

Title: Laws of Motion

Class: 11

Subject: Physics

1. Introduction:

Laws of motion describe the relationship between the motion of an object and the forces acting on it.

2. Newton's First Law:

An object will remain at rest or move in a straight line unless acted upon by an external force.

3. Newton's Second Law:

Force = mass \times acceleration ($F = ma$). It quantifies the effect of force.

4. Newton's Third Law:

For every action, there is an equal and opposite reaction.

5. Real-life Examples:

- A ball rolling on the ground stops due to friction.
- A rocket launch is based on Newton's third law.

6. Practice Questions:

Q1. Define Newton's second law with an example.

Q2. What happens when you push a wall? Explain using Newton's laws.