

# Seeing Sound Worksheet

*Instructions:* At each activity station, complete the questions below.

## Station 1: Oobleck Dance

1. Observe how oobleck responds to a range of low-frequency sounds. At which frequency does oobleck dance most wildly?

---

---

---

2. Do sound waves need high or low amplitude in order for oobleck to dance? How can you tell?

---

---

---

## Station 2: Sound Visualization

1. Can you see that sound is a wave? How can you tell?

---

---

---

2. Can you feel that sound is a wave? How can you tell?

---

---

---

3. How do high- and low-frequency sounds change what the water (or grain) looks like?

---

---

4. Do high-frequency sounds have long or short wavelengths?

---

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Class: \_\_\_\_\_

**Station 3: Testing homemade Speakers**

1. How does the yogurt cup speaker make sound? How do you hear this sound?

---

---

---

2. Using the materials in the box, how were you able to amplify the sound from the yogurt cup speaker as much as possible? What did you discover?

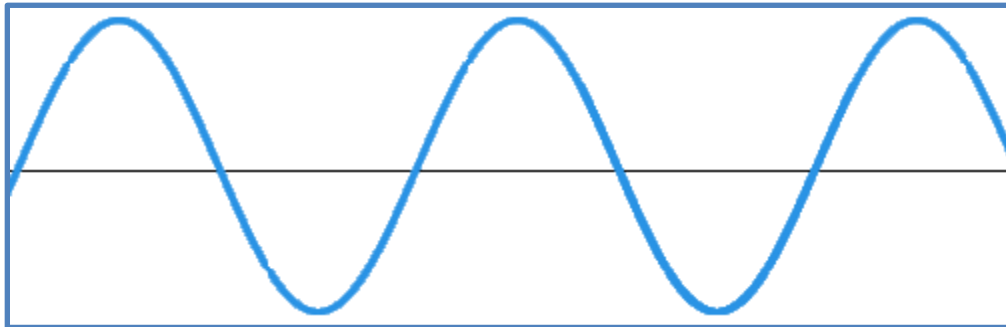
---

---

---

**Station 4: Practice Problems**

1. Label amplitude and wavelength on the drawing of Wave 1.



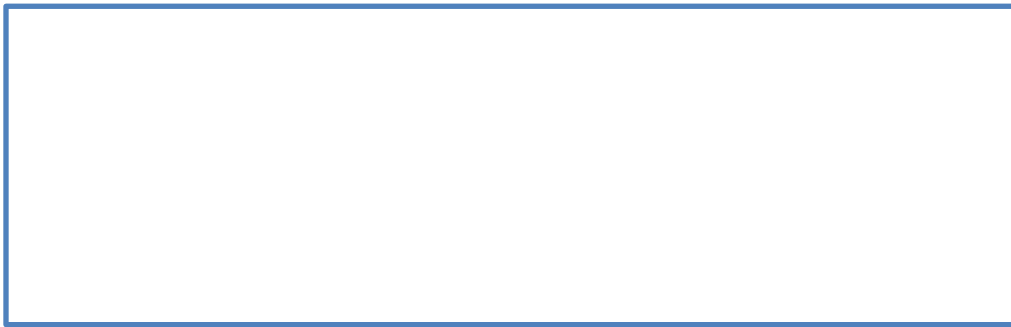
2. In the box below, draw a wave with the same wavelength as Wave 1, but lower amplitude.

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Class: \_\_\_\_\_

3. In the box below, draw a wave with higher frequency than Wave 1, but the same amplitude.



4. In the box below, draw a wave with lower frequency and amplitude than Wave 1.



**Station 5: How Do Stringed Instruments Make Sound?**

1. Take a length of string and pull it just tight enough to hear a sound when the string is plucked by a teammate. Is this a high- or low-frequency sound? Does this sound have high or low pitch?

---

---

---

2. Pull the string tighter. Does this sound wave have higher or lower frequency than before? Is the pitch higher or lower than before?

---

---

---

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Class: \_\_\_\_\_

3. If you pluck the string more strongly so that the sound is louder, what happens to the sound wave?

---

---

---

4. Pluck the string on top of a petri dish with water. Do you see evidence that the sound made by the string is a wave?

---

---

---

5. Why do you think stringed instruments have many strings, some tighter and looser?

---

---

---