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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
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| **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.***   |