Name _____

The Dance of Waves: Understanding the Relationship between Wave Speed, Frequency, and Wavelength

Multiple Choice Questions

1. What does wave speed refer to?

A) The number of complete cycles a wave makes in one second.

B) The distance between two consecutive wave crests.

C) How fast a wave travels through a medium.

D) The height of a wave's crest.

2. How is frequency measured?

A) In meters (m).

B) In decibels (dB).

C) In Hertz (Hz).

D) In seconds (s).

3. What happens to wave speed when wavelength decreases?

A) Wave speed increases.

B) Wave speed remains the same.

C) Wave speed decreases.

D) Wave speed becomes zero.

4. If a wave has a high frequency, how does it affect its speed?

A) It decreases the speed.

B) It increases the speed.

C) It has no effect on speed.

D) It changes the wave's direction.

5. What is the relationship between wave speed, frequency, and wavelength expressed in an equation?

A) Wave Speed (v) = Wavelength (λ) × Frequency (f)

B) Wavelength (λ) = Wave Speed (v) ÷ Frequency (f)

C) Wave Speed (v) = Frequency (f) × Wavelength (λ)

D) Frequency (f) = Wave Speed (v) + Wavelength (λ)