

Learning Outcomes:

Nature of Science	Students should be able to organise and communicate their research and investigative findings in a variety of ways fit for purpose and audience, using relevant scientific terminology and representations
Earth and Space	Students should be able to develop and use a model of the Earth-sun-moon system to describe predictable phenomena observable on Earth, including seasons, lunar phases, and eclipses of the sun and moon



Imagine that you are an astronomer who works in the National Science Museum in Dublin. A group of First Year Science students are visiting the museum to learn more about the Sun-Earth-Moon system. You have been asked to develop a model to help the students visualise the patterns of lunar phases, eclipses of the Sun and Moon, and seasons.

Get started!

- Review the relative positions of the Sun, Earth, and Moon during the lunar phases, solar eclipses, lunar eclipses, and seasons.
- Determine how you can model these events using everyday materials or computer graphics to represent the Sun, Earth, and Moon.
- Gather any materials you need to construct your model.

Build your model. Be sure your model can represent all eight lunar phases, a solar eclipse, a lunar eclipse, and the four seasons.

Niamh Barry

JC Science 2017 Specification

Think about how to present your model to the group of First Years that will be visiting the science museum.

Consider the following questions.

1. How can you best describe each event represented in your model?
2. How will your model help the students understand the patterns of these events?

Finish Up!

- Did your model correctly represent the positions of the Sun, Earth, and Moon?
- Why or why not?
How did you use your model to explain the causes of moon phases, solar and lunar eclipses, and seasons?
- How did you use your model to predict patterns in the Sun-Earth-Moon system? Is your model appropriate for a third-grade audience? Why or why not? What challenges did you face while making your model? How did you overcome these challenges?
How do you think models help people to better understand scientific ideas?