**FPS – Sound and Electromagnetic Spectrum**

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period\_\_\_\_\_\_\_\_\_\_

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| ***Sound and Light notes*** |
| 1. Label the parameters of the wave.
2. What are 3 types of mechanical waves?
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| 1. Sound waves – As intensity (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) is increased, then the sound gets \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

As frequency is increased, then the sound gets \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |
| 1. dopplerfireDoppler effect -- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_We notice this as a change in pitch.
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| 1. Doppler effect for light waves -- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_We notice this as a change in color. Object coming towards us = \_\_\_\_\_\_\_\_\_\_\_\_\_\_shiftObject moving away from us = \_\_\_\_\_\_\_\_\_\_\_\_\_\_shift
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| Sound and Light notes continued |
| 8. Speed of Light – speed at which electromagnetic waves travel through a vacuumc= 300,000,000 m/sFormula:*A radio station broadcasts a radio wave with a wavelength of 3.0 meters. What is the* ***frequency*** *of the wave?* |
| 9. Practice Questions 1. A radio station is emitting radio waves at a frequency of 4,291,845 Hz. What is the wavelength of the radio wave?
2. The lunchroom microwaves have a wavelength of about 0.68 m. What is the frequency of the emissions?

1. An infrared lamp emits rays at a frequency of 1,188,000,000 Hz. What is the wavelength?
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*Work with your partner(s) to answer the following questions.*