

SUBJECT:- PHYSICS

CLASS:- IXTH

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CHAPTER 2. (FORCE AND LAWS OF MOTION)(BASED ON NCERT PATTERN)

Third Law of motion

- Newton's third law of motion states that

Whenever a body exerts a force on another body, the second body exerts an equal and opposite force on the first body

- So according to third law of motion to every action there is an equal and opposite reaction. This tells us that all forces in nature acts in pairs.
- These two forces are always equal in magnitude but opposite in direction.
- These forces act on different objects and never on the same object.

Few applications of third law of motion are:-

- If you throw a heavy ball or block away from your body, the force exerted will push back on you, possibly pushing you backward onto the ground.
- A book lying on a table exerts a force on the table which is equal to the weight of the book (action force). The table supports the book, by exerting an equal force on the book (reaction). As the system is at rest, net force on it is zero. Therefore, forces of action and reaction must be equal and opposite.
- When a gun is fired, the bullet moves forward (action). The gun recoils backwards (reaction).