



## Middle School Scientists

### Underwater Acoustic Monitoring Post-Test

#### Fill in the blank (1 point each)

1. A \_\_\_\_\_ is a specialized underwater listening device scientists use to listen to underwater sounds.
2. The science of sound is called \_\_\_\_\_.
3. The loudness of a sound is measured in \_\_\_\_\_.
4. A \_\_\_\_\_ is any kind of device that listens to and may record sounds.
5. Killer whales use sound wave reflection in a method called \_\_\_\_\_ to navigate and locate prey.
6. When the same sound is heard by different sound receivers at different times this is called \_\_\_\_\_.

#### Multiple Choice (1 point each)

7. Rhythmic disturbances that carry energy through space are called
  - a. waves.
  - b. molecules.
  - c. solids.
  - d. gases.
8. Sound frequencies that are above our range of hearing are called
  - a. supersonic.
  - b. ultrasonic.
  - c. hypersonic.
  - d. infrasonic.



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9. Another name for human-made sound is
- parasitic.
  - anthropogenic.
  - resonance.
  - reflection.
10. The buzz of a mosquito could be described as
- loud, high pitched.
  - loud, low pitched.
  - soft, high pitched.
  - soft, low pitched.
11. A high decibel sound is
- loud.
  - high pitched.
  - quiet.
  - vibrates.
12. Triangulation determines
- friction.
  - underwater acoustics.
  - location.
  - frequency.
13. What can you hear with a hydrophone?
- wind.
  - boat engines.
  - humpback whales.
  - all of the above.



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Emily had a very noisy dog, Max. One day Emily conducted an experiment to measure the loudness of Max's bark in different rooms of her house. While Max was barking Emily used a decibel meter to measure the loudness of the sound in several rooms of the house. The following table contains her data.

Room	Decibel Level
Dining Room	45
Kitchen	70
Living Room	84
Bathroom	55

14. Using the information in the table above, which room was Max most likely in?
- dining room
  - kitchen
  - living room
  - bathroom
15. While Emily was measuring Max's barking, she could also hear traffic and the radio in the background. These sounds could be called
- ambient noise.
  - anthropogenic.
  - none of the above.
  - a and b.

### Short Answer

16. How do marine mammals use sound? (3 points)
17. Describe how boat noise could impact marine mammals. (2 points)