



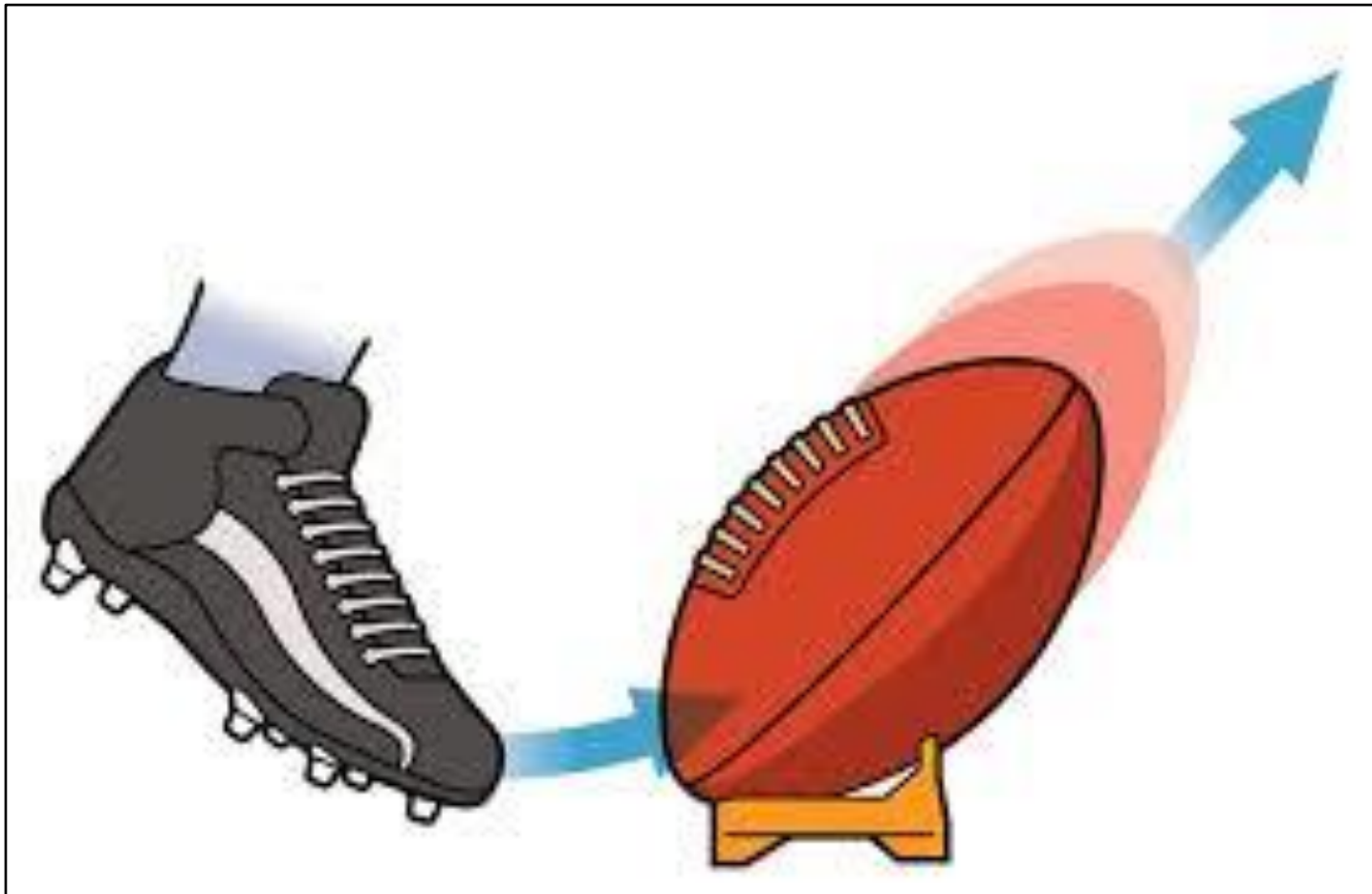
Scientists Make Models

Written by the SOLID Start Team



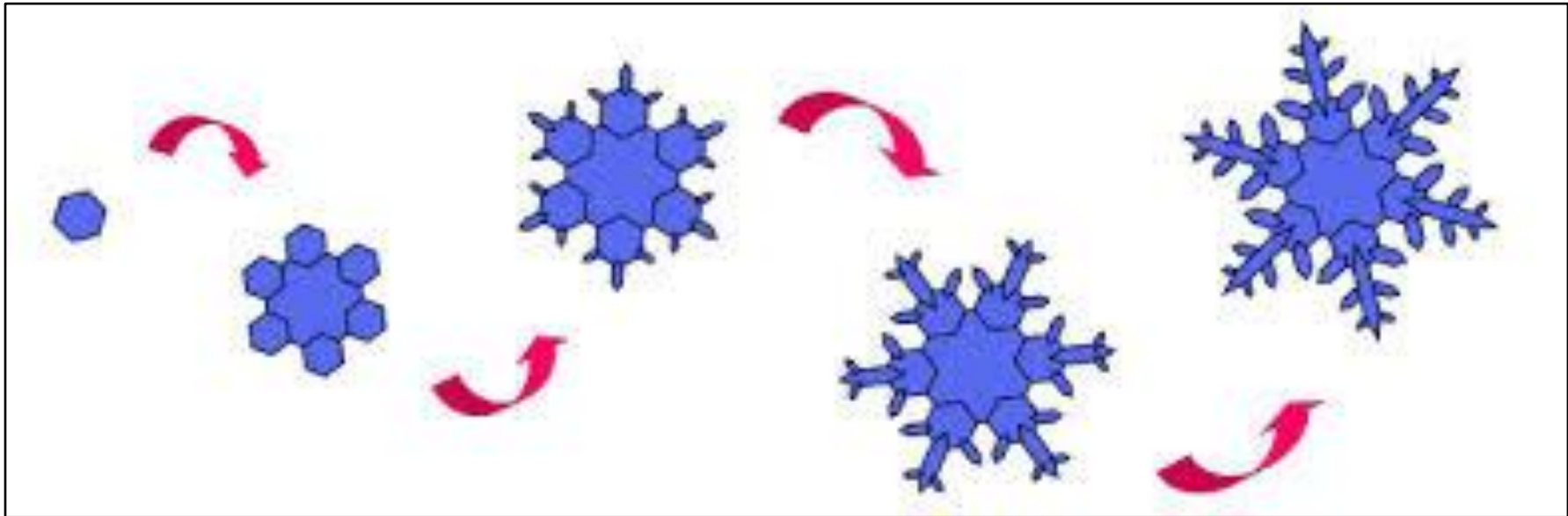
A scientist's job is to explain the world we live in. Scientists explain things like why the leaves change colors and fall off trees and why ants make hills.

Scientists make and use **models** to show their ideas about how and why things happen in the world.



This model shows how a force from a kick moves a ball.

A model shows how something looks, how it works, how it happens.
There are different types of models.



This is a model showing how snowflakes form.

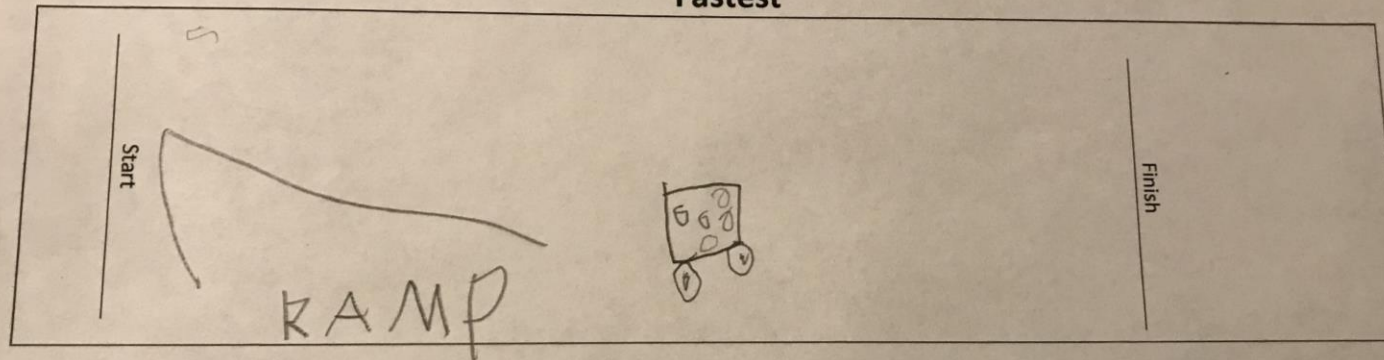
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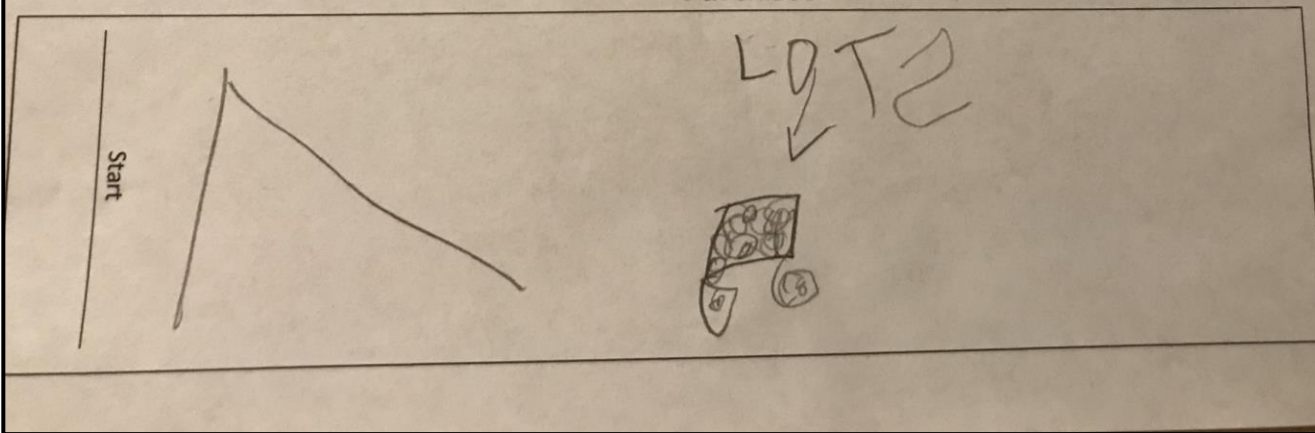
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Boxcar Challenge Unit

Lesson 9 – Boxcar Derby Design Plan
How Can We Make Our Boxcar Move Fast, Far, and Around?

Fastest



Farthest



Sometimes scientists draw models. This drawing is a model that shows how far heavy and light toy cars travel when they are placed on a ramp.

Sometimes scientists build three-dimensional (3D) models. A three-dimensional model is not flat like a drawing. A dinosaur exhibit has 3D models of dinosaur skeletons.





Sometimes we can act or use our bodies to show how something happens. This is also a type of model. Here, children are using their bodies and a lantern to show how they think the sun moves across the sky each day.



Seed

Seedling

Plant

Sometimes scientists might use groups of pictures as one model. Together, the pictures show how something changes. This model shows how a plant grows.



Real Car



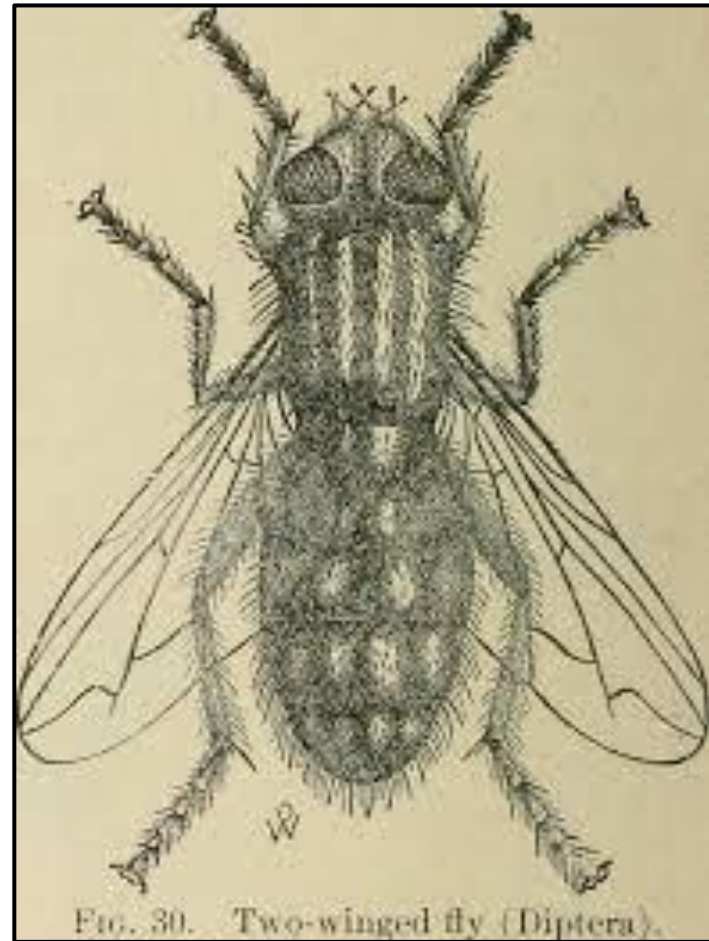
Model Car

Models are similar, but not exactly like the thing they show. How is a model car similar to a real car? How is a model car different from a real car?

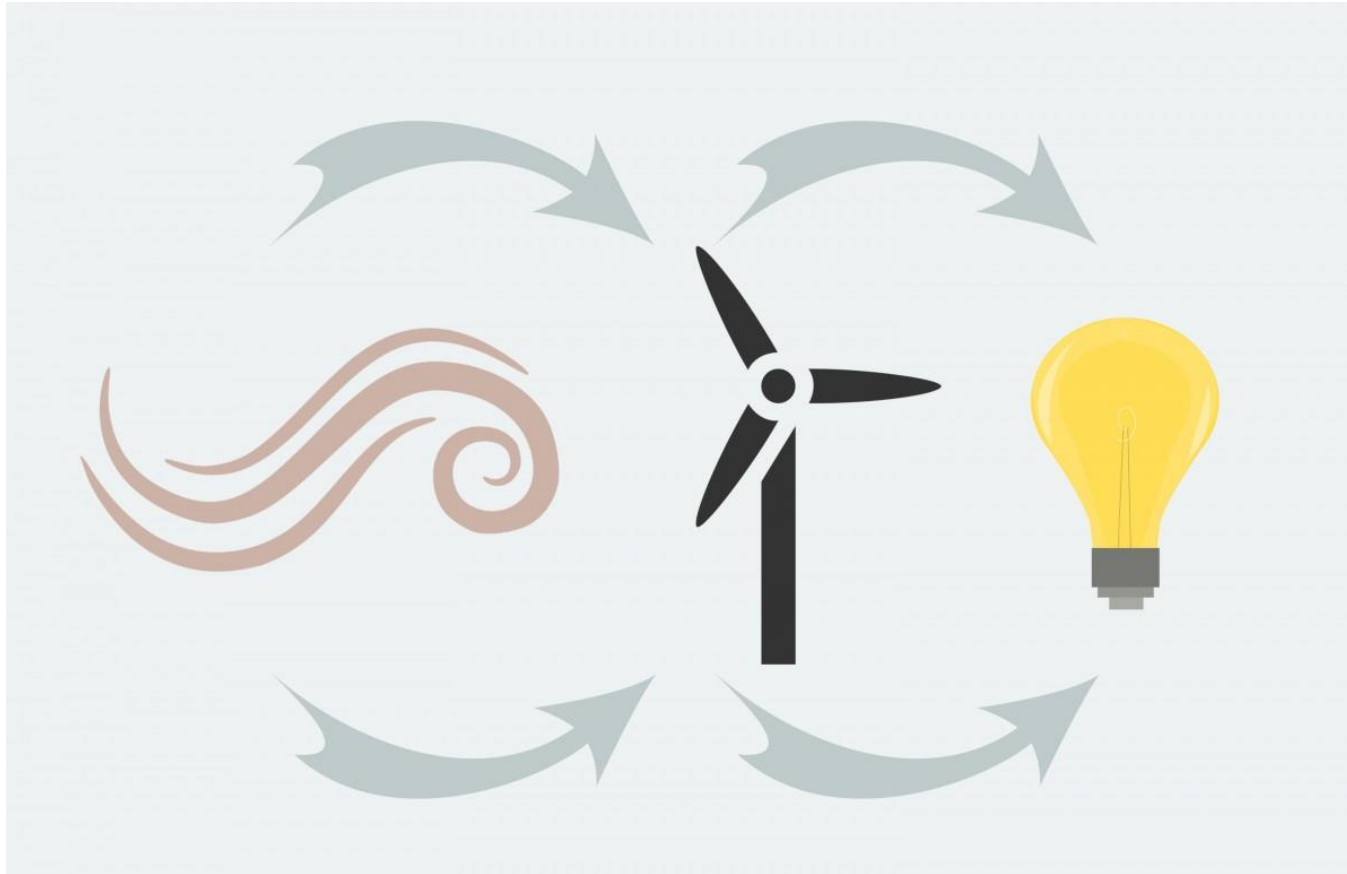
Sometimes models are smaller than the thing they show. This 3D model shows a globe. It is much smaller than the real Earth. This helps scientist look at parts of the Earth that are hard to get to and see in real life.



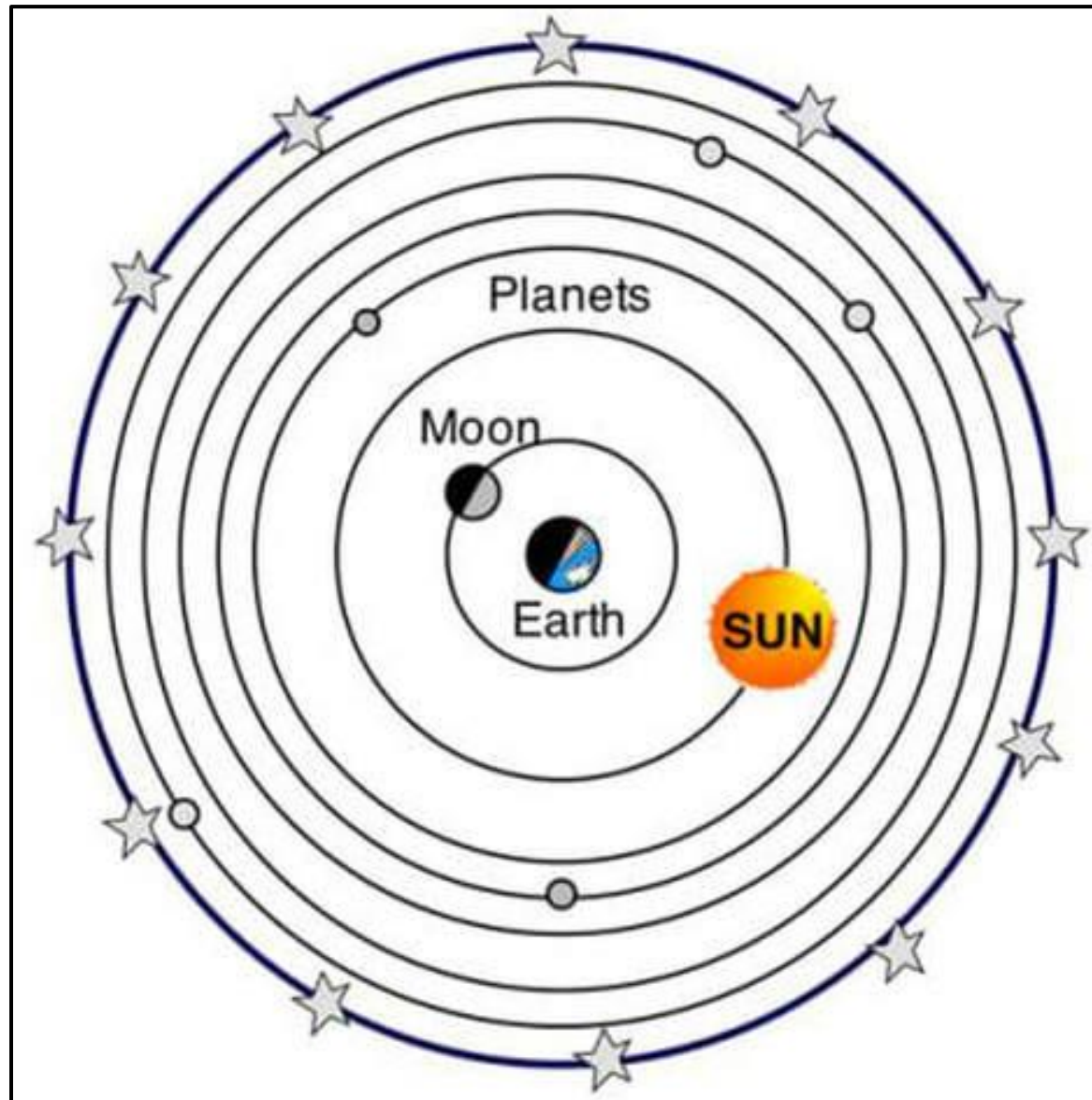
Sometimes models are bigger than the thing they show. This drawing is a model of a fly. It is much bigger than a real fly. This helps scientists look at part of the fly's body that would be too tiny to see in real life.



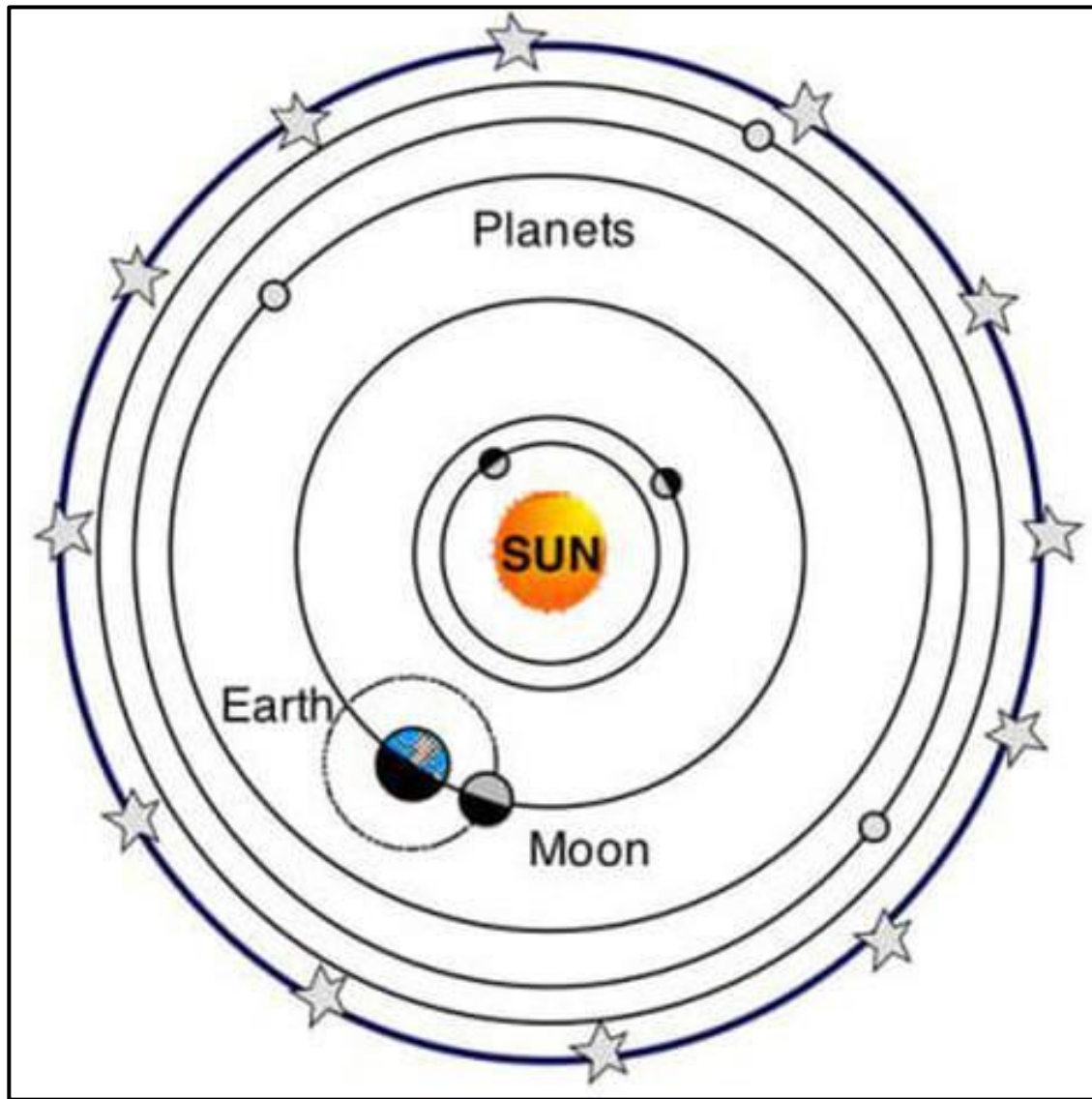
Scientists also use models to share ideas with others. Models help scientists share ideas by showing how they think something happens.



This model shows one scientist's ideas about how the solar system looked based on observations of the moon, sun, and stars.



As scientists learn more, their models can change. Do you notice anything that changed on this model from the last one?



Models are one useful tool scientists use. You can be a scientist and make and use models, too! You can make a model to show your ideas about how and why things happen in the world.



Former President Barack Obama with a girl scout troop presenting their innovative science fair project.