

Academic Support

Grade 8 Science: Properties of Waves

Name: _____ Class: _____

Part 1: Key Terms & Definitions

Match the term on the left with the correct description on the right by writing the letter in the box.

Term	Description
1. Medium	A. The highest point of a transverse wave.
2. Crest	B. The material through which a wave travels.
3. Frequency	C. The distance between two consecutive crests.
4. Amplitude	D. The number of waves passing a point per second.
5. Wavelength	E. The height of a wave from its rest position.

Part 2: True or False

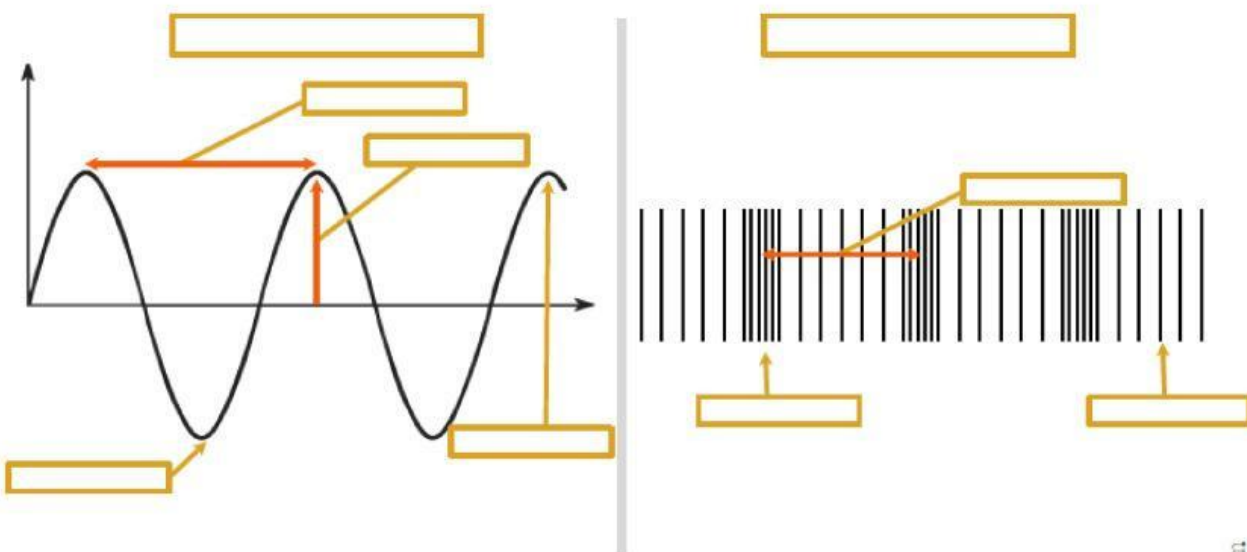
Write **T** for True or **F** for False.

1. [] Waves transfer matter from one location to another.
2. [] Sound waves are examples of longitudinal waves.
3. [] The medium moves perpendicular to the energy in a transverse wave.
4. [] All waves require a solid, liquid, or gas to travel through.

Part 3: Labeling the Transverse Wave

Study the diagram provided by your teacher and fill in the blanks for each label.

 **WAVES: LABEL IT**



The diagram illustrates two types of waves. On the left is a transverse wave, represented by a sine wave. It has four labels with arrows pointing to specific parts: 'amplitude' (from the rest position to a crest), 'wavelength (λ)' (between two consecutive crests), 'crest' (the highest point), and 'trough' (the lowest point). On the right is a longitudinal wave, represented by a series of vertical lines of varying density. It has two labels: 'compression' (the region where lines are close together) and 'rarefaction' (the region where lines are spread apart). A vertical line separates the two wave types.

amplitude	wavelength (λ)	compression	longitudinal wave
crest	trough	transverse wave	rarefaction

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Part 4: Longitudinal Wave Identification

In a longitudinal wave, like a sound wave, energy moves parallel to the particles.

1. What do we call the area where the particles are **squashed together**? _____
2. What do we call the area where the particles are **spread apart**? _____

Part 5: Multiple Choice : Circle the correct letter.

1. Which of these waves can travel through the vacuum of space?

- a) Sound waves b) Water waves c) Light waves d) Seismic waves

2. As the frequency of a wave increases, the wavelength will:

- a) Increase b) Decrease c) Stay the same d) Disappear

3. The amount of energy a wave carries is most closely related to its:

- a) Amplitude b) Speed c) Wavelength d) Color