

# The Ears

Name \_\_\_\_\_

Date \_\_\_\_\_

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**OBJECTIVE:** \_\_\_\_\_

**RESEARCH:**

outer ear: \_\_\_\_\_

middle ear: \_\_\_\_\_

eardrum: \_\_\_\_\_

3 bones involved:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_



\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

eustachian tube: \_\_\_\_\_

inner ear: \_\_\_\_\_

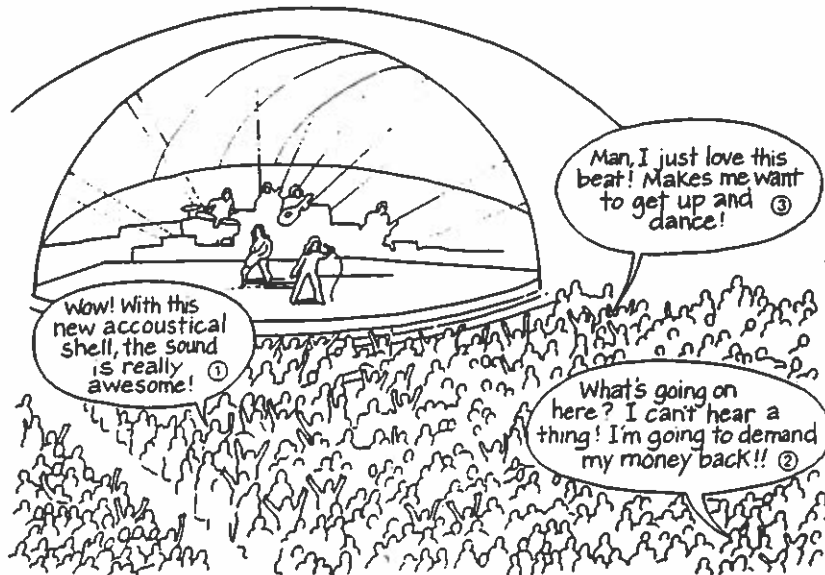
1. semicircular canals: \_\_\_\_\_
2. cochlea: \_\_\_\_\_

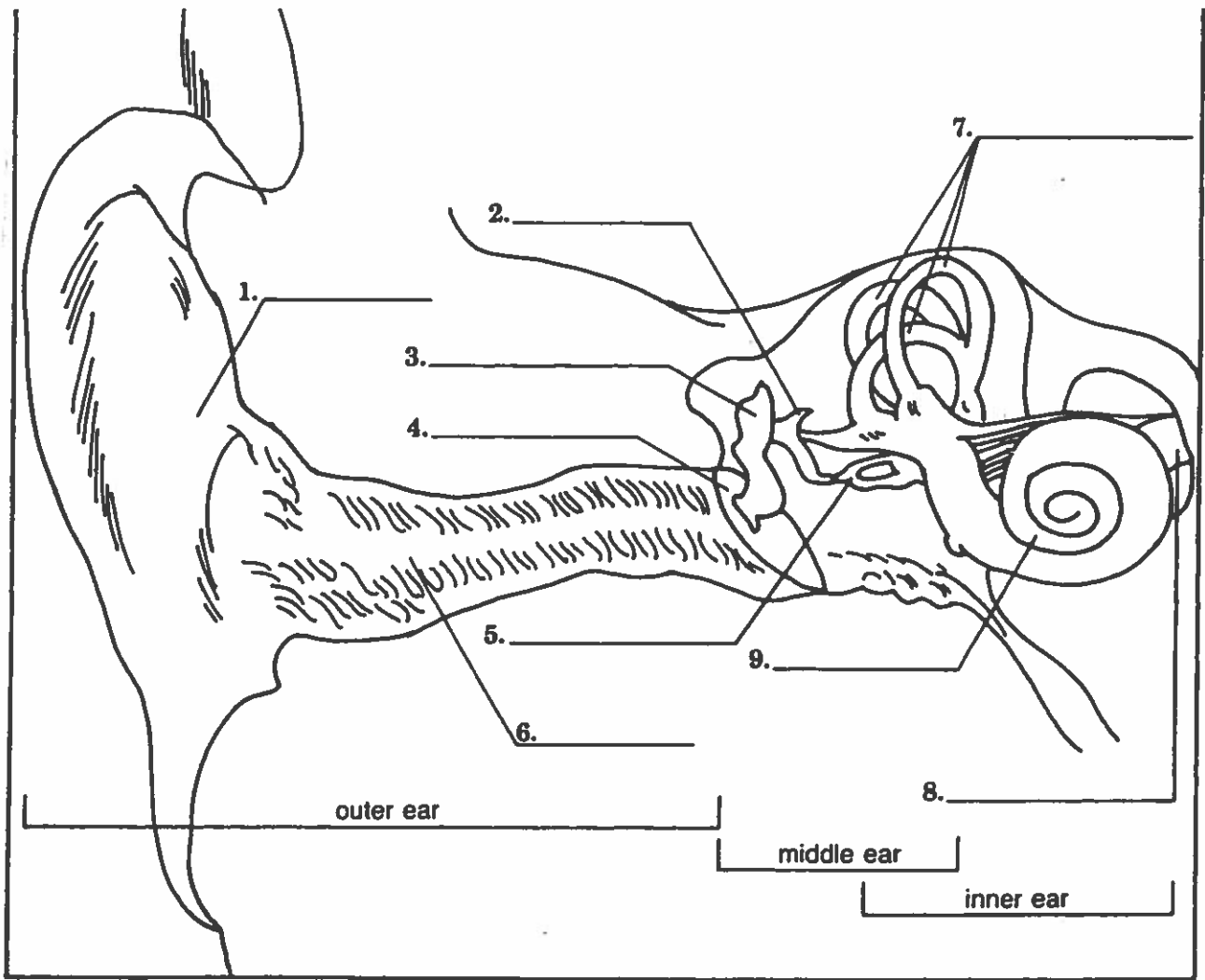
hearing: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_





**ACTIVITIES WITH EARS AND SOUNDS:**

**ACTIVITY 1: SOUNDS OF SILENCE**

1. Sit quietly for five minutes and write down all the sounds you hear:

**ACTIVITY 2: MYSTERY SOUNDS**

1. Identify each of the five mystery sounds. (keep your eyes closed, but listen)

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_
- e. \_\_\_\_\_

**ACTIVITY 3: WHERE DID I HEAR THAT?**

1. Have your partner close his/her eyes and strike two metal pieces together (to the right, to the left, right in front and right behind your partner). Your partner will try to identify where the sound is coming from.
2. Which locations are easiest for him/her to identify? \_\_\_\_\_
3. Which locations are hardest for him/her to identify? \_\_\_\_\_
4. Explain the difference: \_\_\_\_\_  
\_\_\_\_\_

**ACTIVITY 4: SOUNDS OF THE SEA?**

1. Have you ever heard sounds when you put a seashell to your ear? It is not the sea you hear, but the sound of air inside the shell which is vibrating in response to sound waves in the air around the shell. What happens when you cup your hand and hold it to your ear? \_\_\_\_\_  
What do you hear? \_\_\_\_\_
2. Try other objects: a styrofoam cup, a tin can, a paper cup. What difference is there in the sound between a small object and a fairly large object? \_\_\_\_\_  
\_\_\_\_\_

**ACTIVITY 5: HOMEMADE TELEPHONES**

1. With your partner, pick up the styrofoam cups with the string already attached. Pull on the cups so there is tension but without pulling too firmly and breaking the cups.
2. One person will put the cup to his/her ear. The other person will talk into the other cup.
3. Record whether the transmission of sound was good, fair or poor.
4. Try the tin phones and the paper cup phones.

CUPS	SOUND TRANSMISSION		
	GOOD	FAIR	POOR
STYROFOAM			
TIN			
PAPER			

5. How are the model telephones like our ears? \_\_\_\_\_  
\_\_\_\_\_
6. Why do you think the sound travels along the string? \_\_\_\_\_  
\_\_\_\_\_
7. Would the length of the string affect the quality of the phone? \_\_\_\_\_  
Why? \_\_\_\_\_  
\_\_\_\_\_



### **ACTIVITY 6: MAKE SOUND WAVES**

1. Use the string with the spoon attached to it. Push each end of the string in one of your ears.
  2. Swing the string so it strikes the table.
  3. Record what happens: \_\_\_\_\_
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