Earth, Moon & Sun

Science, Earth & Space Sciences   Year 7

Content Description

Model cyclic changes in the relative positions of the Earth, sun and moon and explain how these cycles cause eclipses and influence predictable phenomena on Earth, including seasons and tides AC9S7U03

VR Learning Activities

Controlling the Moon's Orbit: Students manipulate a 3D model of the Moon to control its orbit around the Earth, exploring how this motion creates the various phases of the Moon.

Experiencing Earth's Orbit Around the Sun: Students observe the Earth's journey around the Sun, with real-time data showcasing how this motion determines the months, seasons, and tidal changes throughout the year. Graphical visualizations help students see the connection between Earth's tilt, orbit, and seasonal patterns.

Simulating Eclipses: Using interactive controls, students adjust the positions of the Earth, Moon, and Sun to trigger and highlight solar and lunar eclipses. Informative content displays key concepts, such as the alignment required for each type of eclipse.

Analysing Tidal Patterns: Students visualize and analyse how the gravitational pull of the Moon and Sun influences tidal levels on Earth at different times of the month.

Assessment and Reflection: During the lesson students engage in answering questions to gauge their understanding of the lesson's concepts.

Key Learning Areas

Critical and Creative Thinking: Students analyse and model celestial relationships, predict phenomena, and explore solutions through simulation.

Scientific Inquiry: Engaging in the process of questioning, modelling, and explaining scientific phenomena using interactive tools.

Digital Literacy: Using VR technology to interact with and manipulate models, analyse real-time data, and interpret visualizations.

Numeracy: Interpreting data on tides, seasons, and orbital cycles, and recognizing patterns within celestial systems.