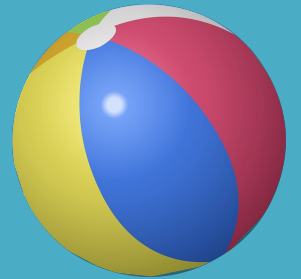
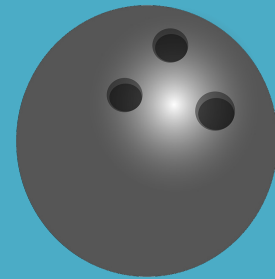


Relationship Between Kinetic Energy Mass and Speed

- What Energy Is
- Kinetic Energy
- Kinetic Energy and Mass
- Kinetic Energy and Speed
- Examples
- Practice
- Student-Designed Experiment



Preview File

Please enjoy this preview of your Student Version of the presentation. Please note within this sample file:

- Some slides appear blank because they have been removed
- Student versions have portions of the text removed which is given in the teacher version and appear as _____ which the students are to fill in
- Other slides may have on them, this represents writing that has been removed on this sample

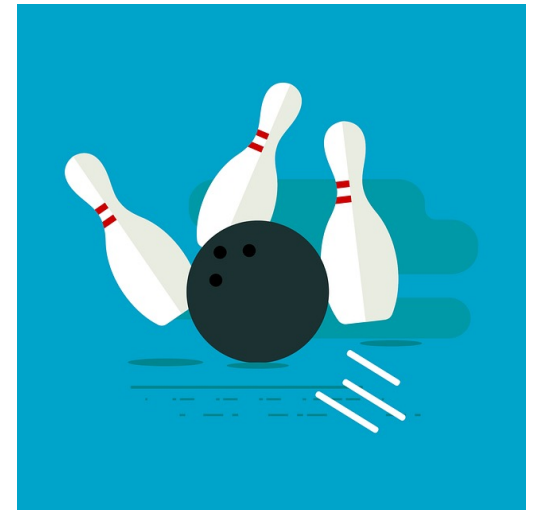
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Energy

What is energy?

Example: If a bowling ball is moving, it has energy. If it collides with bowling pins, it will knock them over because it has energy.



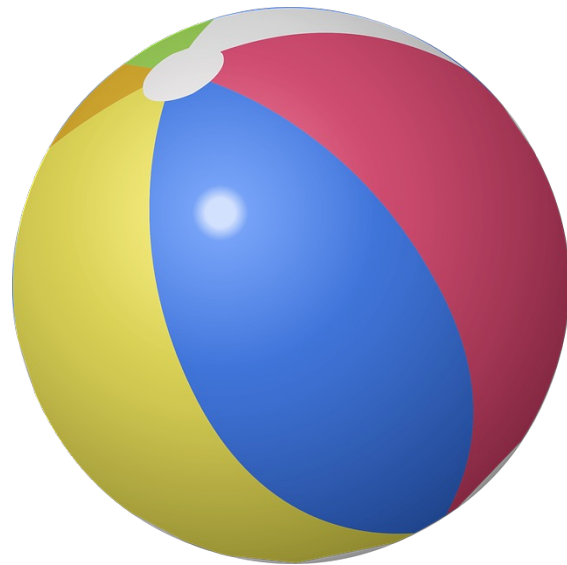
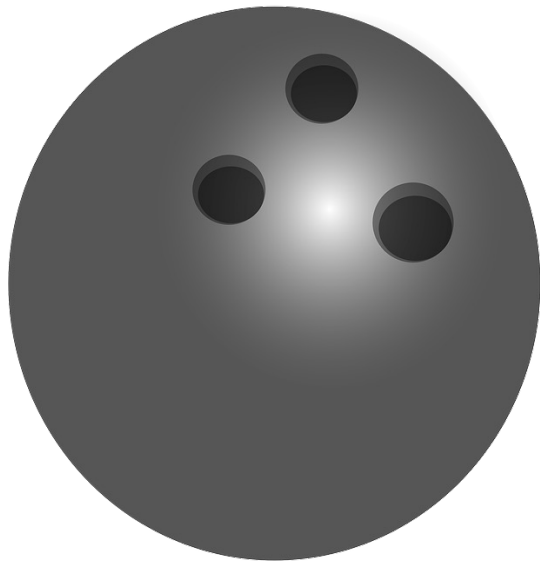
Kinetic Energy



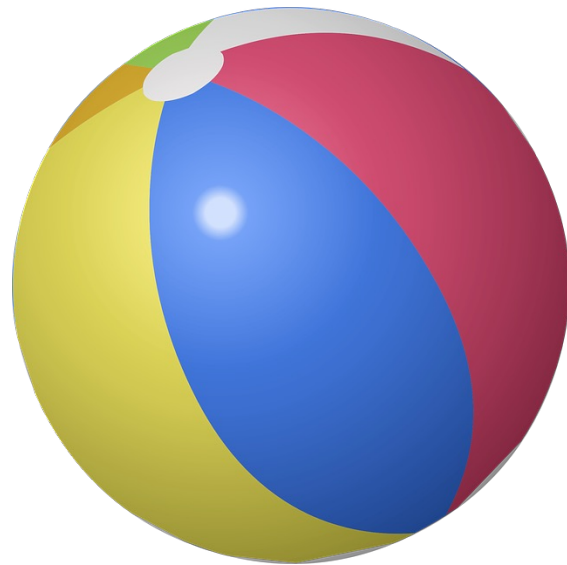
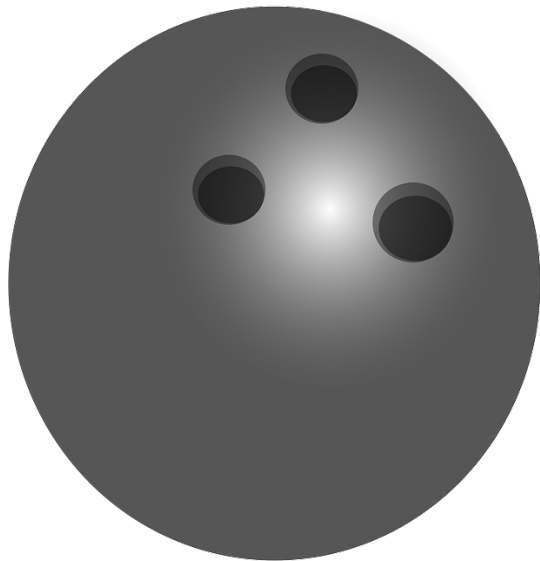
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Kinetic Energy and Mass

- _____
- Usually, heavier objects have more mass
- Which would be more massive?

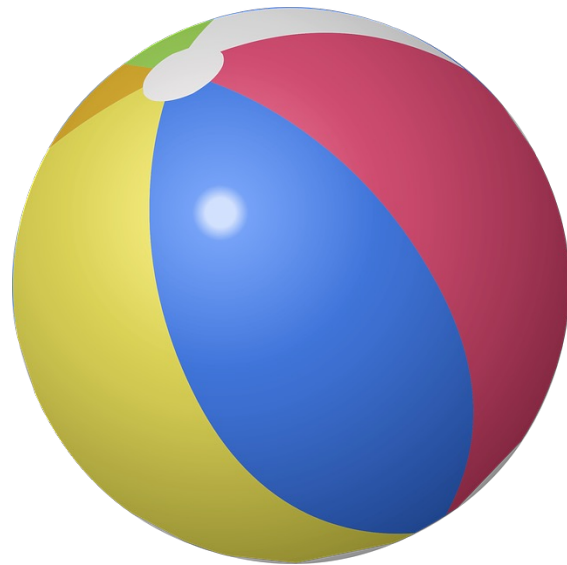
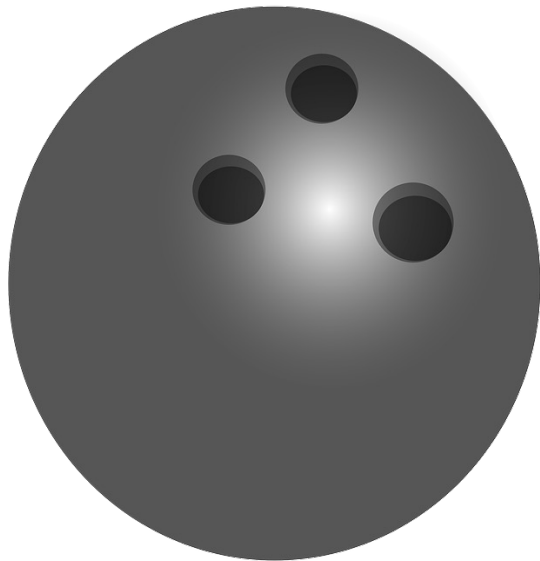


Kinetic Energy and Mass



Kinetic Energy and Mass

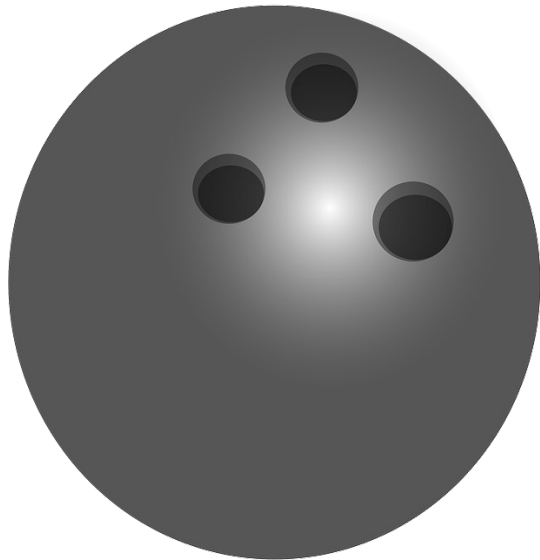
Which ball would be harder to catch if thrown at the same speed, the bowling ball or beach ball and why?



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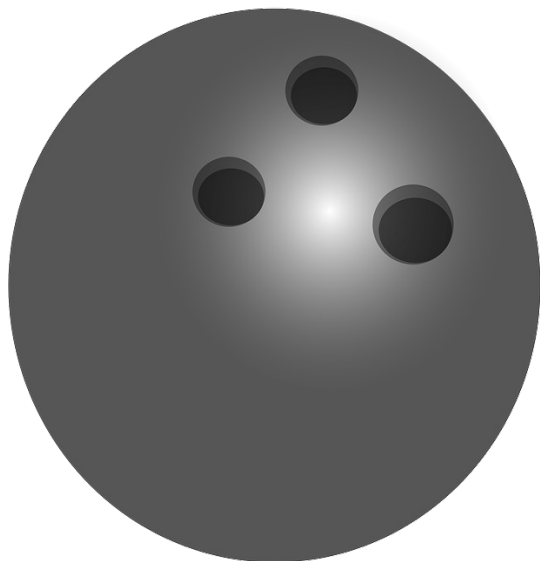
Kinetic Energy and Speed

The amount of kinetic energy an object has also _____



Kinetic Energy and Speed

If you roll the grey ball at 1 m/s and the blue ball at 5 m/s and they have the same mass, which will have more energy? How do you know?



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Kinetic Energy

If you want to see why energy changes with an increase in mass and speed, have a look at the equation below. Note: You do not need to memorize or use the equation.

$$\textit{Kinetic Energy} = \frac{1}{2} mv^2$$

Kinetic energy is equal to $\frac{1}{2}$ multiplied by the mass multiplied by the speed (v). If you increase the mass or speed, you increase the kinetic energy.

Check Your Understanding

What would have more energy and why?

- 1) A train or a car both traveling at 62 mph?
- 2) A 50 kg object traveling at 10 km/h or the same object traveling at 20 km/h?

Experiment

Your task is to

You must:

1. Come up with an idea. Get ideas from examples in the lesson if you like.
2. Gather all materials.
3. Write out
4. Collect data visually about
5. Write a conclusion comparing the two situations. Which