



Atmospheric Chemistry: Planets and Life beyond Earth

Lesson plan

Starter activity	Learning objectives
<p>Students brainstorm the factors needed for life (as we know it) to exist on another planet. The teacher highlights the importance of a planet's atmosphere in the factors listed.</p>	<ul style="list-style-type: none"> To investigate the composition of a planetary atmosphere. To describe the methods used to identify planetary atmosphere composition.
Main activities	Resources required
<p>The class watches the video on Step 2.7 of the course, making notes on how we can identify the components of a planet's atmosphere.</p> <p>The teacher splits the class into eight groups: each is assigned one of the eight planets in the Solar System. Each group should research what the planet's atmosphere is made of and create a poster about it. The poster should include:</p> <ul style="list-style-type: none"> a clear diagram that represents the atmosphere (preferably showing the heights of each layer as necessary) an explanation of how scientists know this information <p>Students submit this poster to the teacher for marking.</p> <p>The class watches the video on Step 1.5 of the course to assess if their findings match.</p>	<ol style="list-style-type: none"> Access to FutureLearn course. Devices to watch videos on and conduct research with. Poster paper and pens. <p>Assessment for Learning Summary poster of a planet's atmosphere.</p> <p>Differentiation SEND: Videos have subtitles, teacher-led support.</p> <p>Low ability: Peer-learning.</p> <p>Gifted and Talented: Peer-teaching.</p> <p>Plenary Students discuss the likelihood of finding life on another planet based on what they've learnt.</p>

OPTIONAL HOMEWORK ACTIVITY:
Students choose one telescope or space probe (current or historic) and find out what information it has told us about planetary atmospheres and the search for extra-terrestrial life.