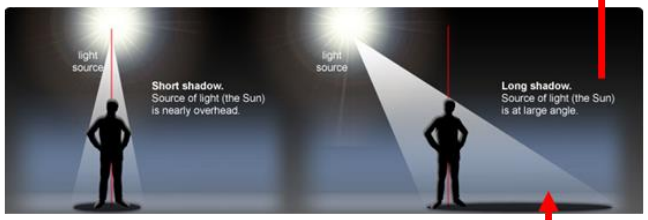
# Energy and Light

## Last minute study sheet

| Sources of light | Reflectors of Light |
|---|---|
| Light sources need energy to be transformed to produce light.<br>Sun<br>lamp | Objects that appear to produce light but do not use energy are reflectors of light.<br>Moon<br>mirror |

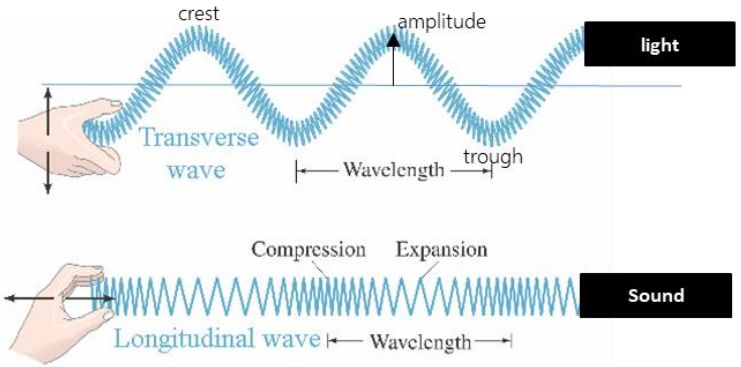
**Some objects can be sources or reflectors of light**




**Opaque objects create shadows**

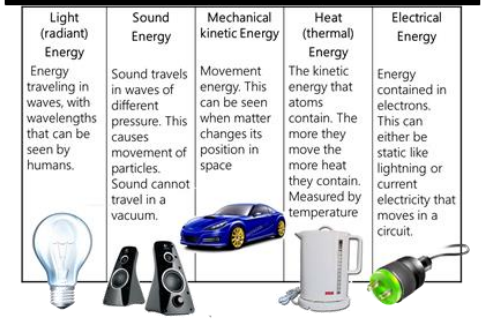
| Transparent | Translucent | Opaque |
|---|---|---|
| All light rays travel through in straight lines. The image is not distorted when looking from the other side. | Allows light to pass through, but the rays are scattered. The Image is distorted when looking from the other side. | No light rays travel through and no image is seen from the other side. |

**Light travels in straight lines through objects which can be**

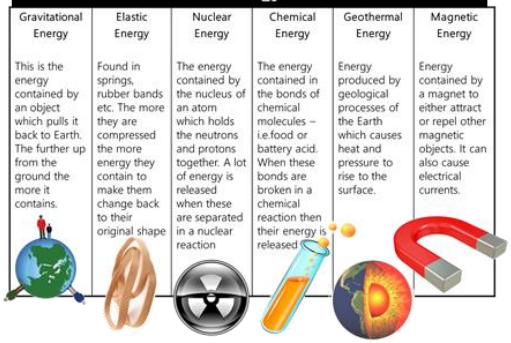



**Energy travels in 2 types of waves**

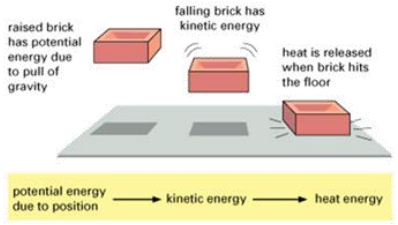
**Active (or kinetic) energy** is seen when particles, waves or objects move

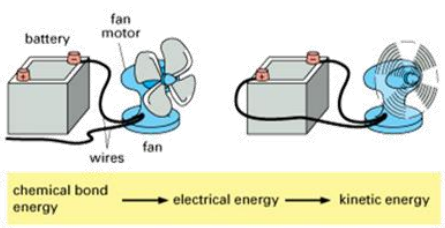



All forms of stored energy are called **potential energy**

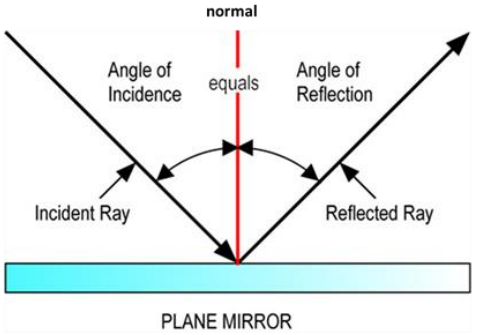



Energy can not be created or destroyed, it can only be **transformed** from one form to another.

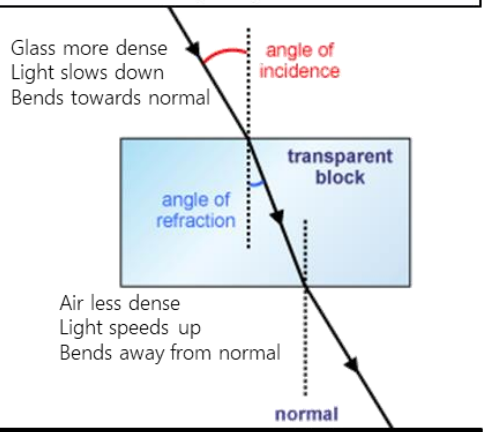



A **medium** is any space or substance which will allow light to travel through it, such as air, water and glass. Each medium has different **optical density**. The optical density of a medium affects the **speed** at which light rays travel through. When a light ray passes from one medium into another (e.g. from air into water) it will change direction where two media meet. This 'bending' of light is called **refraction** and it always occurs when the two media have different optical densities. More **dense mediums slow light** down AND bend the ray **closer to the normal**. Less **dense mediums speed up light** down AND bend the ray **away from the normal**.




light reflects from a **mirror**




**Light moves through a medium**

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## Ideas for last minute study sheet

1. **10 questions.** Working in pairs. Each student uses the sheet to write 10 questions that could be answered with information on the sheet. The other student could have a different topic sheet. Focus on the students creating specific questions – rather than "what is an acid", ask "what colour would acid turn blue Litmus paper". Swap over the question sheets for the other partner to answer (without the sheet). Once finished, use the sheet to check answers. For any answers that are incorrect, use the sheet to correct them.

2. **Concept maps.** Students use the information on the sheet to create a large concept map.

3. **Scaffolded Practice Tests.** Create a short test, either paper or online (i.e. Kahoot, FORMS, Education Perfect), where the students are able to use the sheet to help. Repeat the test (or an alternative) the next day, without the information sheet.

4. **Sticky Notes.** Write summary statements, using information on the sheet, on small post it notes (digital or paper) and find the area of their notes to place it on.