Name _____

Forces in Space

Did you know that Newton's laws of motion apply even in space? Astronauts on spaceships experience the effects of these laws when they work and move around in microgravity.

Example: Imagine an astronaut floating inside the International Space Station (ISS). When they push off a wall, they move in the opposite direction because of Newton's Third Law. Their push is the action, and their movement is the reaction.

Real-world application: In space, there's no gravity to pull objects down, but Newton's laws still work. Astronauts use carefully calculated forces to control their movements and perform tasks like repairs and experiments on the ISS.

Questions

1. Do Newton's laws of motion apply in space?

2. Explain how Newton's Third Law applies to an astronaut's movements in space.

3. What is microgravity, and how does it affect astronauts?

4. How do astronauts use forces to control their movements in space?

5. Can you think of another situation where Newton's laws might apply differently due to changing conditions?