

Name _____

Riding the Wave: Classifying Waves in Physics

Open-Ended Response Answer Key

1. Our knowledge of wave classification helps improve communication technology by allowing us to select the appropriate frequency range for different applications, such as radio, TV, and mobile communication. It also helps us design efficient antennas and transmission systems.
2. Ocean waves can be classified as mechanical waves because they require a medium (water) to travel through. Seagull feathers floating on the water, on the other hand, are not waves but objects floating on the surface.
3. Waves impact our daily lives in various ways, such as in transportation (ocean waves for ships), entertainment (music and sound waves for concerts), and weather forecasting (study of atmospheric waves).
4. High-frequency waves have a higher number of cycles per second and carry more energy. Low-frequency waves have fewer cycles per second and carry less energy. For example, radio waves have low frequencies and are used for wireless communication, while visible light has higher frequencies and allows us to see our surroundings.

