

sequence overview



The SPICE resources for this sequence can be drawn together into a learning pathway for students to develop understanding of conditions on the planets of the Solar System, and how this affects the presence of life. The pathway is structured around a constructivist model based on the 5-E approach to learning where teachers can:

- **Engage** students' interest and minds in concepts, by discussing conditions that support life.
- Provide opportunities for students to **Explore** environments and observe variations in physical conditions.
- **Explain** the conditions found on selected planets of the Solar System.
- **Elaborate** on these concepts by looking at technology used in the search for life in the Solar System.
- **Evaluate** students' progress throughout the pathway.

This pathway is designed for teachers of year 9 students but may also be used with students in other years, at the discretion of the teacher.

Learning pathway



Life in the Solar System 1: Conditions for life

Conditions for life includes a presentation and teacher guide.

This resource encourages students to think about conditions for life on Earth by displaying images of different habitats. It includes an unlabelled image of Mars. See the teachers guide for this resource for detailed information about its purpose and use.



Life in the Solar System 2: Exploring environments

Exploring environments comprises a teacher guide, learning object and two student worksheets.

This resource extends the previous activity by quantifying environmental conditions on Earth and Mars using the learning object. See the teachers guide for this resource for further information about its purpose and use.



Life in the Solar System 3: Planetary atmospheres

Planetary atmospheres comprises a teacher guide, learning object and student worksheet.

The learning object presents atmospheric data from selected bodies in the Solar System. Students are guided to consider where life might be found. See the teachers guide for this resource for further information on its purpose and use.

Optional activity

The previous resource, *Life in the Solar System 3: Planetary atmospheres*, focusses on Earth-like bodies in the Solar System. At this point, students may be directed to look at other bodies in the Solar System, including other planets, planetoids, meteoroids and comets.



Life in the Solar System 4: Life under extreme conditions

Life under extreme conditions comprises a teacher guide, a podcast, two fact sheets and a worksheet for students.

This activity challenges students' perceptions of where life is found on Earth, suggesting that conditions to support life may be found elsewhere in the Solar System. See the teachers guide for this resource for further information on its purpose and use.

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Title graphic in this teachers guide: superimposed Rover on rim of Victoria crater, NASA/JPL/Cornell.

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Web: spice.wa.edu.au

Email: spice@uwa.edu.au

Phone: (08) 6488 3917

Centre for Learning Technology (M016)

The University of Western Australia

35 Stirling Highway

Crawley WA 6009