

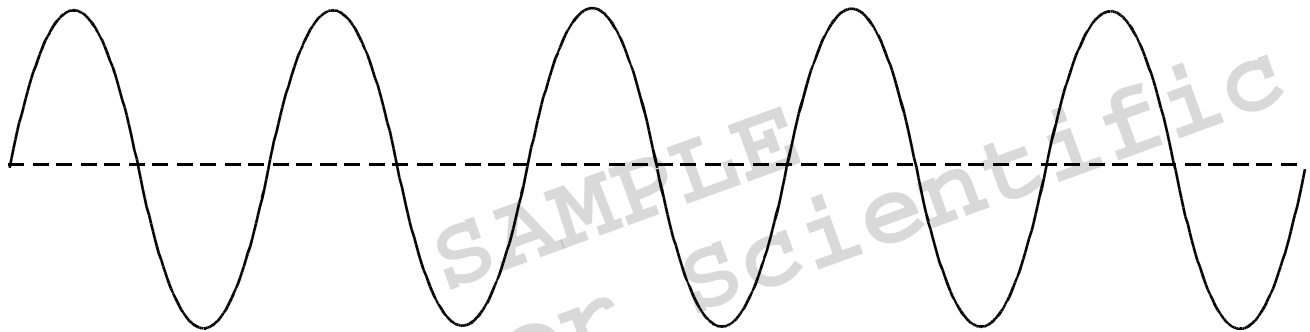
CONCEPTUAL PHYSICS ALIVE! VIDEO QUESTION SET

Vibrations & Sound I

In this lecture, Paul Hewitt introduces the basic concepts of vibrations and waves. Interference and beats are demonstrated and discussed. Read the following questions before the presentation begins. Answer them while the presentation is in progress. [32 minutes]

1. A wiggle in time is a _____; a wiggle in time through space is a _____.

2. Label wavelength (λ) and amplitude (A) in the diagram below.



3. What was the lesson of Hewitt's "trick" question?

- A. The frequency was 1/7th of a hertz. B. The period was 1/7th of a second.
 C. The frequency was 7 Hz. D. The period was 7 s.
 E. Be careful to answer the question that's actually asked.

4. What's the period of oscillation of household electricity? _____

5. WAVE SPEED = DISTANCE / TIME = _____ = _____ = $v = f\lambda$.

6. What letter is used to represent the speed of light? _____

7. Which travels faster?

- A. a light wave B. a radio wave C. same for both

8. What is the wavelength of waves broadcast from Hawaiian radio station KCCN 1420 AM?

9. What is the result when two equal waves meet out of phase?



10. When waves of different frequencies meet, the “throbbing” (“wah-wah”) sound is a phenomenon called...

Random Tangent

11. What “technology” does Hewitt hope to see get replaced in the future?

SAMPLE
From Arbor Scientific

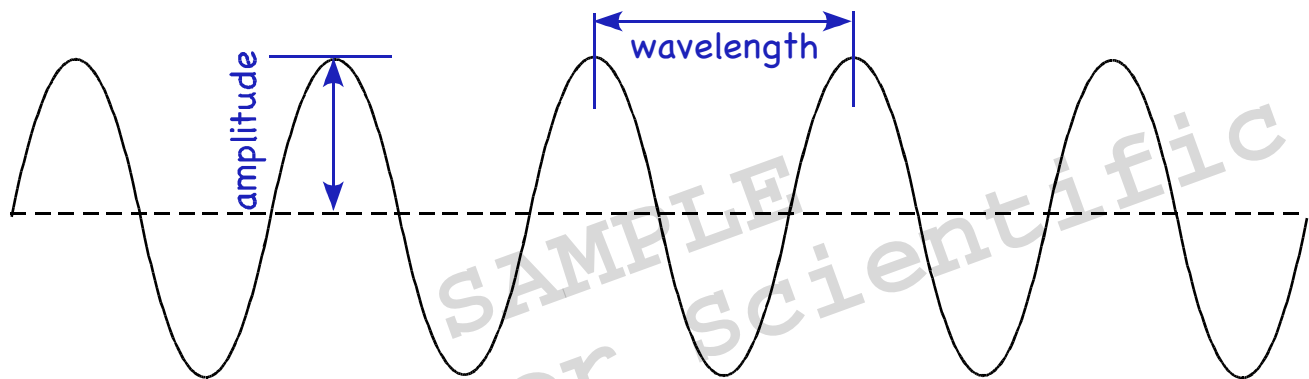
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 C. The frequency was 7 Hz. D. The period was 7 s.

E. Be careful to answer the question that's actually asked.

4. What's the period of oscillation of household electricity? 1/60 second

5. WAVE SPEED = DISTANCE / TIME = λ/T = $\lambda/(1/f)$ = $v = f\lambda$.

6. What letter is used to represent the speed of light? c

7. Which travels faster?

- A. a light wave B. a radio wave **C. same for both**

8. What is the wavelength of waves broadcast from Hawaiian radio station KCCN 1420 AM?

214 m

9. What is the result when two equal waves meet out of phase?



Nothing /
Cancellation / _____

10. When waves of different frequencies meet, the “throbbing” (“wah-wah”) sound is a phenomenon called...

Beats

Random Tangent

11. What “technology” does Hewitt hope to see get replaced in the future?

Windshield wipers

SAMPLE
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