




Components

	NAME	DESCRIPTION	AUDIENCE
	<i>Planetary atmospheres</i> teacher guide	The guide provides information on how to use the learning object in this resource.	teachers
	<i>Atmospheric explorer</i> learning object	Students interact with the learning object to compare the atmospheric conditions of selected astronomical bodies.	students
	<i>Planetary atmospheres</i> worksheet	This detailed worksheet leads students through an activity.	students

Purpose

To **Explain** the similarities and differences in atmospheric composition of a selected number of bodies in the Solar System.

Outcomes

Students will be able to:

- describe the similarities and differences in the surface conditions of a number of bodies in the Solar System;
- explain that planetary atmospheres change over time; and
- explain the significance of the change in Earth's atmosphere over time, and the possibility that life may exist on other planets.

Activity summary

ACTIVITY	POSSIBLE STRATEGY
Students use the learning object, <i>Atmospheric explorer</i> , to compare atmospheric characteristics of Mercury, Venus, Earth, Mars, Io and Titan while responding to questions posed in the worksheet.	individually or in pairs
Discuss with students the worksheet, additional questions and points from this guide.	teacher-led whole group

Technical requirements

The learning object requires Adobe Flash Player version 8 or later (this is a free download from www.adobe.com). It can be placed on a web or file-server and run either locally or remotely in a web browser.

The guide and worksheets require Adobe Reader which is a free download from www.adobe.com. The worksheets are also provided in Microsoft Word format.

Associated SPICE resources

Life in the Solar System 3: Planetary atmospheres may be used in conjunction with related SPICE resources.

DESCRIPTION	LEARNING PURPOSE
<p><i>Life in the Solar System</i></p> <p>This learning pathway combines a number of SPICE resources to address the topic of the search for life in the Solar System.</p>	
<p><i>Life in the Solar System 1: Conditions for life</i></p> <p>A presentation challenges students to think about where life is found.</p>	Engage
<p><i>Life in the Solar System 2: Exploring environments</i></p> <p>Students explore different environments to compare surface conditions and abundance of life.</p>	Explore
<p><i>Life in the Solar System 3: Planetary atmospheres</i></p> <p>Students compare atmospheric conditions on various bodies in the Solar System.</p>	Explain
<p><i>Life in the Solar System 4: Life under extreme conditions</i></p> <p>Life exists in extreme environments on Earth, which suggests that it may also be found in unknown environments in space.</p>	Elaborate

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