

S8P2. a. 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.



[How to Analyze Kinetic & Potential Energy Graphs Video Notes](#)

1. Energy is the ability to do _____, which is when a _____ is applied to an object and it _____. Both potential energy and kinetic energy have the ability to do _____. Potential energy is a form of energy that has the _____ to do work but is not actively doing work or applying any _____. on any other objects. Potential energy of an object is found in its _____ not in its _____. It is the energy of position, not of motion.
2. What 3 ways is potential energy released? _____
3. How is potential energy stored in an archer's bow? _____
How is this turned into kinetic energy? _____
4. How does the food we eat have potential energy? _____

Quick Check for Understanding!

Does potential energy always turn into kinetic energy? Explain why or why not. _____

5. Kinetic energy is created when potential energy is _____, forced into motion by _____ or _____ forces, and other ways that cause objects to move. Kinetic energy is the energy of _____. When work is done on an object it accelerates, it _____ the kinetic energy of an object.
6. What are the most important factors that determine kinetic energy? _____

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7. What is the relationship between mass and kinetic energy? _____

Is this a direct or inverse relationship? _____

Analyze the graph at 4 minutes in the video to answer the following questions.

8. Which car has the least kinetic energy? _____ Explain why. _____

9. Which car has the greatest kinetic energy? _____ Explain why. _____

10. What is the relationship between speed, mass, and kinetic energy? _____

11. What is the relationship between potential energy and mass? _____

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

13. What is the relationship between potential energy, mass, gravity, and height of an object? _____

Quick Check for Understanding:

Would you rather be hit on the head with a tennis ball falling from 2 feet above your head, or a tennis ball falling from 50 feet above your head? Explain your answer below. _____