

Lesson Plan: Design Your Own Alien

Duration: 35-40 mins

Learning objectives:

1. Discuss the possibility of life on other planets.
2. Describe what factors make Earth habitable.
3. Describe and discuss the effects of the environment on the formation and evolution of life.
4. Explore the Solar System and the different environments on other planets.

Links to Primary SESE Curriculum (Fifth and Sixth Class):

- Living things
- Environmental awareness and care

Links to Junior Cycle Science Curriculum:

- NoS 10, Science in society
- E&S 3, Building Blocks
- BW 3, Building Blocks

Activity	Procedure	Materials	Time
The impact of environments on the evolution of life	<ul style="list-style-type: none"> ● Discuss the effects of: <ul style="list-style-type: none"> ○ Air and Atmosphere ○ Light and Radiation ○ Temperature ○ Water ○ Gravity ○ on life with examples. 	Design Your Own Alien slides from https://www.unawe.org/activity/eu-unawe1304/ or powerpoint attached.	10
Mars and Martian example	<ul style="list-style-type: none"> ● Discuss Mars environment: lack of atmosphere, potential of past water, sandstorms, lower gravity, etc. ● Show and describe how this impacts how the example alien looks. 	Mars planet sheet and Martian example	5
Other worlds	<ul style="list-style-type: none"> ● Split the class into 4 groups, one for each planet/moon (Jupiter, Mercury, Io or Titan). ● Discuss within their groups these different environments and compare them to that of Earth and Mars. 	All planet & moon sheets (Mars, Earth, Jupiter, Mercury, Io and Titan)	5
Design an alien	<ul style="list-style-type: none"> ● Using the different environmental factors, the students will design an alien suited to their planet/moon. ● Encourage students to label features with explanations, as in the Martian example. 	Sheet of paper, pencil, colouring pencils/ markers/ crayons, etc.	15

Class discussion	<ul style="list-style-type: none">• Why does your alien have certain features?• How can it breathe/eat/protect itself/see/move etc.?		5
Further study after class	<ul style="list-style-type: none">• The SETI Project, searching for extraterrestrial life with telescopes around the world	The SETI Institute website	2

This activity has been modified for the Irish Primary and Junior Cycle Science curriculum from a Universe Awareness activity <https://www.unawe.org/activity/eu-unawe1304/>