

E7 Robotic Space Exploration

Level(s) – yr 12-13



Lesson Focus:

The importance of establishing the existence of water on Mars, followed by a summary of the evidence currently available

Specific Learning Outcomes:

At the end of this lesson the students will be able to...

- Understand the significance of finding water on Mars.
- Explain main lines of evidence for water on Mars.
- Explain why surface conditions on Mars are so different to Earth.
- Explain the risks and dangers of manned space travel to Mars.

Suggested Learning Activities: *(identify some potential learning activities)*

- **Water on Mars:** (yrs 12-13, approx 20 mins)
An educator–lead presentation and discussion of the evidence for water on Mars
- **Planetary distances:** (yrs 12-13, approx 10 mins)
A demonstration of planetary distance (solar system scale). Different place, different season (yrs 3 - 8, approx 5 mins) Using a small animated clip utilising a figure on a globe to show how seasons are different on different parts of the planet.
- **Phoenix EDL** (yrs 12-13, approx 5 mins).
An educator –lead presentation and discussion of the Phoenix mission.

Curriculum Links:

e.g. Science – Astronomical Systems L4-7

Science: characteristics of Earth & Mars
Science – motions of Earth & Mars
Science – space exploration
Technology – rockets & space habitation

Resources & Preparation:

e.g. people, physical items, specialised rooms/areas

- Power point on shared drive
- Lamp, polystyrene balls and thermo chromatic putty.
- Animated Seasons clip on shared drive.
- Prepared and copied worksheet sufficient for session.

Key Competencies:

Please tick:

Thinking

Using language, symbols and texts

Managing Self

Relating to Others

Participating and Contributing