**Musical Instruments**

**Part I**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Learning Goals:

Students will be able to describe how sounds are produced with vibrations.

Students will be able to describe how tones can be varied by changing the length of the resonant cavity.

Students will know some of the instruments found in the woodwind, brass and string families.

*Predictions section – graded for completeness not correctness:*

1. Name some woodwind instruments.
2. Name some brass instruments.
3. Name some string instruments.
4. Please describe with as much detail as you can, how these instruments make sound.
5. Please describe with as much detail as you can, how different tones are made with these instruments.
6. Each person in the group should make a straw instrument.

You will need:

* Straws
* Scissors

Here’s what you do:

* Take the straw and the scissors, and cut off the tip of the straw to a point, like so. (Try to get both sides to be the same.)

* Now, *gently* chew on the straw to soften the tip, and to get the edges to be smooshed together. You would like the two tips to be *almost* touching each other.
* Now, put the pointy end in your mouth, and *blow really hard*. If you do it right (it might take some practice), you will get a very loud sound from the straw instrument!

1. What is making the sound? Describe in detail where the sound is coming from.
2. What real instrument(s) does this remind you of?
3. Take a second straw and slide it over the first. What happens to the sound as you slide your second straw up and down? What kind of instrument does this remind you of?
4. Make a skinny straw instrument and a fat straw instrument – one per group. How do they compare?
5. Now use the water bottle. Blow over the top of the water bottle until you have a tone. Is it low or high?
6. What kind of instrument does the bottle remind you of?
7. Figure out how to make a new tone with the same water bottle. Describe what you did to vary the tone.
8. Would the straw instrument and the bottle instrument be woodwinds, strings or brass? Look at [www.dsokids.com](http://www.dsokids.com) for information. Look under Listen By Instrument.
9. Hold a small pocket comb with the teeth pointed toward you. Place a piece of paper on the side closest to you, holding it in place with your thumbs. By holding the comb and piece of paper together with your lips and blowing, you can make the paper vibrate which makes a sound. This is a reed mouthpiece.

