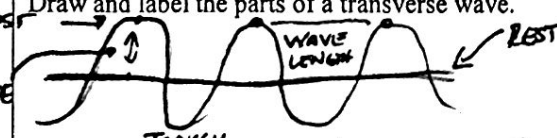
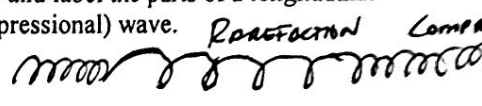
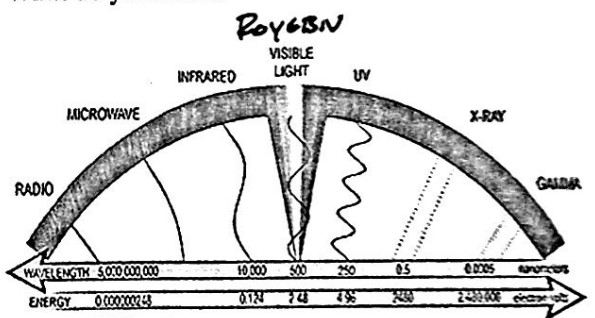


Name \_\_\_\_\_

### 6.P.1.1 – Waves Study Guide

<p><b>Transverse Wave (Light):</b> Draw and label the parts of a transverse wave.</p>  <p>A wave type that has movement <u>PERPENDICULAR</u> to the direction of the wave?</p>	<p><b>Longitudinal Wave (Sound):</b> Draw and label the parts of a longitudinal (compressional) wave.</p>  <p>A wave type that has movement <u>Parallel</u> to the direction of the wave?</p>
<p><b>Surface Wave:</b> What is a surface wave? <u>SEISMIC WAVE TRAPPED NEAR THE SURFACE OF THE EARTH</u></p>	<p><b>Seismic Waves:</b> What is a seismic wave? <u>CAUSED BY QUAKES. GO THROUGH LAYERS OF THE EARTH</u> P-waves? <u>CAN GO THROUGH SOLIDS, LIQUIDS, GAS</u> S-Waves? <u>CAN ONLY GO THROUGH SOLIDS</u></p>
<p><b>Wave Behaviors - Reflection/Refraction/Diffraction:</b> What is reflection? <u>ANGLE IN = ANGLE OUT</u> What is refraction and why does it occur? <u>BENDING OF LIGHT CAUSED BY CHANGE OF MEDIUM</u> What is diffraction? <u>CHANGE IN WAVE DIRECTION AS THEY GO THROUGH OPENING</u> What is absorption? <u>HOW LIGHT WAVES RESPOND WHEN THEY HIT OBJECTS</u> <u>BLACK ABSORBS!</u></p>	<p><b>Properties of Waves (3):</b> Amplitude - <u>REST TO CREST. IMPACTS LOUDNESS.</u> Frequency - <u># OF WAVES IN A PERIOD OF TIME. IMPACTS PITCH.</u> <u>↑ FREQUENCY = ↑ PITCH</u> Wavelength - <u>DISTANCE BETWEEN CRESTS OR TROUGHS</u> *As wavelengths increase, frequency <u>DECREASES.</u> *As wavelengths decrease, frequency <u>INCREASES.</u> *Frequency is measured in <u>HERTZ (Hz).</u></p>
<p><b>How Does Light Travel as Transverse Waves:</b> Light waves _____ travel across a vacuum. They _____ need particles to travel. This is why light can travel across space. They form part of the electromagnetic spectrum and travel very fast. About 300,000,000 m/s. Light Waves = <u>ELECTROMAGNETIC</u> waves</p>	<p>What do you see???</p>  <p><u>Radio waves have long wavelengths and less energy</u> <u>Gamma waves have small wavelengths and more energy</u></p>
<p><b>How Do Sound Waves Travel Through Matter:</b> All sound waves require a <u>medium</u> (plural, <i>media</i>). Most of the sounds that you hear travel through air at least part of the time. But sound waves can also travel through other materials, such as water, glass, and metal. No sound in space! How low or high a sound seems to be is the <u>pitch</u> of that sound. • High volume = <u>High</u> pitch • Low volume = <u>Low</u> pitch</p>	<p><b>Why does an object appear black, white, or red?</b></p> <ul style="list-style-type: none"> <li>• Black: All colors from light are _____ and no light is reflected.</li> <li>• White: All colors from light are reflected.</li> <li>• Red: All colors of light are absorbed but only <u>RED</u> is reflected back to your eyes.</li> </ul>