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| ***IMPORTANT CONCEPTS YOUR STUDENT SHOULD KNOW AND ACTIVITIES TO DO AT HOME*** | |
| **Light and Sound** | |
| **Important Concepts Addressed in this Unit** | |
| * Light is a form of energy and light travels in straight lines * All materials are either transparent, translucent, or opaque * Light can bounce off some objects, bend through objects, and be absorbed by objects * Reflection is the bouncing of light off an object * Refraction is the bending of light through an object * Light comes from a source * A prism bends/refracts light separating it into colors | * Sounds are created by vibrations * Sound is transmitted through a medium (solid, liquid, gas) * Sound cannot travel through a vacuum (space) * Sound spreads outward from its source, traveling in waves in all directions * Pitch is determined by vibration frequency and the size of the object that is vibrating |
| **Key Words To Know** | **How You Can Help Your Student** |
| **Light -** a type of energy that allows us to see. It is made up of photons and comes from a source.  **Opaque -** either absorbs or reflects the light. NO light passes through the object.  **Transparent -** light passes all the way through the object  **Translucent -** some light passes through the object but NOT al**l**  **Source -** the cause or beginning of something.  **Mirror -** a piece of glass that reflects light very clearly  **Reflect -** the light that is bouncing off of an object  **Angle -** the shape made when two lines meet  **Refraction -** the bending of light through an object  **Prism -** bends/refracts light separating it into colors.  **Sound -** a form of energy created by vibrations and transmitted through a medium  **Vibration -** a quick movement back and forth; a shake  **Medium -** a solid, liquid, or gas  **Oscillates** - moves or swings back and forth  **Pitch** - How fast the sound oscillates | * Your child will have access to many links, educational videos, and games pushed out to them through Google Classroom. Your child may access his/her Google Classroom from home. * Talking to your child about what they are learning is a great way to help your child. * Reviewing vocabulary each night is a great way to help your student. Making vocabulary study index cards is a quick way to review. You can quickly review words this way. * Ask your child to find examples of light and sound in the world around them. * When you see traveling light, ask your child if it is being reflected or refracted. * Ask your child about sound. How is sound created? How is the pitch determined? |

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| **Sample Problems** |
| **Your child will be asked to:**   1. **Plan and carry out investigations to observe and record how light interacts with various materials to classify them as opaque, transparent, or translucent.** 2. **Plan and carry out investigations on the path light travels from a light source to a mirror and how it is reflected by the mirror using different angles.** 3. **Plan and carry out an investigation utilizing everyday materials to explore examples of when light is refracted.** 4. **Plan and carry out investigations utilizing everyday objects to produce sound and predict the effects of changing the strength or speed of vibrations.** 5. **Design and construct a device to communicate across a distance using light and/or sound.**   ***These questions may be assessed through projects, models, and/or assessments.*** |