

Name _____ Date _____ Hour _____

Experiments at Home: "Presbycusis"

Due date: _____

Follow the steps below to earn extra credit. Answer the questions correctly to earn 1 extra credit point. Then follow the instructions on the back to earn up to 4 more points.

Materials:

- A computer or mobile device with working speakers and internet access
- At least two humans (or closely related species) with working ears

Most people over age 5 are already experiencing a medical condition called **presbycusis**. Look up the word presbycusis on wikipedia.com. The word comes from the Greek words *presbys* + *akousis*, which means _____ + _____.

1. According to Wikipedia, what is presbycusis? _____

2. Now search on Wikipedia for "hearing loss". What are some other common causes of hearing loss?

3. Go to Mr. Biegun's website (jbiegun.weebly.com). Click the link to the Presbycusis page and read the information shown there. Sounds are caused by vibrating objects, such as the strings on a piano or guitar. The number of vibrations per second is called **hertz**. What musical note is caused by a string vibrating exactly 262 times per second (262 hertz)? _____
4. What does **kilohertz** mean? _____
5. Search Wikipedia for "Hearing Range". Humans typically have a range from ____ hertz to ____ kHz. What is the hearing range for an elephant? _____ A dog? _____
What animals listed can hear the highest frequencies? _____

continued on back

6. Make sure your computer or mobile device has the volume set to about *medium* level. Starting at the 3 Kilohertz level, play each tone until you find one that you can't hear. What is the highest frequency **YOU** were able to hear? _____
7. Now test as many people in your family as you can, and record their results below. Have each person sign their initials in the first box after they've been tested. Did you notice a relationship between age and hearing ability? _____ If you said yes, describe how age relates to hearing ability in your investigation: _____
-

Note: Test as many people as you can who are NOT also 7th graders at BHMS. You can earn 1/4 extra credit point for each person tested. Total possible points for this paper = 5 points

	Initials of Person Tested	M or F	Age	Frequency (kHz)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				