

Name _____

The Surprising World of Newton's Third Law

Short Answer Key

1. Example: Jumping off a diving board. When you push down on the board (action force), it pushes you upward into the air (reaction force).
2. Newton's third law contributes to passenger safety by ensuring that seatbelts and airbags exert reaction forces that counteract sudden deceleration during stops or collisions.
3. Example: The Moon's gravitational force on the Earth and the Earth's gravitational force on the Moon create action and reaction forces that keep them in orbit.
4. Simple experiment: Place two identical toy cars facing each other on a smooth surface. Blow up two balloons and attach them to the cars' back ends. Release the air from the balloons, and observe the cars moving in opposite directions.
5. Other areas where Newton's third law may apply include aerospace engineering, sports equipment design, and space exploration technology.

