

➤ Main Ideas, Key Points, Questions:

After watching the video segment, write down key points, main ideas, and big questions.

➤ Objective(s):

- *Determine the wavelength, amplitude, period, and frequency of waves from graphs and/or data.*
- *Recognize the characteristics of a wave that allow it to be classified as mechanical or electromagnetic, and as longitudinal or transverse.*
- *Relate the simple harmonic motion of a pendulum and spring to wave motion.*

➤ Notes:

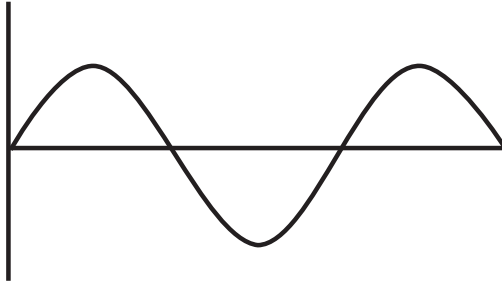
During the video segment, use words, phrases, or drawings to take notes.

➤ Summary:

After watching the video segment, write at least three sentences explaining what you learned. You may ask yourself: "If I was going to explain this to someone else, what would I say?"

Answer the following.

1. Label one wavelength on the diagram below:



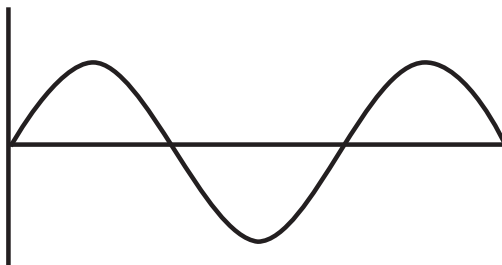
2. How is the frequency of a wave determined?

3. What is the period of a wave?

4. How do the frequency and period of a wave relate together?

5. What two things does the period of oscillation of a pendulum depend upon?

6. Label the amplitude of the wave on the diagram below:



Answer the following.

7. What do mechanical waves require in order to transfer energy?

8. What are waves called that do not require a medium through which to travel?

9. The speed of mechanical waves depend upon the _____ through which they travel.

10. How do the direction of vibration and the direction of motion of a longitudinal wave compare?

11. How do the direction of vibration and the direction of motion of a transverse wave compare?

12. What quantity relates to the stiffness of a spring?

13. How does the force required to stretch a spring relate to the spring constant and the distance the spring is stretched?

14. What is the equation for the potential energy stored in a spring when it is stretched or compressed?