Science Curriculum – Cycle A

Upper Key Stage 2 – Summer 2

Theme – Earth and Space (Physics)

Enquiry Question – What are the planets within our solar sytstem?

National Curriculum Coverage

Pupils should be taught to:
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.

Key Scientists:	**Comparative Test**	Observation over time	Pattern Seeking	Research
Nicolaus Copernicus	How does the length of daylight hours change in each season? **Fair Test** Does the mass/size/angle of a meteor (marble) affect the size of a crater it produces?	How does the moon change each day throughout a month?	Is there a pattern between the size of a planet and the time it takes to travel around the sun?	How have our ideas about the solar system changed over time? (Heliocentric/geocentric models)

Objective	Challenge	Working Scientifically	Vocabulary
• To know the order of the 8 planets in our solar system • To describe the sun, Earth and moon as spherical bodies • To know and explain the movement of the Earth and the other 7 planets relative to the sun in solar system - To know that the Earth and other planets orbit the sun - To know that it takes 365 days for the Earth to orbit the sun - To know that as the Earth orbits the Sun, the amount of sunlight each location gets every day changes which causes seasons. • To use the idea that the earth's rotation to explain day and night and the apparent movement of the sun across	• To compare the time of day at different places on earth • To create shadow clocks • To understand how older civilizations used the sun to create astronomical clocks eg. Stonehenge **or own challenges*	See separate objectives sheet.	Sun, Moon, Planets (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto), rotation, spherical, celestial, axis, season, heliocentric, geocentric, solar system, space, orbit, gravity/gravitational pull

the sky - To know that the Earth has an axis which runs between the North and South Poles - To know that the Earth rotates on its axis once every 24 hours - To know that day and night are due to the Earth rotating on its axis not its orbit around the sun. - To know that the sun stays in the same position but it is Earth's spin which makes it seem as though the sun moves in the sky. • To know and explain the movement of the Moon relative to the Earth - To know that the moon is a celestial body that orbits a planet - To know that the moon takes 28 days to orbit around the Earth. - To know the 8 phases of the moon (new moon, waxing crescent, first quarter, waxing gibbous, full moon, waning gibbous, last quarter and waning crescent. • To know that ideas about the solar system have developed - Ptolemy theory proposed the geocentric model (Sun and other planets orbit the Earth) - Copernicus theory proposed the heliocentric model (Earth and planets orbit the Sun)			