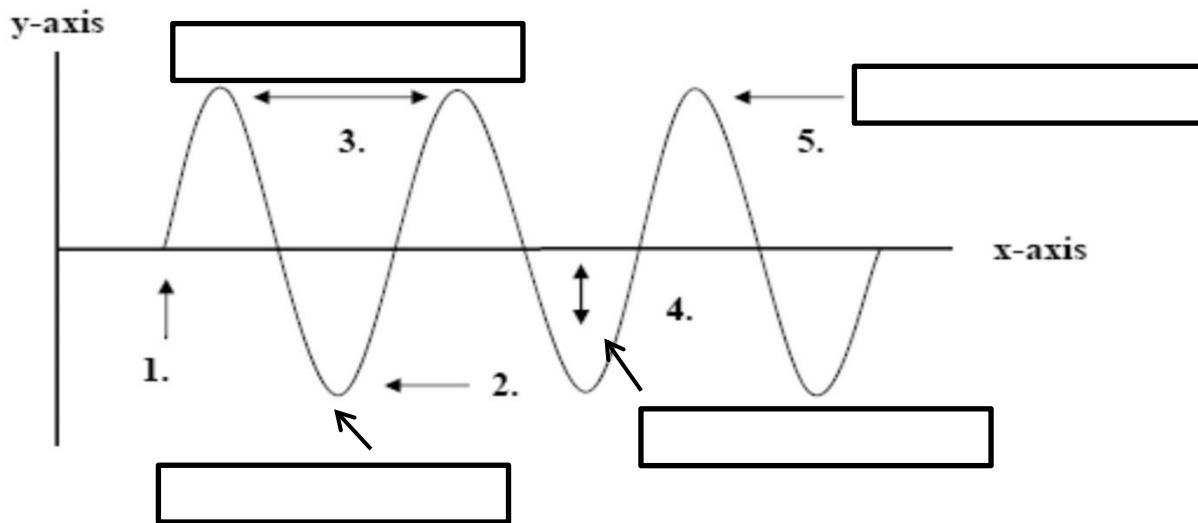


UNDERSTANDING REDSHIFT

Activity 1 – Parts of a Wave Review

Use the word bank and the diagram on the front board to label the parts of the. (Memory lane, 8th grade science at Dixie Middle)

Word Bank			
Crest	Trough	Wavelength	Amplitude



Activity 2 – The Doppler Effect Article

Read the article to answer the following questions.

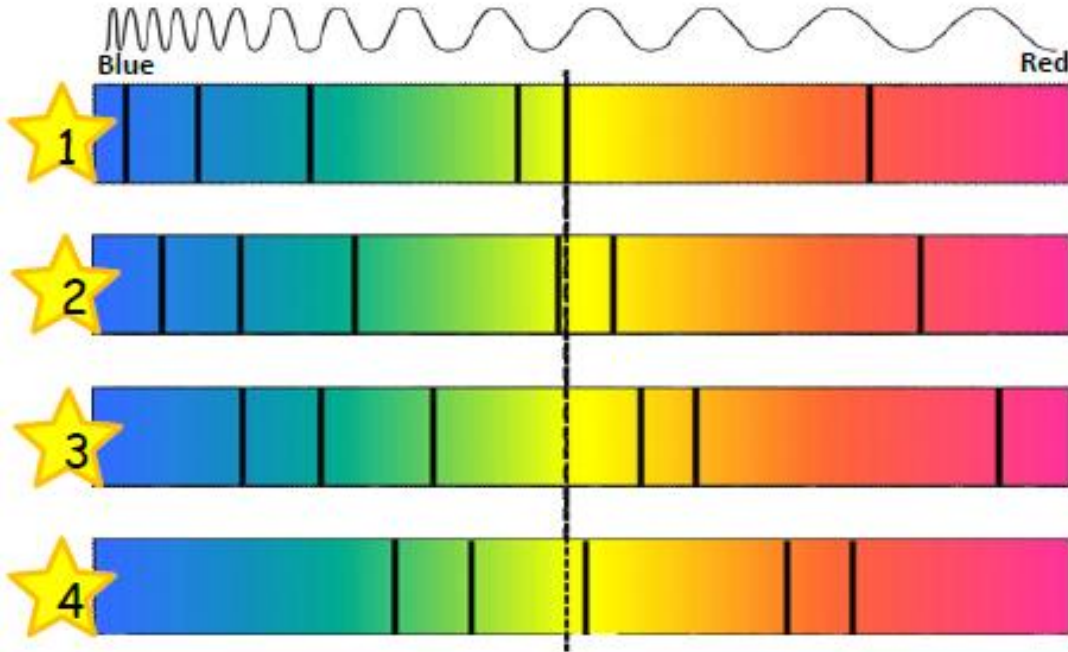
- Who was the Doppler Effect named after?
- If an object is moving _____ you, the sound waves are _____, increasing the _____ of the wave.
- An object that is moving _____ from you has sound waves that are _____, decreasing the _____ of the wave.
- Draw an example of how the waves in water are affected when a bird is swimming in the water. (Use the article to help you). Make sure to label everything and explain what the waves are doing.

5. Explain in your own words how this image is showing the Doppler Effect.



Activity 3 – Redshift of Stars

The diagram shows light collected from 4 stars. Because all stars are made from the same chemicals, they should all have black lines in the same places. However, something has happened to the black lines in stars 2, 3, and 4 to make these black lines move.



Instructions:

1. Find line 5 in each star sample.
2. Which color have the lines moved towards?
3. What does this suggest about the wavelength of light?
4. What does this suggest about the direction in which the stars are moving? (Full points for full sentences)
5. The big bang theory states that stars should be moving away from us. Describe how redshift gives evidence that this is happening. (Full points for full sentences)