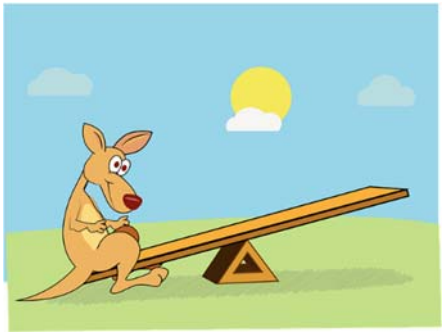
Name _____



Newton's Third Law of Motion

Newton's Third Law of Motion, known as the law of action-reaction, tells us that for every action, there is an equal and opposite reaction. In other words, when one object exerts a force on another, the second object exerts an equal force in the opposite direction. This law is why we can move or interact with the world around us.

Example: Think about jumping off a diving board into a swimming pool. When you push down on the board with your legs (the action), the board pushes you upward (the reaction). Your push on the board and the board's push on you are equal and opposite forces.

Real-world application: When you swim, you use Newton's Third Law. As you push the water backward with your arms and legs, the water pushes you forward. This is what propels you through the water.

Questions

1. What does Newton's Third Law of Motion state?

2. Explain the concept of "action-reaction" in this law.

3. Describe an example of action-reaction in everyday life.

4. How is jumping off a diving board related to this law?

5. Why is this law important in activities like swimming?