PLANETARY SPINNING TOPS

All of the planets in our solar system are both spinning on their own axis and circling around the Sun. This motion is called an orbit. Planets orbit the Sun. Moons orbit planets. Any object in orbit is called a satellite. Our moon is a natural satellite, and there are also many man-made satellites orbiting the earth. Imagine a collection of tops that are able to circle each other without crashing or ever slowing down. On the ground, Earth’s gravity is too strong, so the tops eventually slow down and stop spinning. In this activity, you can create a top that draws the shape of an orbit before gravity pulls it down!

SUPPLIES

• Pencil
• Washable Marker
• Cardboard
• Small bowl and ruler
• Scissors

If available:

• Pencil stub
• Washer
• Glue or tape

To watch this process visit youtube.com/PeabodyEssexMuseum

INSTRUCTIONS

Step 1: Trace the outline of a small bowl rim onto a piece of cardboard and mark the center with the ruler and pencil. When you are done, cut out your circle carefully to make a disc.

Step 2: Carefully use your pencil to poke a hole in the very center of the cardboard disc. Use scissors to cut 3 or 4 small slits from the center that are about the width of your marker.

Step 3: Slide the marker into the center of your cardboard disc. You may have to adjust how far up or down on the marker the disk needs to be to get the best spinning action.

Step 4: Practice spinning the top with the cover on the marker first. Then, uncap the marker and spin the top on your paper. It may take a bit of practice before you can get the right spin. Check out the spiral patterns it creates! What do you notice about the designs?

TIP: If you have a washer from a bolt about the size of a pencil you can create a miniature version of the top.

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