

Role-play a solar eclipse



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1 Materials for one role-play kit (model is not to scale)

- Three balls of different sizes:
 - Sun – largest (1,329,000 km in diameter)
 - Earth – medium (12,756 km in diameter)
 - Moon – smallest (3476 km in diameter)
- Torch, or smartphone with torch on it.

2 Activity setup

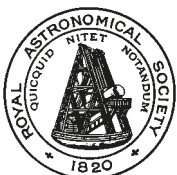
- Do the activity in a darkened room.
- This role play works very well in small groups of four, each with one role-play kit.
- Either demonstrate the role play before breaking into the groups, or see if the class can work it out for themselves.
- One student will act as the Sun (largest ball).
- One student will act as the Earth (medium ball).
- One student will act as the Moon (smallest ball).
- One student will act as the light from the Sun (torch).

3 The role play

- Begin the role play by having a student with the torch stand next to the Sun ball. Get them to point the light in the direction of the Earth ball.
- Ask the student with the Moon ball to begin revolving around the Earth.
- Ask the class to watch the shadow effect as the Moon moves between the Earth and the Sun. Ask the class to state what they see happening.
- Break up into groups of four and repeat the activity.

4 Discussion

- When does a solar eclipse occur?
- Can you role-play a lunar eclipse?



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Geophysics*

This worksheet was produced by the RAS to mark the solar eclipse of 20 March 2015 – visible as a partial eclipse from the UK. It is available free – along with other eclipse resources – online from www.ras.org.uk