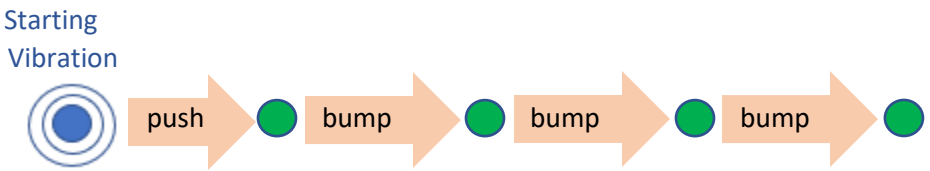
Exploring Sound 8: How Sound Waves Travel

We've looked at drawings of **sound waves** that show a wiggly line to represent sound, but **sound waves** don't really travel in wiggly lines.

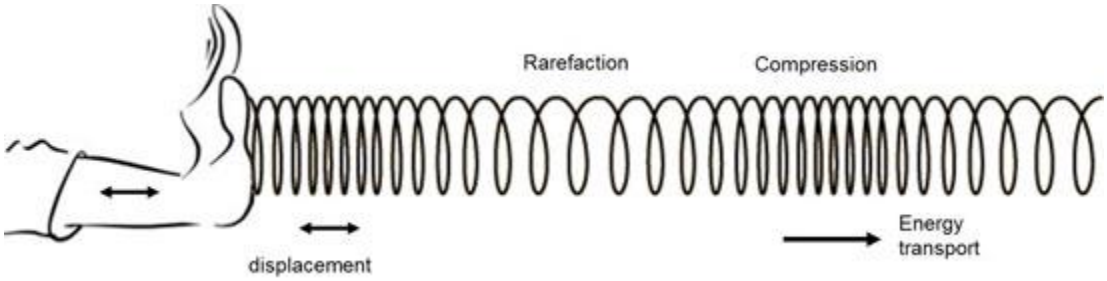
Sound waves are actually a push of energy that bumps into the tiny particles that make up our world and cause them to bump into other particles that bump into other particles that bump into other particles . . .



This video from Science World in British Columbia shows the result of sound causing particles to bump into things: https://www.scienceworld.ca/resource/sound/

This kind of wave is called a **longitudinal wave** because the particles move back and forth in the same direction as the wave is moving.

One of the easiest ways to picture this kind of motion is to use a slinky



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If you push on the slinky a **longitudinal wave** travels along its length. The individual coils move back and forth, but the individual coils themselves don't travel the length of the slinky.

This video from the National Music Centre shows the slinky experiment and demonstrates how **pitch** and **volume** work in a **longitudinal wave**: https://www.youtube.com/watch?v=kxQj-wPePBU

Longitudinal waves can also be called **compression waves** or **pressure waves**.

If you'd like to have a look at different types of waves and how they move this website has some great animations of wave motion:
https://www.acs.psu.edu/drussell/Demos/waves/wavemotion.html

I also highly recommend this video describing properties of wave motion (don't worry about understanding the physics equations, there's lots of good information after those points in the video) https://www.youtube.com/watch?v=TfYCnOvNnFU