**Experiment: Modelling solar and lunar eclipses**

**Aim:** To model a solar eclipse

**Equipment:**

 Torch, Globe and Tennis Ball attached to string



**Method:**

* Darken the room and aim a beam of light at the globe.
* To simulate a solar eclipse, suspend the tennis ball (moon) between the projector (sun) and the globe (Earth) as shown above. Ensure that you keep your own shadow off the globe.
* Rotate the globe a little (think carefully about which way to turn it) and note what happens to the shadow.
* To simulate a lunar eclipse, move the tennis ball to the opposite side of the globe from the projector. Suspend it so that it is partly in the shadow of the globe.

**DISCUSSION**

1. Draw a diagram to show the initial positions of the Earth, moon and sun in your model of a solar eclipse.
2. During which phase of the moon does a solar eclipse occur?
3. When you rotate the globe, does the shadow move from east to west or from west to east?
4. Draw a diagram showing the positions of the Earth, moon and sun in your lunar eclipse model.
5. During which phase of the moon does a lunar eclipse occur?