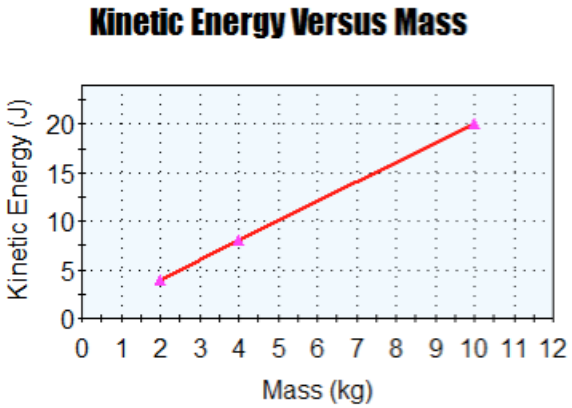
Learning Target: I can analyze and interpret data to create graphical displays that illustrate the relationships of kinetic energy to mass and speed and potential energy to mass and height of an object.

Kinetic Energy & Potential Energy Graph Analysis



1. If a ball has a mass of 10 kg, approximately what is its kinetic energy? _____

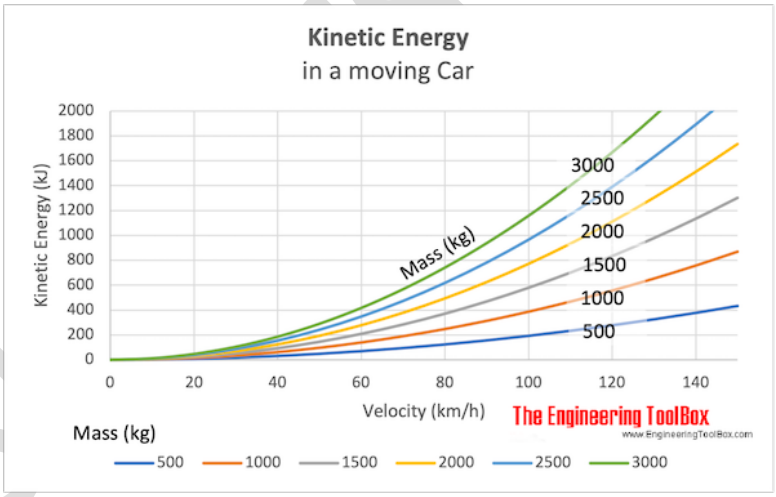
2. If a football has a kinetic energy of approximately 12, what is its mass? _____

3. What is the relationship between mass and kinetic energy? As mass _____, kinetic energy _____.

4. Is this a direct or inverse relationship? Explain why. _____

_____

Kinetic Energy vs. Velocity



5. Which car has the largest amount of kinetic energy, the 1000 kg car or the 2500 kg car? Explain why. _____

_____

6. Which car has the least amount of kinetic energy? Explain why. _____

_____

7. What relationship do you notice between mass, velocity, and kinetic energy in the graph above _____

_____

_____

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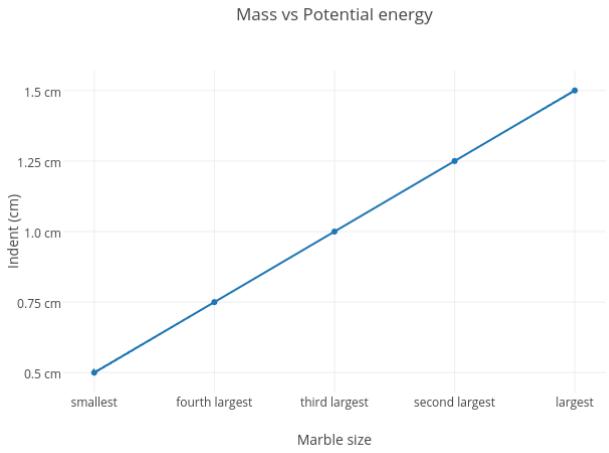
Potential vs. Mass Graph



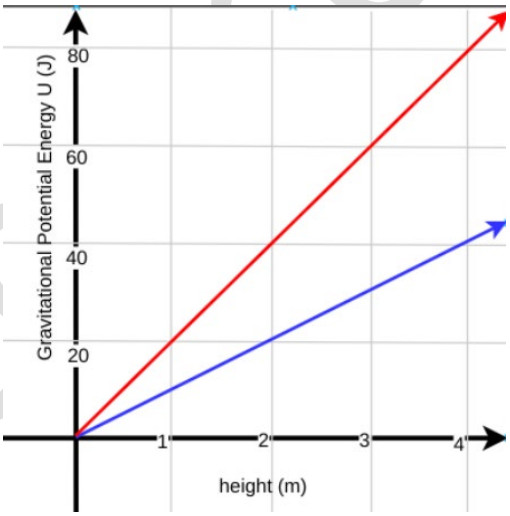
8. Why is the largest marble the largest? _____

9. Why is the smallest marble the smallest? _____

10. What is the relationship between the mass of a marble and potential energy? _____

_____

Gravitational Potential Energy vs. Height



11. What is the relationship between potential energy and height of an object? _____

_____

12. What is the relationship between gravitational potential energy, mass, and height? _____

_____

_____

_____

_____

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