California Science Content Standards in 9 12 Physics

WAVES

Waves have characteristic properties that do not depend on the type of wave.

STANDARDS[1]

a. *Students know* waves carry energy from one place to another.

b. *Students know* how to identify transverse and longitudinal waves in mechanical media, such as springs and ropes, and on the earth seismic waves .

c. *Students know* how to solve problems involving wavelength, frequency, and wave speed.

d. *Students know* sound is a longitudinal wave whose speed depends on the properties of the medium in which it propagates.

e. *Students know* radio waves, light, and X rays are different wavelength bands in the spectrum of electromagnetic waves whose speed in a vacuum is approximately 3.0 □ 10^8 m/s 186,000 miles/second .

f. *Students know* how to identify the characteristic properties of waves: interference beats , diffraction, refraction, Doppler effect, and polarization.

FRAMEWORK EQUATION[2]

c. $v = f$□

v wave speed

f frequency

□ wavelength

1. *Science Content Standards for California Public Schools, Kindergarten Through Grade Twelve.* This sheet does not include starred, "opportunities to learn" standards.
2. *California Science Framework for K 12 Public Schools.*

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