ROSE WOOD ENQUIRY DRIVEN CURRICULUM

ROSE WOOD ACADEMY

What do we know about Earth and space?

Year 5 Summer 1

Rose Wood Academy: Enquiry Driven Learning Overview

Year Group: 5	**What do we know about Earth and Space?**	**Term**: Summer 1

Context:

In this enquiry, the children will develop their knowledge of continents, oceans and countries around the world by using satellite images to identify these. They will build on their knowledge of gravity and how this effects the planets in our Solar System and Earth. They will understand that the Sun, Moon and Earth are approximate spherical bodies. They will understand why we have day and night and why the Moon has phases. They wiil explore the past by looking at the space race and the history of space travel.

Prior Learning (Direct Pathway)

Science:

- Each season is different and there are lots of changes between the seasons. (Y1)
- The weather changes in each season. (Y1)
- The length of a day changes in each season. (Y1)
- Understand what gravity is. (Y5)

History:

- Recognise that changes occur during periods of history and understand the reasons for some of these changes. (Y3)

Geography:

- Name and locate the 7 continents and 5 oceans of the world (Y2)

Prior Learning (Indirect Pathway)

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Enquiry Question

What so we know about Earth and Space?

As artists, children will take inspiration from space images to create their own legacy, which will be placed on the fourth plinth in Trafalgar Square.

During PSHE, the children will be learning about the topic 'growing and changing. In RE, the children will continue to be learning about what it means to be a Muslim in Britain today.

<u>Content on Direct Pathway</u>

This enquiry project is a study about Space and the Solar System. It is heavily based around science and throughout the study, children will work as scientists. They will learn about the shape and movement of the Earth, Sun and Moon as well as finding out about other planets in our Solar System. The children will describe the Sun, Earth and Moon as approximately spherical bodies. We will use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky

As part of this, children will also work as historians to explore the history of space travel and the first moon landing whilst also learning about some famous astronauts.

Through 'Power of Reading' we will use 'Cosmic' by Frank Cottrell-Boyce to learn more about Earth and Space. In writing, the children will be writing about space and the things that exist there. Children will also write a letter to Tim Peake.

Learning Showcase

The children create planet booklets and 3D models of the solar system. Their artwork will be digitally imposed onto the plinth.
Children will also raise about the future of space exploration and what we might discover.

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Knowledge Narrative

Space travel began in the 1940s. Since then there have been multiple journeys to space. The Soviet Union and the Americans took part in The Space Race. The moon orbits the Earth and the Earth orbits the Sun. These are approximate spherical bodies. Earth takes 24 hours to rotate on its axis and this is why we have 24 hours in a day. This causes our planet to have day and night. There are eight planets in our Solar System.

Rose Wood Academy: Enquiry Driven Learning Overview

Unit Title: What do we know about Earth and Space?

History
Y5
Summer 1

End Points:

Change
- The Space Race encouraged the promotion of Maths and Science education in schools

Cause and Effect
- The space race began because the USA and USSR (as it was known then) began building long-range rockets after World War II, which turned into a race to build missiles for space exploration.
- The USSR declared it would launch an artificial satellite in the near future, which USA responded with the intention to do the same.

Significance
- The Space Race had a significant impact on the world:
  - It spawned pioneering efforts to launch artificial satellites.
  - It prompted competitive countries to send unmanned space probes further afield to places such as the Moon, Venus and Mars.
  - The Space Race made possible human spaceflight in low Earth orbit and to the Moon.

End of unit outcome:

- What has happened as a result of the Space Race in schools?
- What was the cause and effect of the Space Race?
- Why the Space Race a significant global event?

Links:
Text – Cosmic – Frank Cottrell-Boyce

Prior Learning:

Key Aspects of the Unit:

Skills:  

Knowledge:  

Concepts (end points):   

Rose Wood Academy: Enquiry Driven Learning Overview

Key Knowledge:

- Children will understand the events, which lead up to the beginning of the Space Race
- Children will know that this was between the USA and the USSR
- Children will know that the USSR is now known as Russia
- Children will be able to create a timeline of significant events prior to the first moon landing
- Children will understand the significance of this event of space exploration to date

Historical Skills:

Historical Enquiry

- Children will construct informed responses that involve thoughtful selection and organisation about significant events in the build-up to the Space Race and how they have influenced space exploration today

Using Sources as evidence

- Children will understand how our knowledge of the past is constructed from a range of sources.

Constructing the Past

- Children can provide an overview of the most the significant events involved in the Space Race

Sequencing the Past

- Children will be able to create a timeline of events from the inception of the Space Race to the present day

Vocabulary

International Space Station	The ISS a space station that keeps moving in low earth orbit.
Sputnik 1	This was the first artificial Earth satellite.
Yuri Gagarin	He was the first man in space.
U.S.S.R.	The Union of Soviet Socialist Republics was transcontinental country that spanned much of Eurasia from 1922 to 1991.
Apollo 11	The space craft that went to the Moon.
Soviet	The former Soviet Union
Technology	a particular method of solving practical problems that comes out of research in science and industry.
Ballistic Missile	a long-range missile that reaches its target by falling freely at extremely high speed along a precalculated trajectory.
Satellite	Any object or body in space that orbits something else, e.g. the Moon is satellite of earth

Rose Wood Academy: Enquiry Driven Learning Overview

Year Group: 5	**Term:** Summer 1
Title: What do we know about Earth and Space?	**Key Focus:** Science

Project Enhancements:

- Trip to The Life Centre

How can you help?

At home, please could you:

- continue to listen to your child read a minimum of three times a week,
- help your child to learn to spell the Year 5 and 6 word list,
- help your child to learn all their times tables

If you wish to do additonal homework with your child, you could:

- visit a museum or planetarium (e.g. Wyndyard Planetarium)
- keep a moon diary, logging the shape of the Moon each night
- write a poem about the Moon

Rose Wood Academy: Enquiry Driven Learning Overview

SUBJECT: SCIENCE			
Subject Specific Vocabulary		Declarative Knowledge	Aspect
Word	Definition		
Physics	Learning about movement, forces and magnets and their effect.	The Sun, Earth and Moon as approximately spherical bodies	Physics
orbit	An orbit is a repeating path that one celestial body takes around another.	The Earth orbits the Sun once evert 365 $\frac{1}{4}$ days (once a year)	
solar system	The solar system is made of the eight planets that orbit our sun it is also made of asteroids, moons, comets and lots, lots more.	The Earth rotates on its own axis once every 24 hours (once a day). This causes day and night on Earth and it is why the Sun appears to move across the sky	
astronomical	Astronomy is the study of outer space focusing on celestial bodies such as stars, comets, planets, and galaxies.	The Sun is a star at the centre of our solar system	
planet	There are 8 planets in our solar system, they are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.	The solar system has eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006)	
rotation	When the shape is turned around a point.	Mercury, Venus, Earth and Mars are rocky planets. They are mostly made up of metal and rock. Jupiter, Saturn, Uranus and Neptune are mostly made up of gases (helium and hydrogen) although they do have cores made up of rock and metal	
spherical	Something spherical is like a sphere in being round, or more or less round, in three dimensions.	A Moon is a celestial body that orbits a planet. Earth has one moon; Jupiter has four large moons and numerous smaller ones	
crescent moon	It is a slither of the moon that is lit up and can be seen. It is less than half the moon.	It takes about 29 days for the Moon to revolve around earth once. This is known as a lunar month; this causes the phases of the moon.	
gibbous moon	The best way to describe a gibbous moon is that the moon is three-quart lit up.	The phases of the Moon are the different ways the Moon looks from Earth over about a month	
eclipse	hen an astronomical object is temporarily obscured. A lunar eclipse is when the Earth moves between the sun and the moon, therefore blocking the sun's rays from striking the moon	The Moon orbits Earth in an oval-shaped path while spinning on its axis. At various times a month, the Moon appears to be different shapes. This is because as the Moon rotates around the Earth, the Sun lights up different parts of it	
lunar	Is anything related to the moon.	Daytime occurs when the side of earth is facing towards the Sun. Night occurs when the side of earth is facing away from the Sun	
Sun	A huge star that Earth and the other planets in our solar system orbit around	The first man-made satellite or to orbit Earth was called Sputnik and was launched by the Soviet Union in 1957.	
star	A giant ball of gas held together by its own gravity		
moon	A natural satellite which orbits earth or other planets	Procedural Knowledge	
celestial body	A natural object visible in the sky (a natural body outside of the Earth's atmosphere)	Use secondary sources to reach planets in our Solar System	Working scientifically
		Identify patterns between the structure of the Solar System and features of the planets.	
		Observations over time – moon diary	

Locational Knowledge Map

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Spiritual

During this topic, the children will gain a sense of enjoyment and fascination in learning about the world around them.

Social

The children will continue to work collaboratively throughout this term, creating a 3D solar system. They will have opportunities to share their learning with others.

Be kind and REAP the rewards

As the children will be sharing their own opinions, the children will be respectful and listen well to others.

Moral

By learning about space travel and the cost, the children will discuss if this is necessary or not.

Cultural

In RE, the children will be improving their understanding of and showing respect for different faiths as they are going to be looking at what it means to be a Muslim in Britain today.

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British Values through EDC

Democracy	People voted for political leaders who had an interest in space. The children will explore how political mandates at the time supported this.
The Rule of Law	Scientists did experiments on animals first to see if it was safe for humans to go into space. If they hadn't this would have broken many laws.
Individual Liberty	There are people around the world that believe that the moon landing was fake. Children will be able to explore this and understand why people have different views.
Mutual Respect & Tolerance	Understanding that not everyone believes that the Earth is a spherical body and that it is flat. Also, how different groups of people have a different understanding of how the Earth was created.