

Wave Machine

What Do I Need?

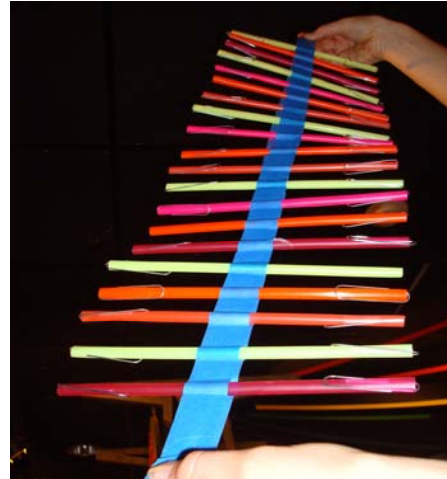
- twenty straws
- 40 paper clips
- 1 washer
- 2 strips of tape, 2 feet long

What Do I Do?

1. Place one strip of tape flat on the table with the sticky side facing up.
2. Put the middle of each straw across the tape perpendicularly with about an inch between each straw. Leave a little extra tape on both ends.
3. Place the washer on the bottom end of the tape below the last straw.
4. Place the second strip of tape directly on top of the other strip of tape with the straws in between. Press the pieces of tape together.
5. Attach a paperclip to both ends of each straw.
6. Hold up your wave machine vertically so the washer hangs down and gently give the first straw a tap.
7. Notice what happens!

Now Try This!

- What happens if you tap the top repeatedly?
- What happens when you remove the paperclips?
- What happens if the straws are not centered between the pieces of tape?
- What happens if you remove the paperclips from one side?



What's Going On?

A wave sends energy from one point to another. Each time you tap the top of the wave machine, the energy travels down and then back up the straws in a wave. The paperclips add weight, which helps to create the waves.

Some parts of a wave are:

- Amplitude: the height of the wave
- Crest: the top of the wave
- Trough: the bottom of the wave.
- Wavelength: the distance between adjacent crests

Can you identify the different parts of the wave as it travels through the straws?

