

Objective

By the end of this lesson, the student will have a foundational understanding of gravity, its effects on objects, and the importance of gravity in our daily lives. The student will also engage in hands-on activities to explore concepts related to gravitational force.

Materials and Prep

- Paper
- Pencil or pen
- Various small objects (e.g., a ball, a book, a toy)
- Measuring tape or ruler (optional for measuring height)

Before the lesson, ensure that the student understands basic physics concepts such as force and motion. Prepare a quiet space where the student can safely conduct activities without distractions.

Activities

- **Drop It!**

Have the student drop different objects from the same height and observe which objects hit the ground first. Discuss why some objects fall faster than others and introduce the concept of air resistance.

- **Gravity Experiment**

Using the measuring tape or ruler, have the student measure the height from which they will drop the objects. Encourage them to predict which object will hit the ground first and why.

- **Gravity in Action**

Go outside and observe how gravity affects larger objects, such as trees or people. Discuss how gravity keeps everything grounded and how it affects movement.

- **Gravity Drawing**

Ask the student to draw a picture illustrating gravity at work, such as an apple falling from a tree or a ball rolling down a hill. This will help them visualize the concept.

Talking Points

- "Gravity is a force that pulls objects toward each other. The Earth is very large, so it has a strong gravitational pull."
- "All objects fall at the same rate in a vacuum, but air resistance can affect how quickly they fall. Can you think of examples?"
- "Gravity is what keeps us on the ground and what makes things fall when we drop them. Without gravity, we would float away!"
- "The strength of gravity depends on the mass of the objects and the distance between them. For example, the Earth has more mass than a small ball, so it pulls the ball toward it."
- "Gravity is not just on Earth; it exists everywhere in the universe. It's what keeps the planets in orbit around the sun!"