Name: _____ Date: _____

What Causes Sound

The sound of an alarm clock is very helpful (even if sometimes we don't want to hear it). But, what causes the sound of the alarm? What causes the sound of music on the radio or the birds chirping outside? We will look at the cause of sound through two similar observations.

Equipment:

- Tuning Fork
- Yogurt Container
- Plastic Wrap
- Scissors
- Rubber Band
- Salt
- water

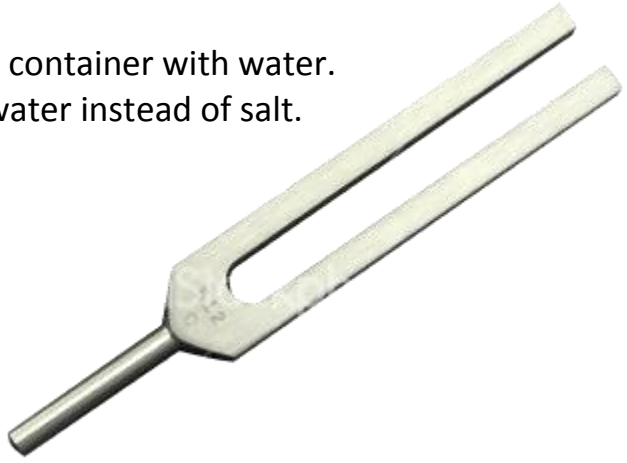
Procedure:

Activity 1

1. Cut a piece of plastic wrap and stretch it over the top of the yogurt container.
2. Hold the plastic wrap in place with a rubber band. Be sure the plastic wrap is tight, but don't rip it.
3. Sprinkle some salt on top of the plastic wrap.
4. Hit the tuning fork on the edge of your shoe once, then hold it close to the salt (do not let it touch anything).
5. Record what you hear and see, as well as draw a picture.
6. Repeat steps 4 and 5, but this time tap your shoe multiple times.
7. Repeat steps 4 and 5, but this time gently touch the plastic wrap with the tuning fork.

Activity 2

1. Remove the plastic wrap and fill the yogurt container with water.
2. Repeat steps 4 though 7 above, but using water instead of salt.



Observations:

Salt

One Tap - No Touch	Multiple Taps - No Touch	One Tap - Gentle Touch
Notes: The salt bounces up and down a little.	Notes: The salt bounces up and down a lot.	Notes: The salt shakes quickly, right off the container.

Water

One Tap - No Touch	Multiple Taps - No Touch	One Tap - Gentle Touch
Notes: Very small ripples form, difficult to see.	Notes: Small ripples form, difficult to see.	Notes: The water splashes all over the place.

Discussion:

1. Explain your observations based on what you have learned about sound.

   Sound is caused by vibrations. When the tuning fork is hit on the shoe, it causes the prongs to vibrate back and forth (this is why we hear the sound). As the prongs vibrate they cause the air around them to vibrate. When the tuning fork is placed near the plastic wrap it causes it to vibrate, which pushes the salt into the air. Similarly the moving air causes ripples and splashes in the water when it is near and when it touches.