

### Waves on a Snakey Lab

**\*Warning – Snakeys are NOT SOCIAL. Do not allow the snakeys to get tangled together! Each Snakey should be stored in its own personal container.**

**Purpose:** To investigate properties of waves using a snakey as a model.

**Materials:**

- A long coil spring (snakey)
- Stopwatch
- Meter stick

**Procedure:**

1. You will need a clear path of about 6 meters. Slowly stretch the snakey to the length suggested by your instructor.
2. Grip the snakey firmly with one hand for the entire activity. It is easier to see the motion of the snakey if you are near one end. Don't watch from the side.
3. As the pulses die out, they can still be felt. Trust your feelings.
4. This activity is a sensual experience. Each student in the group should take some time on the end of the snakey.
5. Make a quick sideways snap with your wrist to produce a transverse pulse in the snakey.
6. Design and conduct an experiment to answer the following questions.
  - a. What happens to the amplitude of a transverse wave as it travels down the snakey?
  - b. What happens to the amplitude of a longitudinal wave as it travels down the snakey?
  - c. What happens to the speed of the transverse wave as it travels down the snakey?
  - d. What happens to the speed of the longitudinal wave as it travels down the snakey?
  - e. Does the speed of the transverse wave depend of the amplitude?
  - f. Does the speed of the longitudinal wave depend of the amplitude?