

Name \_\_\_\_\_

## Sound Waves Unveiled: Understanding Frequency and Wavelength

### Open-Ended Response Questions

1. Discuss the significance of understanding frequency and wavelength in the field of seismology and earthquake prediction. Provide an example of how seismologists use this knowledge.
2. Imagine you are a sound engineer working on a concert. Explain how you would adjust the frequency and wavelength of sound waves to create a more enjoyable musical experience for the audience.
3. Investigate how frequency and wavelength affect the clarity and range of communication in underwater sonar systems used by submarines. What challenges might arise in utilizing sound waves for underwater communication?
4. Explore the role of frequency and wavelength in the world of wireless communication, such as cellular networks and Wi-Fi. How do different frequencies and wavelengths impact the transmission of data?

