**Waves** & **Energy** Vocabulary

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| **Terms** | **Definition** |
| *Wave* |  |
| *Disturbance* |  |
| *Force* |  |
| *Compression* |  |
| *Medium* |  |
| *Mechanical Wave* |  |
| *Transverse* |  |
| *Longitudinal* |  |
| *Electromagnetic*  *Wave* |  |
| *Crest* |  |
| *Trough* |  |
| *Line at Rest* | *Imaginary line through the middle of a wave, no wave at this line* |
| *Amplitude* |  |
| *Frequency* |  |
| *Wavelength* |  |
| *Reflection* |  |
| *Refraction* |  |
| *Diffraction* |  |
| *Vacuum* |  |
| *Interference* |  |
| *Constructive Interference* |  |
| *Destructive Interference* |  |
| *Sound* |  |
| *Pitch* |  |
| *Frequency* |  |
| *Loudness* |  |
| *Electromagnetic Wave* |  |
| *Field* |  |
| *Cornea* |  |
| *Pupil* |  |
| *Lens* |  |
| *Iris* |  |
| *Retina* |  |
| *Rods* |  |
| *Cones* |  |
| *Optic Nerve* |  |
| *Vitreous Fluid/Gel* |  |
| *Sclera* |  |
| *Radiation* |  |
| *Visible Light* |  |
| *Sight* |  |
| *Color* |  |
| *Absorption* |  |
| *Primary Colors* |  |
| *Light Refraction* |  |
| *Light Diffraction* |  |
| *Transmit/Transmission* |  |
| *Polarizing* |  |
| *Scattering* |  |
| *Transparent* |  |
| *Translucent* |  |
| *Opaque* |  |
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**Waves** & **Energy** Vocabulary

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| **Terms** | **Definition** |
| ***Wave*** | *A disturbance created by a force. Waves transfer energy* |
| ***Disturbance*** | *A disruption of a medium or space* |
| ***Force*** | *This is what starts a wave* |
| ***Compression*** | *This force pushes or presses together* |
| ***Medium*** | *Any matter (solid, liquid, or gas) that mechanical or physical waves travel through* |
| ***Mechanical Wave*** | *This wave needs matter to transfer energy. Example: water waves, sound waves, earthquake waves* |
| ***Transverse*** | *This wave travels perpendicular to the force.* |
| ***Longitudinal*** | *This wave travels in the same direction as the force* |
| ***Electromagnetic*** | *This wave does not need a medium, and can travel though a vacuum (empty space)* |
| ***Crest*** | *The top of a wave* |
| ***Trough*** | *The bottom of a wave* |
| ***Line at Rest*** | *The imaginary line through the center of a wave* |
| ***Amplitude*** | *This tells you how much energy is in a mechanical wave.* |
| ***Frequency*** | *The number of waves passing a given point in a specific amount of time*  *This tells you how much energy is in an electromagnetic wave.* |
| ***Wavelength*** | *The distance between one crest and the next* |
| ***Reflection*** | *Waves bouncing off of matter (example: sound echoes)* |
| ***Refraction*** | *Waves bending as they enter a new medium (example: the straw in water)* |
| ***Diffraction*** | *Waves changing as they go around and between barriers* |
| ***Vacuum*** | *Empty space, or space with no matter, example: outer space* |
| ***Interference*** | *This happens when waves come together (they interact)* |
| ***Constructive Interference*** | *Waves come together and there energy increases*  *For this to happen, crest and troughs must line up.* |
| ***Destructive Interference*** | *Waves come together and the energy decreases*  *For this to happen crests and troughs must line up in the opposite direction* |
| ***Electromagnetic Wave*** | *This wave creates a disturbance that transfers energy through a field.* |
| ***Field*** | *A field is a force of a push or pull between objects without them touching!* |
| ***Cornea*** | *Protects the eye like a window, refracts light entering the eye* |
| ***Pupil*** | *Opening in the eye (BLACK HOLE) lets in light* |
| ***Lens*** | *Focuses and refracts light to create an image on the retina* |
| ***Iris*** | *Opens and closes the pupil, it is the colored portion of the eye.* |
| ***Retina*** | *Located on the back of the eye. Has photoreceptive cells* |
| ***Rods*** | *Cells located on the retina, detects black and white* |
| ***Cones*** | *Cells located on the retina, detects color* |
| ***Optic Nerve*** | *Sends a message to the brain* |
| ***Vitreous Fluid*** | *Fills the eye, helps the eye keep its shape.* |
| ***Radiation*** | *Energy that travels as an EM wave.* |
| ***Visible Light*** | *Electromagnetic waves that we can see. A smll part of the EM spectrum* |
| ***Sight*** | *Our eyes ability to detect visible light* |
| ***color*** | *Wavelengths present in the light +*  *Wavelengths being reflected and absorbed.* |
| ***absorption*** | *Light wavelengths disappear in an object and are converted into heat.* |
| ***Primary Colors*** | *Red, Green, Blue (they can combine to make any color)* |
| ***Light Refraction*** | *Light transmits through a new medium and is bent, and perhaps broken down into the visible spectrum of color wavelengths* |
| ***Light Diffraction*** | *Light passes by or around barriers and is bent (sometimes producing the color spectrum)* |
| ***Rule of Reflection*** | *The angle of incidence = The angle of reflection* |
| ***Transmission*** | *Light passing through a medium* |
| ***Scattering*** | *Light being reflected and absorbed by small particles (example fog)* |
| ***Polarization*** | *Filters out electromagnetic waves that vibrate in one direction.* |
| ***Transparent*** | *Materials that transmit all or almost all light.* |
| ***Translucent*** | *Materials that transmit just some light.* |
| ***Opaque*** | *Materials that transmit no light.* |
| ***Sound*** | *Sound is a vibration through matter. Sound is a mechanical wave* |
| ***Pitch*** | *Pitch is the quality of highness or lowness in a sound. Frequency determines pitch. The faster matter vibrates, the higher the pitch* |
| ***loudness*** | *Loudness refers to volume or the amount of intensity or energy in a sound.*  *Amplitude measures loudness in a mechanical wave* |