

**Objective**

- Observe the Doppler Effect.
- Observe that the Doppler Effect is based on speed.

**Materials**

- Doppler rocket (or other noise making device that can be thrown)

**Procedure**

1. Turn on the Doppler rocket listen to the pitch of the sound.
2. Have someone send it quickly passed you several times while you listen carefully to the pitch.
3. As the Doppler rocket came **towards you**, what happened to the pitch? \_\_\_\_\_
4. As the Doppler rocket went **away from you**, what happened to the pitch? \_\_\_\_\_
5. Have someone send the rocket passed you several times, but slower than before.
6. Compare the pitch you heard as the Doppler rocket came **towards you** quickly and slowly. \_\_\_\_\_  
\_\_\_\_\_
7. Compare the pitch you heard as the Doppler rocket went **away from you** quickly and slowly. \_\_\_\_\_  
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8. Pitch is related to frequency, and frequency is how many wave pass in a second. As the Doppler rocket came **towards you**, the pitch \_\_\_\_\_ (increased or decreased) indicating that \_\_\_\_\_ (more or fewer) wave crests passed you in a second.
9. As the Doppler rocket went **away from you**, the pitch \_\_\_\_\_ (increased or decreased) indicating that \_\_\_\_\_ (more or fewer) wave crests passed you in a second.
10. What is one real world example where you have observed the Doppler Effect? \_\_\_\_\_  
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