countries involved in the Space Race. Having explored timelines in previous years and previously in Year 5, the children will further develop these skills to create a timeline of how our understanding of space has developed over time. In Year 6, the children design, build and launch their very own water rockets!

This area of research helps to embed the children’s understanding of British Values:

- an acceptance that other people having different faiths or beliefs to oneself (or having none) should be accepted and tolerated, and should not be the cause of prejudicial or discriminatory behaviour.

This area of research helps to embed the children’s understanding of SMSC:

- encourage students to accept responsibility for their behaviour, show initiative, and to understand how they can contribute positively to the lives of those living and working in the locality of the school and to society more widely;
- enable students to acquire a broad general knowledge of and respect for public institutions and services in England.

English -National Curriculum / Skills	OVERVIEW
<p>Plan their writing by:</p> <ul style="list-style-type: none"> • Identifying the audience for and purpose of the writing, selecting the appropriate form and using other similar writing as models for their own. 	<p>Through shared reading of the book <i>The Extraordinary Life of Stephen Hawking</i> by Kate Scott, the children will write a biography of his life and achievements.</p>

- Noting and developing initial ideas, drawing on reading and research where necessary.

Draft and write by:

- Selecting appropriate grammar and vocabulary, understanding how such choices can change and enhance meaning.
- In narratives, describing settings, characters and atmosphere and integrating dialogue to convey character and advance the action
- Using a wide range of devices to build cohesion within and across paragraphs.
- Using further organisational and presentational devices to structure text and to guide the reader [for example, headings, bullet points, underlining].

Assessing the effectiveness of their own and others' writing:

- Ensuring the consistent and correct use of tense throughout a piece of writing.
- Ensuring correct subject and verb agreement when using singular and plural, distinguishing between the language of speech and writing and choosing the appropriate register.
- Proposing changes to vocabulary, grammar and punctuation to enhance effects and clarify meaning.
- Proof-read for spelling and punctuation errors.

Using digital stimulus (First Man film), the children will develop their ability to write about settings using a senses chart to describe a Shuttle Launch.

Through shared reading of the book *The Extraordinary Life of Neil Armstrong* by Martin Howard, the children will write a newspaper report about his iconic landing on the moon.

Through shared and independent reading of the *Space Poems Anthology* by Gaby Morgan, the children will write their own poem in a similar style to *Where Am I* by Wendy Cope.

Using their science knowledge of the solar system, the children will create a holiday brochure to persuade people to visit their own planet.

Using the shared reading of *George's Secret Key to the Universe* by Lucy and Stephen Hawking as a model for writing, the children will write an opening to an adventure story.

Linking with the children's knowledge of space exploration, they will write a balanced argument to answer the question about whether or not animals should have been sent to space.

History – National Curriculum / Skills

OVERVIEW

Pupils should continue to develop a chronologically secure knowledge and understanding of British, local and world history, establishing clear narratives within and across the periods they study. They should note connections, contrasts and trends over time and develop the appropriate use of historical

The children will watch the *First Man* film and independently read extracts about the Space Race in the *Extraordinary Life of Neil Armstrong*. Using this knowledge to build on their ability to create a timeline, the children will use dates and historical language to create a timeline of significant

terms. They should regularly address and sometimes devise historically valid questions about change, cause, similarity and difference, and significance. They should construct informed responses that involve thoughtful selection and organisation of relevant historical information. They should understand how our knowledge of the past is constructed from a range of sources.

events in space exploration, including inspirational men and women (astronauts).

Using a range of primary and secondary sources, the children will gather information about inspirational astronauts from different periods in time, compare, and contrast their contribution to the development of space exploration.

Art – National Curriculum / Skills

OVERVIEW

- Improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials [for example, pencil, charcoal, paint, clay] to create a sculpture using a range of materials to match an intended outcome to show an awareness of the quality of the finished piece.
- Produce creative work, exploring their ideas and recording their experiences.
- Become proficient in drawing, painting, sculpture and other art, craft and design techniques.
- Know about great artists, craft makers and designers, and understand the historical and cultural development of art forms.
- Become proficient in drawing, painting, sculpture and other art, craft and design techniques.

The children will research the artist Peter Thorpe and develop their understanding of abstract art. They will experiment with different media and mark making techniques to produce their own abstract artwork and then children will evaluate their final piece.

Following on from this, the children will then create a 3D sculpture of a chosen planet using paper mache and other techniques. This will then be painted and evaluated.

Design and Technology – National Curriculum / Skills

OVERVIEW

Design

- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Make

The children will evaluate different space buggies, including an augmented reality space buggy, thinking about their appeal and their functionality. They will also investigate which models are suitable to explore the solar system. The children will then carry out further investigations to inform their design criteria, generating ideas through brainstorming to explore and improve its functionality for exploring their own planet. They then use this to draw up a specification for their design. The children will then select appropriate materials, measure and mark out

<ul style="list-style-type: none"> • Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities <p>Evaluate</p> <ul style="list-style-type: none"> • Investigate and analyse a range of existing products • Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • Understand how key events and individuals in design and technology have helped shape the world <p>Technical knowledge</p> <ul style="list-style-type: none"> • Apply their understanding of how to strengthen, stiffen and reinforce more complex structures • Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] • Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] 	<p>accurately and use cutting and joining techniques to bring their design to life. Finally, the children will evaluate their finished space buggy!</p>
<p>Geography - National Curriculum / Skills</p>	<p>OVERVIEW</p>
<p>Locational knowledge</p> <ul style="list-style-type: none"> • locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities 	<p>Location Knowledge</p> <p>Using Google Maps on their iPad, the children will locate countries that were involved in the Space Race, identify relevant cities, and label these on a world map.</p>

<ul style="list-style-type: none"> • identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night) <p>Geographical skills and fieldwork</p> <ul style="list-style-type: none"> • use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied 	<p>Using atlases, Google Maps and globes the children will identify the position of the Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle and the Prime/Greenwich Meridian and record these on a world map.</p> <p>Linking with the children’s understanding of day and night, the children will explore time zones using the clock feature on their iPads. The children will then record this on a world map. Using mathematical skills, the children will then calculate time differences.</p>
<p>Science – National Curriculum / Skills</p>	<p>OVERVIEW</p>
<p>Earth & Space</p> <ul style="list-style-type: none"> • Describe the Sun, Earth and Moon as approximately spherical bodies • Describe the movement of the Earth, and other planets, relative to the Sun in the solar system • Use the idea of the Earth’s rotation to explain day and night and the apparent movement of the sun across the sky • Describe the movement of the Moon relative to the Earth 	<p>The children will begin the science topic by exploring the relationship between the sun, the earth and the moon using 3D models, videos and spherical objects. Children will then learn about the Earth’s rotation to explain day and night and the apparent movement of the sun across the sky using torches and spheres to demonstrate this. They will then be able to further develop their understanding of the solar system and describe the movement of the earth and other planets relative to the sun in the solar system supported through experiencing a planetarium. Using practical representations, children will represent the phases of the moon by using Oreo biscuits.</p>

Debate & Discussion Opportunities	Trips & Experiences	Possible Linked Texts
<p>Should animals have been sent to space?</p> <p>Debate linked to the Big Bang Theory – linked to Stephen Hawking book.</p> <p>STAR values – Teamwork, Self-Belief and Respect.</p>	<p>First Man film</p> <p>Planetarium</p> <p>D& T Buggy Making (family day)</p>	<p>George’s Secret Key to the Universe by Lucy & Hawking</p> <p>The Extraordinary Life of Neil Armstrong by Martin Howard</p> <p>The Extraordinary Life of Stephen Hawking by Kate Scott</p>

Supporting Your Child at Home

Use of Seesaw to set homework over the Christmas holidays – creative task to show their understanding of space (model, poster, iBook etc)

Weekly homework is shared using Seesaw. Updates of the curriculum, educational visits and special topic days are shared with parents and carers through Marvellous Me and Parent Mail.

Use of MYON at home for reading at home.

Websites providing specific information about Space for children:

<http://www.esa.int/kids/en/home>

<https://www.nasa.gov/kidsclub/index.html>

<https://www.natgeokids.com/uk/discover/science/space/ten-facts-about-space/>

<https://www.spacekids.co.uk/learn/>



MEDIUM TERM PLANNING | UNIT OBJECTIVES

Normanby Primary School

Year Group: 5

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