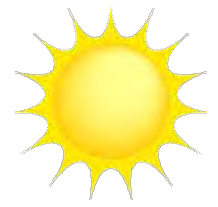


Straw Painting the Sun



Explore the dynamic sun through the fun of straw painting!



Materials Needed:

Straws; paper plate or circle cut from white paper; red, orange, and yellow food coloring (or liquid watercolors); cups; paper towels.

Instructions:

Step 1: Cover your workspace with a paper towel. Place a few drops of food coloring or liquid watercolors in cups, one color in each cup. Add about $\frac{1}{2}$ inch ($1\frac{1}{4}$ cm) of water to each cup.

Caution: Food coloring can stain clothing, skin, or surfaces.

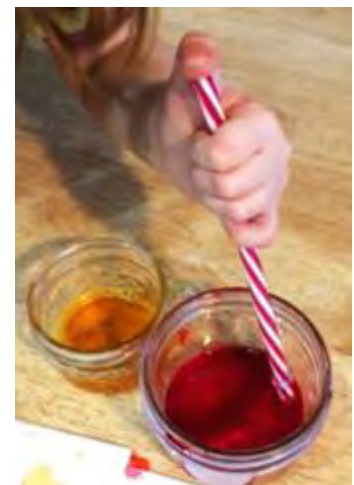
Step 2: Place one end of the straw in the liquid and plug the other end of the straw with your thumb (see picture). Lift the straw at a slight angle, keeping your thumb in place. There will be a drop of liquid in the straw.

Step 3: Place the straw over your paper plate or white circle. Lift up your thumb to let the drop of liquid out.

Step 4: Gently blow through the straw to spread the paint around. Make small circles for sunspots, or swirls and lines for solar flares. Experiment with patterns and colors!

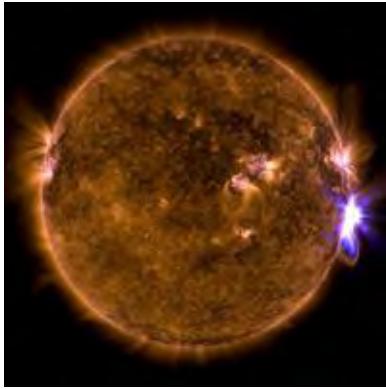
Hint: Use a different straw for each color.

Step 5: Repeat steps 2-5 until you are satisfied with your design. Let your artwork dry, then hang it up!



The Dynamic Sun

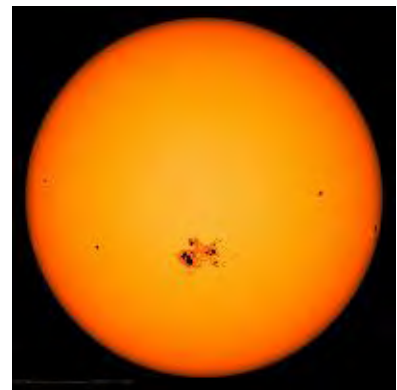
The Sun (also called Sol) is the star at the center of our Solar System. The Sun's surface is very active and always changing.



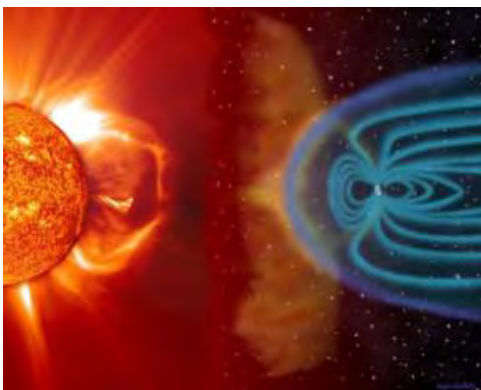
The Sun is made of gases that are always moving. This movement makes the surface of the Sun a busy place. Sometimes the Sun's surface is very active. Other times, things are a bit quieter. Scientists on Earth monitor how quiet or active the Sun is.

Left: NASA's Solar Dynamics Observatory takes a picture of a solar flare (the flash of light on the right) in 2017.

The Sun's surface sometimes has areas of intense magnetic activity, called *sunspots*. They appear dark because they are cooler than other parts of the Sun's surface. But they are still very hot, around 6,500 degrees Fahrenheit (3,600 degrees Celsius)! The number of sunspots increase and decrease in an 11-year *solar cycle*.



Right: Large sunspot in 2014. Image: NASA/SDO.



Solar wind interacting with the Earth's magnetic field. Image: SOHO (NASA & ESA).

Solar flares are sudden explosions of energy on the Sun. They can cause *coronal mass ejections*, which send out huge amount of energy into space. When the Sun is very active, we sometimes see the aurora around the North and South Poles of the Earth, because the energy from the Sun interacts with the magnetic energy of the Earth.

The atmosphere protects humans on Earth from the Sun's energy, but this space weather can disrupt satellites and the work of astronauts.

Discover more about the energetic Sun:

spaceplace.nasa.gov/solar-activity/en/