INTRO TO WAVES WORKSHEET

waves are caused by vibrations (propagation of a disturbance) TRUE FALSE

waves transport energy and not matter TRUE FALSE

two general wave classifications: mechanical waves and electromagnetic waves

audible mechanical waves are referred to as _____ waves

visible electromagnetic waves are referred to as _____ waves

what is the speed of a mechanical wave in a vacuum?

what is the speed of an electromagnetic wave in a vacuum?

what is the speed of a mechanical wave in air?

what is the speed of an electromagnetic wave in air?

what is the speed of a mechanical wave in water?

what is the speed of an electromagnetic wave in water?

mechanical waves classified as being either transverse waves or longitudinal waves

demonstrate via an applet: http://physics.usask.ca/~pywell/p121/Applets.html

crests and troughs vs. condensations and rarefactions

demonstrate via a spring and a slinky

demonstrate via a stadium wave (standard versus non-standard)

what type of wave is a sound wave?

wavelength refers to the minimum distance required along the wave for the wave pattern (the cycle) to repeat itself

what are the units of wavelength?

what is the symbol for wavelength?

frequency refers to the number of repeating wave patterns (cycles) that pass by per second (essentially the number of wavelengths per second)

frequency can also be thought of in terms of how many times a fixed point on the wave moves back and forth (up and down or side to side) per second

what are the units of frequency?

what is the symbol for frequency?

wave speed is thus the frequency (cycles/second) times the wavelength (meters/cycle) such that $v = f\lambda$

what are the units of wave speed?