

WORKSHEET 2: Solar Eclipse Model in the Field

Create a solar eclipse model. Use a gymnastic ball with a diameter of about 70 cm as the Sun. First calculate the required body sizes and their distances, then find suitably large spheres for the Earth and the Moon and place them at the correct distances. Remember the correct order of the bodies.

Answer

Calculate the size ratio of the real bodies and the bodies in the model.

$$1\,400\,000 / 0.7 = \dots\dots\dots$$

Fill in the table of sizes and distances of bodies (sizes of real bodies are in kilometres, sizes in the model in metres):

<i>Sun diameter</i>	<i>1,400,000 km</i>	<i>0.7 m</i>
<i>Earth diameter</i>	<i>13,000 km</i>	
<i>Moon diameter</i>	<i>3,500 km</i>	
<i>distance of the Earth from the Sun</i>	<i>150,000,000 km</i>	
<i>distance of the Moon from the Earth</i>	<i>400,000 km</i>	

Find suitable bodies for the model of the Earth and the Moon.

Earth model: *Moon model:*

Draw a freehand plan showing the whole situation when viewed from above: