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## Basketballs and Energy

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Template for Lesson Plans/ Write Ups /

Name of activity: Using Basketballs to describe energy transfer

Age/Grade range:

STEM discipline(s):

- Physics

What topic does this activity relate to?

- Potential energy
- Kinetic energy
- Transfer of energy to motion

**Pre-activity / Pre-work (what students should know or prepare before doing engaging in this activity; what teachers need to prepare before leading the activity):**

What should the students learn by the end of this activity?

- Students should be able to understand how potential energy depends on the height of an object, and how kinetic energy is related to the velocity / speed of an object in motion.

Tools/supplies needed (indicate quantity and if it needs to be bought + price range):

- Some sort of object that can be dropped without breaking, at least 2

Total price (indicate per class or per student):

Step-by-step instructions on how to conduct the activity (attach link if found online and make note of modifications for your class here): (Include e.g., size of groups, images of materials or people doing the activity that might help the reader lead the activity, helpful supporting materials)

- 2 Basketballs were held at different heights, and girls were asked to predict which one had more potential energy and why. Girls were then asked to predict which basketball would be faster, hit

the ground first and why. After observing the experiment in action, the girls reviewed their original predictions and if they were correct or not.

**During activity:**

Number of students present:

What modifications had to be made to the lesson plans and why (if any)?

Provide feedback: teacher observations, specific student feedback, work products:

**Post-activity (reflection):**

What aspects of the activity worked well?

What can be improved on?

- Use a more drastic difference in height to show a more significant difference in speed of the falling objects

What suggestions do you have to adjust the lesson for different purposes or populations?

- Use two objects of different masses

If money was spent on tools/supplies, in your opinion, was the investment worth it?

Provide thoughts on alternative materials, steps or other modifications that might be worthwhile for others to consider.

Additional notes: