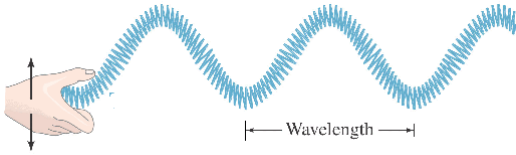


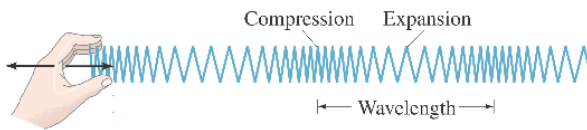
Transverse and Longitudinal Waves in a Slinky

Transverse Slinky Wave:

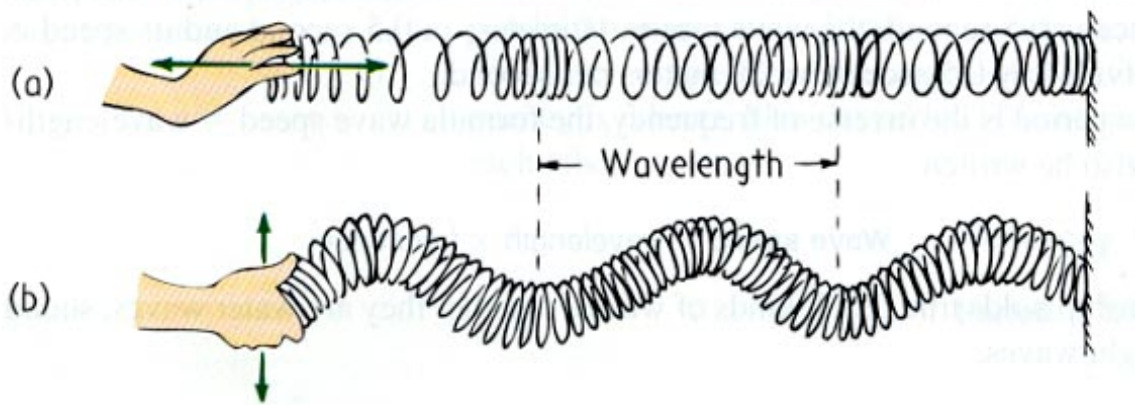


A transverse wave is a traveling *CREST*.

Longitudinal Slinky Wave



A longitudinal wave is a traveling *COMPRESSION*.



1 Is wave (a) a transverse or a longitudinal wave?

2 Is wave (b) a transverse or a longitudinal wave?

Making Waves on a Slinky

Transverse Slinky Waves

To make transverse waves on a slinky, move the slinky side-to-side OR up and down.

Longitudinal Slinky Waves

To make longitudinal waves on a slinky, move the slinky in and out OR pluck the slinky.

3 I stretch a slinky out in the hallway, and shake it left to right. What kind of wave will I make?

4 I grab one ring of the slinky and pluck it. What kind of wave will I make?

5 I move my slinky quickly in and out. What kind of wave will I make?

6 I pull the slinky up and move it down. What kind of wave will I make?

7 How can you make a transverse wave with a slinky?

8 How can you make a longitudinal wave with a slinky?

More on Transverse and Longitudinal Waves:

- All Electromagnetic Waves are Transverse. This includes **light waves**.
- Mechanical Waves can be either transverse or longitudinal.
- Sound waves (which are a type of mechanical wave) are always longitudinal. In fact, “mechanical longitudinal wave” is really a synonym for sound wave.

For each type of wave, state if it is *transverse* or *longitudinal*

9. A sound wave.

10. A light wave

11. Any electromagnetic wave

12. An ultrasonic wave (a sound wave with a frequency higher than humans can hear)

13. An ultraviolet wave