

## Studying Science for Innovation

Science is the motor that moves innovation. We know more about the world thanks to the curious and daring minds that have come before us, such as Isaac Newton and Galileo Galilei. Still, their discoveries were built upon the work of previous thinkers and scientists whose ideas laid the groundwork for further investigation and research.

Nowadays, science continues to promote innovation. However, due to a lack of information, mainly from a lack of access to the internet, decreased investment in the sciences at schools, or underfunded programs for research and development at a country level, many countries and social groups are still underrepresented in the sciences. For example, countries in sub-Saharan Africa account for less than ten percent of the number of researchers globally compared to those in more developed regions. In comparison, women only account for 31 percent of researchers worldwide. Access to the internet also remains a problem in sub-Saharan Africa, where only around 80 percent of the population has access, and in Oceania, with around 65 percent access.

To encourage innovation within these communities, the general population must have better access to the internet and better awareness of basic scientific principles. Increasing awareness of key principles will further address the inequalities at an individual and regional level.

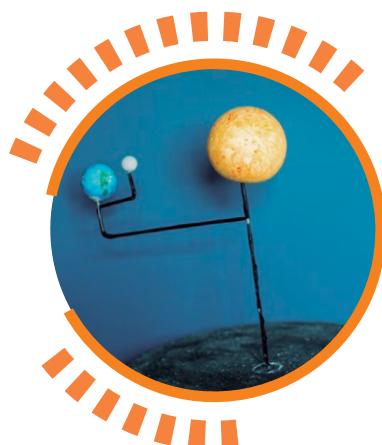
**DO**



## Heliocentric Model

In this Maker, you will build a model. Visualizing the relative positions of the objects in our Solar System can be difficult, given that we are in a fixed position and lack access to high-resolution technology to view it. To better understand the Sun's place in our Solar System, it is possible to build a simple model that provides a clear illustration for young minds.

1. In small groups, investigate the sizes of the Sun, the Earth, and the Moon, particularly the radius and diameter. Calculate the sizes of scale models of all three.
2. Using a compass, draw the three celestial bodies on thick card stock and color them. Laminate the circles and poke holes in the centers of all three.
3. Draw and cut a strip of paper extending from the center of the Sun to the center of the Earth and another that extends from the center of the Earth to the center of the Moon. Laminate those as well.
4. Attach the three circles with the paper strips using paper fasteners, ensuring they can fully rotate and orbit one another.
5. Move the circle simultaneously to reflect the Earth's and Moon's orbits and rotations.



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### 01 Present!

Once your Maker is done, take pictures of the process and assemble them into a how-to diagram. Alternatively, create a how-to video with instructions for making your heliocentric model.

### 02 Discuss!

In your groups, decide the best way to promote knowledge about the heliocentric model online to reach underserved populations.

### 03 Get Informed!

Expand your heliocentric model to include more planets and their moons.

### 04 Take It on the Road!

Organize a training day for people of all ages to learn more about heliocentrism and using the internet.