

Name _____

The Whirling Sounds of Doppler: How Moving Sources Affect What We Hear

Open-Ended Response Questions

1. Investigate how the Doppler effect is used in weather radar to track storms and predict weather patterns. What information does the Doppler effect provide to meteorologists, and how does it enhance weather forecasting?
2. Explore the use of the Doppler effect in measuring the speed of vehicles with police radar guns. Discuss the advantages and limitations of this technology in law enforcement and road safety.
3. Imagine you are an astronaut studying distant galaxies. Explain how the Doppler effect can help you determine whether a galaxy is moving closer to or farther away from Earth. Provide examples of potential observations and their interpretations.
4. In medical imaging, the Doppler effect is employed to visualize blood flow in the human body. Discuss the significance of this application and how it contributes to healthcare and diagnosis. Provide examples of medical conditions where Doppler ultrasound is particularly valuable.

