

Component 6:

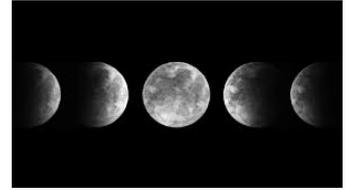
What we will know after this sequence:

- How to implement an investigation to show why the moon appears to change shape throughout the month
- How to create a piece of artwork that represents the moon's shapes at night
- How to carry out a simulation to investigate and demonstrate why the moon appears as it does in the sky.
- How to use photos as a scientific source to identify features on the moon

Vocabulary:

Earth, Moon, celestial body, sphere/spherical, rotate/rotation, spin, orbit, support/refute, eclipse, light, reflection, telescope, satellite, tide, mass, gravity

How will this feed into my next learning: I will use my knowledge of the solar system and the planets to explore how forces may work on Earth and in outer space. **SEN:** To have lots of visuals and targeted facts to learn from the lesson that are supported by pictorial representations or actions to help memories them. Pre teach vocabulary and concepts if needed.



Component 4:

What we will know after this sequence:

- That the Earth's rotation explains day and night
- That the apparent movement of the Sun across the sky is explained by day and night
- That shadows are formed by the sun being blocked by objects.
- How to observe, measure, record and identify patterns for changing shadows throughout a day
- How to present scientific evidence in the form of a working 'shadow clock' model

Vocabulary:

Earth, Sun, start, rotate/rotation, spin, axis, night and day, shadow, sundials, astronomical clocks,

How will this feed into my next learning:

I will use my knowledge of how night and day occurs to then explore sun dials and time zones in more detail.

SEN:

To have lots of visuals and targeted facts to learn from the lesson that are supported by pictorial representations or actions to help memories them. Pre teach vocabulary and concepts and allow the pupil to suggest ways of recording the learning from the lesson, not necessarily in written form.

Component 5:

What we will know after this sequence:

- How to track the earth's movement by making and observing a sundial
- How to plan different types of scientific enquiries to answer questions, including recognising and controlling variables
- Report and present findings from enquiries
- How to identify scientific evidence that has been used to support or refute ideas or arguments



Vocabulary:

Earth, Sun, rotate/rotation, spin, axis, night, day, shadow, sundials, astronomical clocks, opinion/fact, support/refute, time-zone, Greenwich Meantime, gnomon

How will this feed into my next learning:

I will use my knowledge of night and day and the use of sun dials to explore the movement of the Moon relative to the Earth.

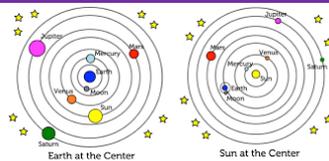
SEN:

To have lots of visuals and targeted facts to learn from the lesson that are supported by pictorial representations or actions to help memories them. Pre teach vocabulary and concepts and allow the pupil to suggest ways of recording the learning from the lesson, not necessarily in written form.

Component 3:

What we will know after this sequence:

- Difference between a geocentric and heliocentric solar system and how views have evolved
- How to build an orrery of our solar system
- How to create their own episode of Stargazing which explains how the solar system works and what is in it.



Vocabulary:

Earth, planets, Sun, solar system, sphere/spherical, Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto, orbit, geocentric, heliocentric,

How will this feed into my next learning:

I will use my knowledge of how different people viewed the solar system to explore how day and night occurs on our planet.

SEN:

To have lots of visuals and targeted facts to learn from the lesson that are supported by pictorial representations or actions to help memories them. Pre teach vocabulary and concepts.

Component 2:

What we will know after this sequence:

- What is meant by the terms scale and ratio
- How to record data of increasing complexity using tables, scatter graphs, bar and line graphs
- How to identify scientific evidence that has been used to support or refute ideas or arguments

Vocabulary:

Relative, spherical, scale, ratio, problems, solar system, planets, measure, distances, artistic representation, support, refute, opinion, fact, precision, line graphs, scatter graphs,

How will this feed into my next learning:

I will use my knowledge of a scaled solar system to build my own orrery to demonstrate how it all works.

SEN:

To have lots of visuals and targeted facts to learn from the lesson that are supported by pictorial representations or actions to help memories them. Pre teach vocabulary and concepts. To have pre drawn axis if needed and focus on one key scientific evidence rather than multiple.

Component 1:

We should know:

- That forces explain that unsupported objects fall towards the Earth because of the force of gravity/That forces need contact between two objects, but magnetic forces can act at a distance

What we will know after this sequence:

- The movement of the Earth and the other planets relative to the Sun in the solar system.
- The movement of the moon relative to the earth/How to describe the sun, earth and moon as approximately spherical bodies
- How to begin to use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky/How to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary

Vocabulary:

Space, explore, scientist, enquiry, processes, Sun, Moon, Earth, relative, movement, spherical, day, night

How will this feed into my next learning:

I will use my knowledge of the movement of the Earth and the other planets relative to the Sun in the solar system to then explore scale models of the solar system.

SEN:

To have lots of visuals and targeted facts to learn from the lesson that are supported by pictorial representations or actions to help memories them. Pre teach vocabulary and concepts.

