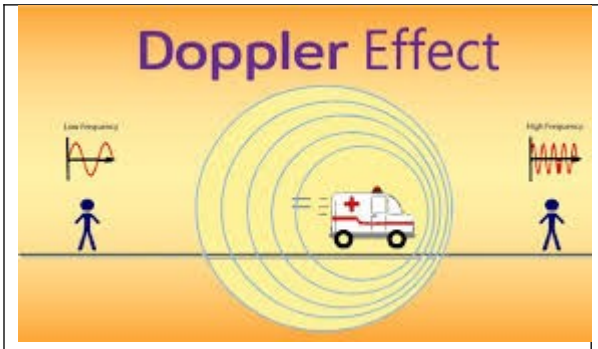

The Doppler Effect

Title: To experiment with the Doppler Effect Demonstration V 2.0

Procedure:
1. Open the demonstration located at:
https://www.thephysicsaviary.com/Physics/Programs/Labs/DopplerLab/

2. Set the Object speed to 40 m/s. Leave the Wave speed at 70 m/s. Leave the frequency at 1 Hz.
3. Click START and then when the object is a little more than half way across the screen click PAUSE.
4. Note that there are small boxes. According to the scale, each small box is 10 m. You may need to tilt your screen in order to see the boxes more clearly.
5. Assuming you can see the boxes, measure the wavelength of the wave to the right (where the source is approaching the observer). Record your reading to the nearest 0.5 box (5 m) to the best of your ability.
6. Measure the wavelength of the wave to the left (where the source is receding from the observer). Record your reading to the nearest 0.5 box(5m) to the best of your ability.
7. Using the formula $v = f \lambda$, calculate the observed frequency on the right (approaching) and also on the left (receding). Recall that v is the speed of the wave, in this case 70 m/s.

DATA:
Speed of wave = _____ m/s
Speed of source = _____ m/s
Frequency of source = _____ Hz
Observed wavelength when the source is approaching _____ m
Calculated frequency to be observed when the source is approaching _____ Hz
Observed wavelength when the source is receding _____ m
Calculated frequency to be observed when the source is receding _____ Hz

Conclusion:
Under these conditions, I would expect to observe a _____ Hz wave when the source is approaching and a _____ Hz wave when the source is receding.