

Science

Learning Outcomes



Content of this grid is from the [National Curriculum in England: science programmes of study](#) with adapted outcomes from the [STEM Schemes of Work for Students Working up to Level 1](#) and [STEM Schemes of Work for Students Working between Level 1 and 4](#). The 'Working Scientifically' outcomes of the National Curriculum are incorporated into the different topics covered.

Earth and space			
By the end of KS5 pupils should know:	Redway Pre-Formal Pathway Encounter → Foundation	Redway Semi-formal Pathway Core → Development	Redway Formal Pathway Enrichment → Enhancement
1. Describe the movement of the Earth and other planets relative to the sun in the solar system.	a. Awareness of different types of movement. b. Respond to the feel of spinning (e.g., on a roundabout).	a. Explore things that move in a circular motion (e.g., wheels, roundabouts, spinning a partner when dancing etc.) b. Observe a model of the solar system and see the planets moving around the sun.	a. Know that the solar system is made up of the sun and eight planets. b. Know that the sun is in the middle of the solar system and the planets move around it at different distances. c. Know the planets move around the sun in a near circular motion. d. Know that the planets move in the same plane around the sun.
2. Describe the sun, Earth and moon as approximately spherical bodies.	a. Encounter objects that have different shapes (e.g., spheres, cubes, cuboids, cylinders etc.) b. Explore different objects that are spherical e.g., balls, soap bubbles, oranges etc.)	a. Recognise objects such as balls, soap bubbles and oranges etc. as being spheres. b. Observe a model of the solar system and see that the sun, planets and moon are represented as spheres.	a. Know that a sphere is a 3D shape that has no edges or corners and is the shape of a ball. b. Know that the sun, Earth and moon are all approximately spheres. c. Know that the sun is much bigger than the Earth which is bigger than the moon.

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			d. Know that objects look smaller the further away they are. e. Understand that the sun and the moon look about the same size in the sky because the sun is a lot further away.
3. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	a. Awareness of light and dark. b. Can visually track a moving light. c. Respond with curiosity to moving shadows.	a. Understand that we get light from the sun. b. Know that where the sun is shining on the Earth it is day. c. Know that where the sun isn't shining on the Earth it is night. d. Explore making shadows. e. Explore how the shadow changes as the light source moves.	a. Know that the earth spins and it takes 24 hours to completely turn round. b. Know that the sun appears to move across the sky during the day. c. Demonstrate they can track the movement of the sun by looking at shadows. d. Know that it is the Earth spinning that makes it appear that the sun is moving during the day.