

Physical Science
Spring Break Practice

Name _____

Period _____

1) Please draw a line to match the beginning and end of the sentences below.

- Kinetic types of energy •
- Potential types of energy •

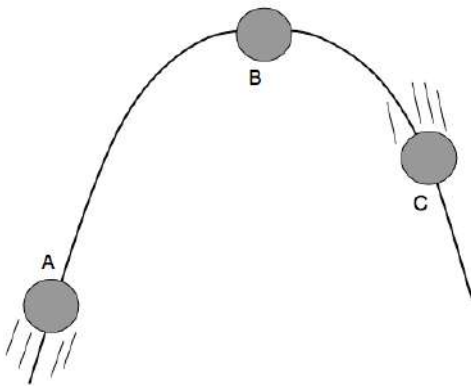
- store the energy to be used later
- use the energy for movement

2) Please draw a line to match each type of energy to its definition.

- Mechanical •
- Sound •
- Radiation (light) •
- Atomic •
- Thermal (heat) •
- Gravitational •
- Chemical •
- Electrical •

- Energy of molecules moving in longitudinal waves
- Energy of photons moving
- Energy stored in the attraction between two objects
- energy of moving electrons
- Energy of any moving object
- Energy stored in chemical bonds between atoms
- Energy of moving atoms
- Energy stored in the nucleus of an atom

3) Using the picture below, order the three points (A, B, and C) from the most to least mechanical kinetic energy and gravitational energy. Please explain why you chose the order for each one.



Mechanical Kinetic Energy

Most _____ Least

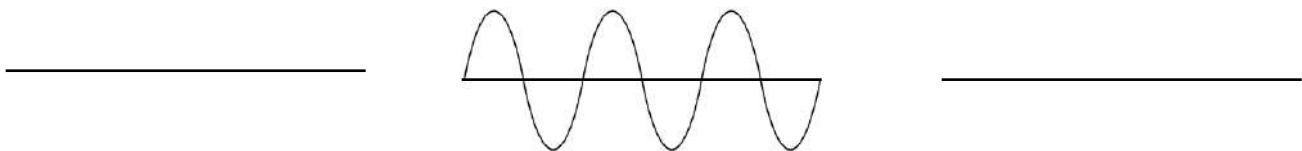
I chose this order because _____

Gravitational Energy

Most _____ Least

I chose this order because _____

4) Below is a drawing of a wave. To the left, please draw a wave with a similar frequency, but a smaller amplitude. To the right, please draw a wave with a similar amplitude and a higher frequency.



5) If the drawings above represented sound waves, which one would have the highest pitch? _____
 How did you choose your answer? _____

6) Does the wave to the left have more or less energy than the wave in the middle? _____
 How do you know? _____

7) Does the wave to the right have more or less energy than the wave in the middle? _____
 How do you know? _____

- 8) Does ultraviolet light have a higher or lower frequency than infrared light? _____
Which one has more energy? _____
- 9) Please describe the difference between chemical and atomic energy. Focus on where the energy is stored and how many atoms are used in each type.

- 10) Compare a cup of water to a hot bowl of soup. Which one has atoms that are moving faster?

- 11) Compare a cup of water to a hot pan on a stove without any food in it. Which one has atoms that are moving faster? Explain how you know your answer is correct.

- 12) Using electrical energy, what causes some light bulbs to be brighter than others? (Don't just say more electricity, explain what that means!)

Interesting youtube channels you can learn from over break:

- Adam Neely: Music theory
- Rob Scallon: Crazy instruments and other musical escapades
- Company Man: Video essays explaining why some companies do well and others fail
- Mark Rober: Science experiments and engineering challenges (tiene subtítulos en español)
- TierZoo: Discusses different types of animals as if they were video game characters
- Binging with Babish: Recreates popular meals from tv shows and movies
- Wintergatan: Has been building a musical marble machine for the last two years
- MindYourDecisions: Math problems
- Mike Boyd: Learns something new in every video
- Summoning Salt: Video essays on the history of video game speed records
- Colinfurze: British guy who build ridiculous things (like a jet powered scooter)
- Torbjorn Ahman: Blacksmith and woodworker
- Kurzgesagt: Video essays about a wide variety of science and futuristic topics
- Primitive Technology: Guy builds shelters and tools in the woods with his hands (use subtitles)
- Extra Credits: Video essays on historical events and other topics