

# The Solar System Model



Knowledge  
Through  
Entertainment

Astronomy

Solar System

Day and Night Cycle

Seasons

## Science Film Festival Films

▶ **The Show with the Mouse -  
Sun and Earth Special with Alexander Gerst**

### Learning Goals

- To have a better understanding of our solar system.
- To understand why we have day and night cycles on Earth.
- To understand why we have longer and shorter days.
- To understand why we have different season.

### Explanation of Scientific Principles

Daytime is when you can see the sun from where you are, and its light and heat can reach you. Nighttime is when the sun is on the other side of the Earth from you, and its light and heat don't get to you. We get day and night because the Earth is turning and sometimes you can see the sun, and sometimes you can't. It takes 24 hours for the world to turn all the way around, and we call this a day. Over a year, the length of the daytime in the part of the Earth where you live changes. Days are longer in the summer and shorter in the winter. Seasons are caused because of the Earth's changing relationship to the Sun. The Earth travels around the Sun, called an orbit, once a year or every 365 days. As the Earth orbits the Sun the amount of sunlight each place on the planet gets every day changes slightly. This change causes the seasons.

### Explanation of Connection to the Film

The film covers our solar system and provides answers to topics, such as the night and day cycle and the change of seasons. The model made in this activity will answer these question clearly.

### Materials

- 9 light weight of different size ball
- Metal wires
- Plier to cut metal
- Wires
- Pen
- Heavy container with flat top



## Preparation

- 1) Make a hole in the center of the container pass a pen through the hole you made.
- 2) Cut the wire and loop at one end.
- 3) Create 8 such wire with the same loop be sure to cut long of wire after one to another.
- 4) Fix it with some tips on top of the pen.
- 5) Make same hole in the balls and fix it on the end of the wire.
- 6) Create holder for the sun.
- 7) Arrange the balls in order (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune).
- 8) Color the planets (hear we can explain why every planet take that color).