

Materials Needed:

- Globe or large ball (like a beach ball or soccer ball)
- Flashlight or lamp (without a shade) – this will be our 'Sun'
- Sticky notes or small labels
- Marker
- Construction paper (green, yellow, orange/brown, blue/white)
- Crayons or colored markers
- Scissors
- Paper plate or large circle cut from cardstock
- Brad fastener or paper clip and tape

Let's Explore the Seasons!

Have you ever wondered why we have warm summers perfect for swimming and cold winters great for hot cocoa? Why do leaves change color in the fall, and flowers bloom in the spring? It's all because of the seasons! Today, we're going on an adventure to discover why the seasons change.

Activity 1: Earth's Tilted Trip Around the Sun

Imagine our flashlight is the Sun, the center of everything! And this ball is our amazing planet, Earth.

1. Find North America (or where you live) on the globe/ball and place a small sticky note there.
2. Notice that the Earth isn't straight up and down; it's tilted! This tilt is super important. Think of the Earth like it's leaning over slightly as it spins.
3. Now, let's make the Earth orbit (travel around) the Sun (our flashlight). Keep the flashlight still in the center.
4. Hold the ball so it's tilted. Slowly walk in a circle around the flashlight, keeping the tilt pointed in the SAME direction in space (don't change the lean!).
5. Observe your sticky note. As the Earth orbits:
 - * Shine the flashlight directly onto the tilted ball. When your sticky note is on the part tilted TOWARDS the Sun, does it get more direct light? (Shine the light). Yes! That's like summer – more direct sunlight means warmer temperatures.
6. * Continue orbiting. When your sticky note is on the part tilted AWAY from the Sun, does it get less direct light? (Shine the light). Yes! The light is more spread out. That's like winter – less direct sunlight means colder temperatures.
7. * What about when the tilt is neither directly towards nor away, but sideways to the Sun? These are Spring and Autumn (Fall)! The light is more evenly spread.

Key Idea: It's the Earth's *tilt* combined with its *orbit* around the Sun that causes the seasons, not how close we are to the Sun!

Activity 2: Make a Season Wheel!

1. Take your paper plate or cardstock circle. Divide it into four equal sections (like cutting a pizza).
2. Use your construction paper and crayons/markers to decorate each section for a different season:
 - **Spring:** Green paper, flowers, baby animals, rain showers?
 - **Summer:** Yellow paper, sunshine, beach, green trees?
 - **Autumn (Fall):** Orange/brown paper, falling leaves, pumpkins, cooler weather?

- **Winter:** Blue/white paper, snow, bare trees, warm clothes?
3. Label each section with the season's name.
 4. Optional: Cut out an arrow shape from leftover paper. Attach it to the center of the wheel with a brad fastener (or use a paperclip poked through and taped on the back) so it can spin.
 5. Spin your arrow and talk about what happens in each season! What clothes do you wear? What holidays are there? What do plants and animals do?

Wrap-up Chat:

So, why do we have seasons?

- Because the Earth is tilted!
- As the tilted Earth orbits the Sun, different parts get more direct sunlight (Summer) or less direct sunlight (Winter).
- Spring and Autumn are the times in between.

Think about your favorite season again. Now you know the science behind why it happens!