

# Blast Off! Exploring Our Solar System

## Lesson Overview

**Age Group:** 5 Years Old (Kindergarten)

**Subject:** Science / Astronomy

**Duration:** 45-60 minutes

### Learning Objectives:

- Identify the Sun as the center of our solar system.
- Recognize Earth as our home and one of several planets.
- Demonstrate the concept of "orbit" through physical movement.
- Create a simple model of the Earth and Sun.

## Materials Needed

- 1 large yellow ball (or a yellow paper circle) to represent the Sun
- 1 small blue ball (or a blue marble/bead) to represent Earth
- Construction paper (black or dark blue)
- Crayons, markers, or chalk (white and yellow are best)
- Star stickers or glitter glue
- A flashlight
- Space-themed music (optional)

## Success Criteria

Learners will be successful if they can:

- Point to the Sun and describe it as "big and hot."
- Walk in a circle around a central object to show an "orbit."
- Explain that Earth is where we live.

## 1. Introduction: The Astronaut Hook (5-10 minutes)

**The Hook:** Put on an imaginary astronaut helmet! Ask the student: "If you could jump into a rocket ship today, where would you go?"

### Talking Points:

- "Today, we are going to be Space Explorers!"
- "We live on a beautiful blue and green ball called Earth."
- "Earth has neighbors called planets, and they all live in a giant neighborhood called the Solar System."

## 2. Body: How Space Moves (The "I Do, We Do, You Do" Model)

### I Do: The Big Bright Sun (5 minutes)

**Instruction:** Place the large yellow ball in the center of the room. Turn off the main lights and shine a flashlight on it.

**Talking Points:** "Look at this! This is the Sun. It's a giant, glowing ball of fire. It's the boss of our neighborhood because it's the biggest thing here. It keeps us warm and gives us light."

### We Do: The Orbit Dance (10 minutes)

**Instruction:** Give the student the small blue ball (Earth). Help them stand a few feet away from the "Sun."

#### Activity:

1. Explain that planets don't just sit still; they love to run in circles!
2. Have the student walk slowly in a wide circle around the yellow ball.
3. Tell them: "You are **orbiting**! That's a big space word that means traveling in a circle around something else."
4. Play space music and "orbit" together. Try going fast, then slow (like a slow planet).

### You Do: My Space Map (15-20 minutes)

**Instruction:** Now the explorer creates their own map of our neighborhood.

#### Step-by-Step Task:

1. Glue a yellow circle (the Sun) in the very middle of the black paper.
2. Use a white crayon or chalk to draw a big circle (an orbit line) around the Sun.
3. Draw or stick a small blue circle on that line to represent Earth.
4. Decorate the rest of the "Space Map" with star stickers or "space dust" (glitter).

## 3. Conclusion: Mission Recap (5 minutes)

**Summary:** Gather the "crew" back at the Mission Control desk.

#### Recap Questions:

- "Who is the big, hot boss in the middle of our solar system?" (The Sun)
- "What is the name of our home planet?" (Earth)
- "Can you show me with your hand how Earth moves around the Sun?" (Circular motion)

**Closing:** "Great job, Astronaut! You've completed your first mission. Tomorrow, we might discover what other neighbors live in our neighborhood!"

## Assessment

**Formative:** During the "Orbit Dance," observe if the child understands they need to stay in a circular path around the Sun.

**Summative:** Review the "Space Map." Check if the Sun is in the center and the Earth is positioned on an orbit line.

## Differentiation & Adaptability

**For Struggling Learners:** Focus only on the Sun and Earth. Use a physical string tied to the "Sun" ball and the child to help them physically feel the circular path of the orbit.

**For Advanced Learners:** Introduce the Moon! Give them a tiny grey ball and show how it orbits the Earth while the Earth orbits the Sun (the "double circle").

**Classroom/Group Tip:** Have one student be the Sun (standing still) and several other students be different planets at different distances, all orbiting at the same time.