Year 5&6: Space Race

Substantive Concept: Social & Cultural

Essential Learning:

Enquiry Drivers:
Why is space exploration important?

By the end of this topic, you will have learned:

- Discovering how/where/when the telescope was invented and how they work
- Chronology of space exploration and inventions to present day
- About the Space Race between the USSR and USA and space exploration between 1940 and 1970
- Exploring the details of the Apollo 11 mission of 1969, the moon landing and who was involved
- Examining methods of space exploration used today (including ISS, NASA, space tourism)

Chronology

Make connections between periods of history

Continuity and Change

Explain change and continuity across and within periods of history

Cause and Consequence

Analyse and explain the results of historical event, situations and changes

Historical Vocabulary

Interpret historical language in the context of concepts and questions linked to periods of history

Perspectives and Interpretations

Explain how and why different historical viewpoints and interpretations have been constructed

Similarities and Differences

Analyse the diverse experiences, beliefs and attitudes of people in past societies

Prior Learning:
KS1 Great Explorers

Curriculum Enrichment:
Planetarium visit

Outdoor learning: Science: Shadows experiment
Maths: Measures – use trundle wheel and scale to show the distance between the planets and the sun

Key Vocabulary: Solar system, galaxy, Galileo, Yuri Gagarin, International Space Station, probe, telescope, space travel, space exploration
Milky Way. Sun, solar, Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, moon, celestial

Skills/National Curriculum Links

History

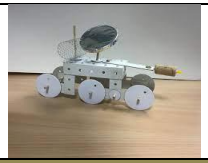
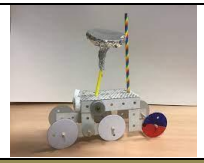
NC:

Children should:
- Place events, people and changes into correct periods of time.
- Recognise and understand the broad chronology of major events in the wider world, from ancient civilisations to the present day, and locate within this the periods, events and changes they have already studied.
- Use dates and vocabulary relating to the passing of time, including ancient, modern, BC, BCE, AD, century and decade
- Devise historically valid questions about change, cause, similarity and difference and investigate to find possible answers.
- Use an increasing depth of factual knowledge to describe past societies and periods and make some links between them.
- Select and combine information from different sources.

Key Questions:
Do children know how and when the telescope was developed? Can children describe who Galileo was and what he contributed to astronomy? Can children explain how the invention of the telescope impacted on space exploration? Why is the Hubble Space Telescope so important?
Can children describe some of the key events in space exploration between 1940 and 1970? Can children explain what the 'Space Race' was and how it impacted on the developments in space travel? Can children use a variety of sources of information to research space exploration during this period?
Do children know when the first men landed on the moon? Link to Hidden Figures and the black females such as Katherine Johnson who worked for NASA and coordinated the safe landing of Apollo 11 (but whose names are not always remembered) Can children explain some of the details of Apollo 11's mission to the moon? Can children combine objective and subjective information to recount Apollo 11's mission to the moon?
Can children recognise some of the ways in which astronauts explore space today? Can children suggest ways in which these methods help us to learn more about the universe? Can children suggest ways in which previous ages have helped our understanding of space?

Resources:
https://www.twinkl.co.uk/resource/t2-s-917-space-travel-timeline-presentation
https://www.bbc.co.uk/programmes/articles/37Gb54y0YKMPf5BmqHgHhNR/homeschool-history-lesson-the-space-race
https://www.bbc.co.uk/newsround/41491704
https://kids.nationalgeographic.com/history/article/katherine-johnson
https://science.howstuffworks.com/innovation/inventions/top-5-nasa-inventions.htm

Science	Geography
Earth and Space **NC:** - describe the movement of the Earth, and other planets, relative to the Sun in the solar system - describe the movement of the Moon relative to the Earth - describe the Sun, Earth and Moon as approximately spherical bodies - use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky *Define the solar system and what it contains, examining the different objects within a solar system *Explore how the rotation of the Earth around the sun creates day and night. *Explore the phases of the moon and how the moon appears to change shape at different times. *Find out the names of the planets in our solar system and discovering facts about them. *Examine the different life stages of a star and exploring the names and shapes of some famous constellations.	
DT	**Art**
Design and make a Mars Rover Research: What are Mars Rovers? Purpose? Different designs? The Mars Rovers | NASA Space Place – NASA Science for Kids Design and make: The Week Junior: Design Your Own Mars Rover Worksheet Ages 7-11 (twinkl.co.uk) techcard.co.uk/wp-content/uploads/2021/02/TechCard-Mars-Rover-2.pdf (see resources on shared drive) Test & Evaluate	***Additional*** Oil pastel and/or chalk galaxies and nebula 

Computing/ICT	PSHE
Copyright and ownership – Project Evolve **N.C:** ▪ Be discerning in evaluating digital content. ▪ Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. ▪ Understand the opportunities computer networks offer for communication and collaboration. **Pupils should be taught to: -** • use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information • use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact **Click on the following link to find lessons for this unit: -** https://projectevolve.co.uk/toolkit/resources/years/5/copyright-and-ownership/ • Assess and justify when it is acceptable to use the work of others • Give examples of content that is permitted to be reused and know how this content can be found online. https://teachcomputing.org/curriculum/key-stage-2/creating-media-web-page-creation/copyright-or-copywrong	Growing and Changing – 6 lessons Value Link – Responsibility Science Link Y5 *Describe the changes as humans develop from birth to old age; (Non-statutory guidance) Pupils should draw a timeline to indicate stages in the growth and development of humans. They should learn about the changes experienced in puberty.* Help! I'm a teenager - get me out of here! (Y5) Online Safety Link LO: Recognise how our body feels when we're relaxed; List some of the ways our body feels when it is nervous or sad; Describe and/or demonstrate how to be resilient in order to find someone who will listen to you. Growing up and changing bodies (Y5) LO: Identify some products that they may need during puberty and why; Know what menstruation is and why it happens. Changing bodies and feelings (Y5) LO: Know the correct words for the external sexual organs; Discuss some of the myths associated with puberty. Rights, respect and duties (Y5) (Non-Statutory) Value Link LO: Define the differences between responsibilities, rights and duties; Discuss what can make them difficult to follow; Identify the impact on individuals and the wider community if responsibilities are not carried out. Joe's story (part 2) (OPTIONAL) (Y6) Value Link LO: Understand and give examples of conflicting emotions; Understand and reflect on how independence and responsibility go together.

https://www.twinkl.co.uk/resource/computing-online-safety-unit-pack-year-5-tp2-i-936 https://www.stem.org.uk/resources/elibrary/resource/505685/lesson-3-copyright-or-copywrong **Augmented reality** **N.C:** ▪ Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. ▪ Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. ▪ Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. ▪ Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web. ▪ Appreciate how results are selected and ranked. **Pupils should be taught to: -** • design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. • use sequence, selection, and repetition in programs, work with variables and various forms of input and output. • use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. **Useful websites/resources:** https://www.twinkl.co.uk/resource/staff-share-introducing-augmented-reality-into-the-primary-classroom-t-slt-1428 https://www.twinkl.co.uk/teaching-wiki/augmented-reality-ar https://www.teachingideas.co.uk/computing/using-ar-in-the-classroom/ https://www.discoveryeducation.co.uk/resources/augmented-reality/ https://www.educationworld.com/augmented-reality-classroom-learn-how-create-your-own-engaging-experiences	Is this normal? (Y6) This could be done after all other puberty lessons near the end of the half term, as it recaps some learning and offers opportunity to check understanding and misconceptions as well as touch on FGM. LO: Define the word 'puberty' giving examples of some of the physical and emotional changes associated with it; Suggest strategies that would help someone who felt challenged by the changes in puberty; Understand what FGM is and that it is an illegal practice in this country; Know where someone could get support if they were concerned about their own or another person's safety.

Cross-curricular Maths	**R.E.**
Place Value Problems, e.g. distance of different planets from the sun	**Judaism** Do people need laws to guide them? **Coverage:** • The Torah • The synagogue
Music	
NC Pupils should be able to: - play and perform in solo and ensemble contexts, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression - improvise and compose music for a range of purposes using the inter-related dimensions of music - listen with attention to detail and recall sounds with increasing aural memory - appreciate and understand a wide range of high-quality live and recorded music drawn from different traditions and from great composers and musicians KS2 BBC Ten Pieces Gustav Holst – Mars from The Planets https://www.bbc.co.uk/teach/ten-pieces/KS2-gustav-holst-mars-from-the-planets/zf6hsrd **Key vocabulary:** Coda, Crescendo, Motif, Ostinato, Pitched percussion, Pulse, Unpitched percussion	
English Focus 1	**English Focus 2**
Class Novel 'Cosmic' by Frank Cottrell Boyce Science fiction stories 'Cosmic' Reading unit Literacy Shed+ … Use this for shared/whole class and guided group questions and reading skills **Non-chronological Report** Literacy Shed+ Film Unit Avatar/Pandora https://www.edshed.com/en-gb/resource/pandora-discovered-en-gb **Guided Reading:** Stage 5 Space Stage 5 The Solar System	Class Novel 'Cosmic' by Frank Cottrell Boyce Science fiction stories 'Cosmic' Reading unit Literacy Shed+ … Use this for shared/whole class and guided group questions and reading skills **Science Fiction** Literacy Shed+ Film Unit Avatar/Pandora https://www.edshed.com/en-gb/resource/pandora-discovered-en-gb **Writing Task:** Setting description **Guided Reading:** Stage 6 Portal Stories

Cross-curricular Writing: Biographies of famous astronauts	**Cross-curricular Writing:** Linked to Science and Music – write a newspaper report of the moon landing Argument – who was the best/what is the best space invention?
Global Links:	**Local links:**