

ACTIVITY NO. –12 - Which ball has more kinetic energy?

Subject	Science
Class	IX
Chapter/Unit	Chapter -11, Work and Energy
Topic	Kinetic energy
Time	20 Minutes
Nature of Activity	Pair work

What will I learn (Learning Outcome)?

To verify that kinetic energy is directly proportional to the mass of an object

Skills: Analyzing and Creating

What I have to do?

To demonstrate an activity to show that a massive/heavier ball has more kinetic energy and hence covers more distance while moving.

What do I require?

Two balls of same size- plastic and heavier ball , inclined surface , measuring tape.

What do I need to know?

The kinetic energy is possessed by virtue of the motion. kinetic energy is (i) directly proportional to the mass of the object and (ii) proportional to the square of the speed of the object.

➤ Teacher's Activity

Teacher will :

1. discuss the definition of kinetic energy.
2. will explain the steps of the activity.
3. make pairs and ensure that each participant in pair performs the activity .

How will I proceed?

➤ Students activity

1. An inclined surface and a support is arranged.
2. The plastic ball is kept on top of the inclined surface and allowed to roll down.
3. The distance covered by the plastic ball is measured using measuring tape
4. Then, a heavier ball is put on top of the inclined surface and is allowed to roll down.
Again, the distance is measured.

What have I observed?

S. No	Type of ball	Distance covered
1.	Plastic	
2.	Heavier	

What have I learnt?

- 1.Theball travelled more distance.
2. More the mass of the object.....the kinetic energy.

What am I curious to learn?

- If two balls of same masses are taken and made to slide down the inclined plane with different speeds, would the distance covered be different? Is there a relation between kinetic energy and speed of the object?

Let me evaluate myself

Q.1. What do you understand by kinetic energy?

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Q.2. Explain how mass of an object affects the amount of kinetic energy .

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Q.3. Give five instances when a body possesses only kinetic energy.

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Q.4. When the ball starts rolling down the inclined plane, does it have only kinetic energy? Justify your answer by giving reason.

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Q.5.Can we convert kinetic energy to potential energy? Give an example to support your answer.

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