

## Lesson Plan: Our Moon

**Duration: 40-45 mins**

Learning objectives:

1. Understand aspects of the Moon and its processes
2. Model the rotation and phases of the Moon
3. Describe the causes of eclipses and craters

Links to Junior Cycle Science Curriculum:

- E&S 1, E&S 3 Building Blocks
- E&S 4 Systems and Interactions
- NoS 5 Investigating in Science

Activity	Procedure	Materials	Time
Introduction	<ul style="list-style-type: none"> <li>● Only ever see one face from Earth</li> <li>● Moon and Sun relationship x400 bigger and x400 further away</li> </ul>	Powerpoint attached	5
Rotating axis	<ul style="list-style-type: none"> <li>● Pose the question, does the moon move about its own axis?</li> <li>● Allow students time to use a ball with a mark (to represent the face we see) and figure it out using themselves as Earth</li> <li>● Moon's slow rotation ~ 27 days</li> <li>● Show how the ball must rotate to stay facing Earth - show directly in front vs directly behind themselves</li> </ul>	Small ball (styrofoam/tennis ball) & sticker/pin to mark the face of the moon  <a href="#">Explaining video using marshmallows</a>	10
Phases	<ul style="list-style-type: none"> <li>● Different shapes the moon appears to us on the Lunar cycle of 29 days</li> <li>● Based of the amount and direction of lumination from the Sun</li> <li>● The flashlight can be stationary while the ball or 'Moon' orbits</li> <li>● The student stays facing the 'Moon' and sketches what amount of the face is visible</li> </ul>	Phases worksheet attached  Student- Earth Ball- the Moon Flashlight- the Sun	10
Eclipse	<ul style="list-style-type: none"> <li>● Lunar eclipse - Earth is between Sun and Moon</li> <li>● Solar eclipse - Moon is between Sun and Earth</li> </ul>	Image solar vs lunar  Use ball and flashlight to demonstrate	5
Craters	<ul style="list-style-type: none"> <li>● Craters are caused by collision with asteroids</li> <li>● Moon is much smaller than Earth but why does it appear to have more craters?               <ul style="list-style-type: none"> <li>○ Lack of erosion, tectonics, volcanic activity</li> </ul> </li> <li>● Create craters by dropping marbles onto the cocoa powder and flour</li> <li>● Shows the layers of moon and shows why the Moon has different shades</li> </ul>	Crater image  Large, flat box or tray Flour with sifted layer of cocoa powder on top  Small balls (eg. marbles or pebbles) <a href="#">Sample video here</a>	10