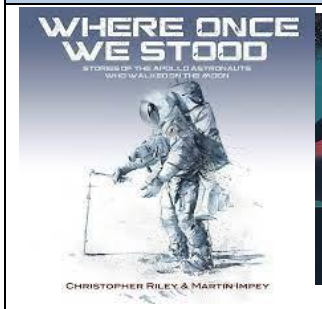
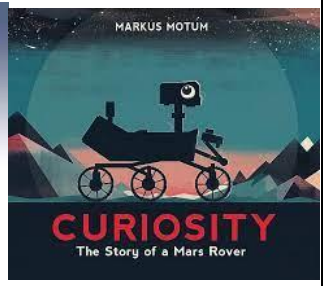
Unit Plan: What's so fascinating about space? (10 weeks)

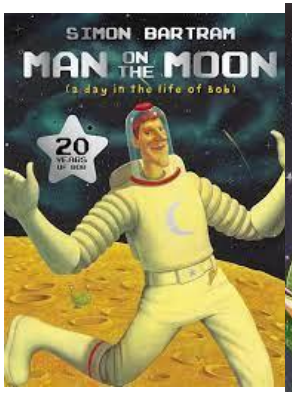
Rationale

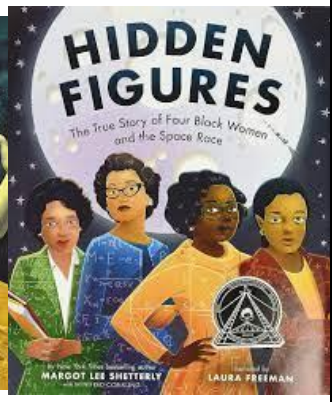
In this unit, pupils build on their previous learning about the physical features of the Earth as well as science concepts such as day and night; and forces. They take a deep dive into space and the key scientists who have advanced our thinking about the universe. Pupils conduct experiments, make observations, create models and draw diagrams to support their understanding of the solar system and how it works. Pupils are inspired and motivated to write various cross-curricular pieces through high quality and engaging texts about space and those who have explore it. Pupils develop their oracy skills through debates and presentations. The unit links to RE through discussions around beliefs and have they change over time. Pupils develop and understanding of inequality through the text Hidden Figures. In art, pupils create a galaxy landscape by combining skills and knowledge around form, line, shape and space.

Core Texts









Key Figures

Buzz Aldrin

Neil Armstrong

Stephen Hawking

Mary Jackson Katherine Johnson Dorothy Vaughan

Nicolaus Copernicus

Enrichment

- Space centre
- Orchard Mead Performance

Written outcomes

- Newspaper report
- Persuasive advert
- Recount
- Story
- Non-Chronological report

Science unit

- Earth and Space
- Forces

RE unit

- How do you find your way through a moral maze

Oracy

- Persuasive advert about the space hotel.
- Debate about theories

Cross curricular Links

- RE
- Art
- Geography
- Science

Sequence of lessons: What's so fascinating about space (10 weeks)				
Lesson	**Learning Challenge**	**Outcome**	**Adaptive teaching/ CP**	**Flashbacks**
1. Science	Can I describe the Sun, Moon and Earth as spherical objects? Can I explore the planet Earth and identify its main features? (Brief introduction and recap previous years' learning)	Balls in different sizes – have lots of different balls and get children to predict which would represent the sun, Earth and moon. Make circle books Earth's physical geography – make a key to show what colour represents which feature: mountains, oceans, deserts, rainforests Put them in the floor book and on display.	Make big circle book as a joint effort.	Sort reversible and irreversible changes.
2. Geography	Can I understand that the world is made up of hemispheres? Can I identify the position of the equator and know why it is important? Can I locate the Tropics of Cancer and Capricorn? Can I locate the Arctic and the Antarctic circles?	Circle – label the hemispheres, equator, tropic of Cancer, Capricorn, Artic and Antarctic circle Add titles and keys to circle book pages. Plenary- Can they explain it?	Make a big circle book joint effort. Learning the key words.	Which are human and which are physical features of Britain.
3. Geography	Can I understand the significance of latitude and longitude? Can I investigate climate zones?	Circle - longitude and latitude Climate zones – colour code the different zones. Blooms questions challenge. Finished circle books will be on display in the classroom.	Label on world map the climate zones Add pictures for each one and describe them. E. g Polar regions. Ice, snow, polar bears.	Labelling countries in Europe. How many can you name challenge.

4. Science	Can I explain why we have day and night? Can I compare the time of day at different places on the Earth?	Explaining the science of day and night. Using objects and a torch. Can they draw a diagram to explain? Use key words. Provide sentence stems	Explain as a group Key words given.	In Year 1, you learnt about day and night. Explain to your partner why we have day and night.
5. Science	Can I describe the movement of the Moon in relation to the Earth? Can I explain the different phases of the Moon?	Oreo phases of the moon in groups and photos for twitter.	Same but supported.	Separating – what are the four methods and given an example of what you could separate.
6. Science	Can I name the planets in our solar system in the correct order? Can I research the planets? Can I create a plasticine model of the solar system?	Acronym Research sheets in Science books. Each group presents about one planet. Rock, gas, size, surface. Create plasticine planets to show the solar system.	Make a whole page in floor book with 3 facts about each planet and what it looks like.	Can they order the planets and name the planets and put them in size order?
7. Science	Can I complete a scientist study for Nicolaus Copernicus? Can I research the different ideas about the shape of the Earth and how ideas of the solar system have developed?	Create a timeline of the science of the solar system with NC in the middle and what people though before and what's been discovered since. What did Nicolas Copernicus discover? And and how? Big book of science ideas!	What did people think before? What did Nicolas Copernicus discover? What came next? Group task and discussion.	What is a timeline? Put these events in science in the order you think they happened? Timeline of Solar System astronomy - Wikipedia
8. Science	Can I understand the importance of Stephen Hawking's work? (Science book)	Learning about him. Read the book YouTube video Gather facts under headings – early life, career.	In class.	Mini quiz – What can you remember about Nicolas C?
9. Science	Can I complete a biography for Stephen Hawking?	HA – biography fold out cube LA- fill in biography.	Group biography.	Mini quiz – What do you know about SH?
10. RE	Can I understand different theories about our solar system?	Big Bang theory / creation – model Flat Earth / sphere Earth Debate	In class.	What does religion teach about creation?

		Use evidence to decide an outcome? Is the Earth flat or not? How does Science help us answer the question?		
11. RE	Can I say what I believe?	Discussion about belief. Model religious and non- religious beliefs. Equality, vegan, cruelty, kind. Make a diamond 9 and discuss.	Make diamond 9 as a group and discuss the order.	What do religions believe about reincarnation?
12. RE	Can I explain how and why do people of faith stick up for their beliefs? Can I say how do I stand up for my beliefs?	Look at Sacre document. Discuss dilemmas and how they think each religion would respond. Dilemmas and religious views on them around smoking. Big mobile in floor book with a message about peer pressure smoking. Chn reply on mini phones what they would respond from different religious point of views.	Same outcome in a group.	Name the 6 religions? Match them to their holy book, symbol and place of worship.
13. RE	How do our beliefs change over time?	Discussion – floor book lesson Tooth fairy, Easter bunny. Favourite things – change over time. Ask the chn to consider their own beliefs and how they have changed. One belief to stay at primary One belief to take with them secondary.	In class.	Match the celebration to the religion. Challenge: What is similar and different.
14. Art	Can I practise using a range of techniques and evaluate the effects they create?	Shadows Cross hatching 2d vs 3d shapes – can they make them look spherical	Own outcomes	Can I recall and explain what is meant by tint, tone, shade and hue?
15. Art	Can I plan out the main features of my space picture?	Consider size and shape and texture.	Own outcomes	Name the planets in order
16. Art	Can I use a range of media to create a space picture?	Use splatter paint technique to create a star background Use plan to create picture	Own outcomes	Phases of the moon
17. Art	Can I evaluate my piece of artwork?		Own outcomes	Planet sizes / colours

18. Science	Can I explain the force gravity and air resistance?	Look at the work of Issac Newton and his discovery of gravity. Explain what gravity is. Misconception alert! Ball up pieces of paper and a tennis ball. Which will hit the ground faster? Predictions. Both hit at the same time. Model again with bottle of water half full and full which will fall faster. Unscrew paper – discuss air resistance. Present chn with an egg (boiled) Can they make a parachute that will stop the egg from breaking when dropped from the atrium stairs.		Which if these items will attract to a magnet?
19. Science	Can I carry an investigation into friction?	Teach about friction. Fair test. Prediction, method, equipment, variables, results, conclusion. Mixed ability groups.	Big experiment – group work.	Pictures of surfaces – describe the surface ans how things move on it. e.g ice – slide gravel - rough
20. Science	Can I investigate how the shape of an object affects its speed in water?	Experiment with plasticine shapes in water falling through water. Carry out a fair test Look at streamlined animals and why they move well through the water. Challenge: bubble with 3 animals - which would move the fastest through the water and why.	Big experiment – group work.	Solid liquid gas recap.