Lesson 2:
What is Motion?

What is Motion?
Motion is the act of moving.
Science Video Vocab: Motion

Defines motion and describes how motion relates to force, gravity, and magnetism. The segment also introduces Newton's three laws of motion.

We observe motion by observing change in the position of an object compared to another object.
Isaac Newton
English physicist and mathematician
Lived from 1642 - 1727
Newton wrote *Mathematical Principles of Natural Philosophy*, which formulated the laws of motion and universal gravitation.

In his book, Newton wrote about three scientific laws that describe motion.
Discovery Education Video

**TLC Elementary School: Rules of Motion and Forces**

Newton’s First Law of Motion

An object at rest tends to stay at rest, and an object in motion tends to stay in motion, with the same direction and speed.

Motion cannot change without an unbalanced force.
Newton’s Second Law of Motion

The acceleration of an object produced by a net (total) applied force is directly related to the magnitude of the force, the same direction as the force, and inversely related to the mass of the object.

More force = More acceleration

Newton’s Third Law of Motion

For every action (force) there is an equal and opposite reaction (force).

Forces are found in pairs.
Key Questions

1. Describe how we can observe when motion occurs.

2. Based on Newton’s first law of motion, why does a ball rolling across the floor eventually stop?

3. Give an example of Newton’s third law of motion.