

Wave Properties Quiz PDF

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Explain how waves transfer energy without transferring matter.

How does changing the amplitude of a wave affect its energy?

Which of the following is a mechanical wave?

- Light wave
- Radio wave
- Sound wave
- X-ray

Discuss how refraction occurs and provide a real-world example.

Describe the difference between transverse and longitudinal waves, providing an example of each.

What is the unit of frequency?

- Meters
- Seconds
- Hertz
- Joules

The energy of a wave is proportional to which of the following?

- Wavelength
- Frequency
- Amplitude squared
- Speed

Phase is measured in which units?

- Meters
- Seconds
- Degrees or radians
- Hertz

What is the formula for wave speed?

- $v = \lambda + f$
- $v = f \lambda$
- $v = \lambda / f$
- $v = f - \lambda$

Why is amplitude squared used to describe the energy of a wave?

Which of the following are electromagnetic waves? (Select all that apply)

- Sound waves
- Light waves
- Radio waves
- Water waves

Which of the following describe a transverse wave? (Select all that apply)

- Particles move parallel to wave direction
- Particles move perpendicular to wave direction
- Light waves are an example
- Sound waves are an example

Which property of sound waves determines the pitch?

- Amplitude
- Frequency
- Wavelength
- Speed

How do sound waves differ from light waves in terms of their propagation and medium requirements?

What factors affect the energy carried by a wave? (Select all that apply)

- Amplitude
- Wavelength
- Frequency
- Phase

What happens to a wave during reflection?

- It speeds up
- It bends
- It bounces back
- It stops

Which of the following are examples of mechanical waves? (Select all that apply)

- Sound waves
- Water waves
- Light waves
- Seismic waves

What is a wave?

- A transfer of matter
- A disturbance that transfers energy
- A stationary phenomenon
- A solid object

Which phenomena involve the bending of waves? (Select all that apply)

- Reflection
- Refraction
- Diffraction

Interference

Which of the following are true about wave speed? (Select all that apply)

- It is constant for all waves in a vacuum
- It depends on the medium for mechanical waves
- It is calculated as $v = f \lambda$
- It is independent of frequency