

Energy Vocabulary 2.2

Advanced

You need 8 Index Cards

CCGPS

- ▶ S8P2. Obtain, evaluate, and communicate information about the law of conservation of energy to develop arguments that energy can transform from one form to another within a system.
- ▶ C. Construct an argument to support a claim about the type of energy transformations within a system [e.g., lighting a match (light to heat), turning on a light (electrical to light)].
- ▶ d. Plan and carry out investigations on the effects of heat transfer on molecular motion as it relates to the collision of atoms (conduction), through space (radiation), or in currents in a liquid or a gas (convection).

Electrical Energy

- ▶ A flow of electric charges that lets work be accomplished.
- ▶ Example: power from an outlet.

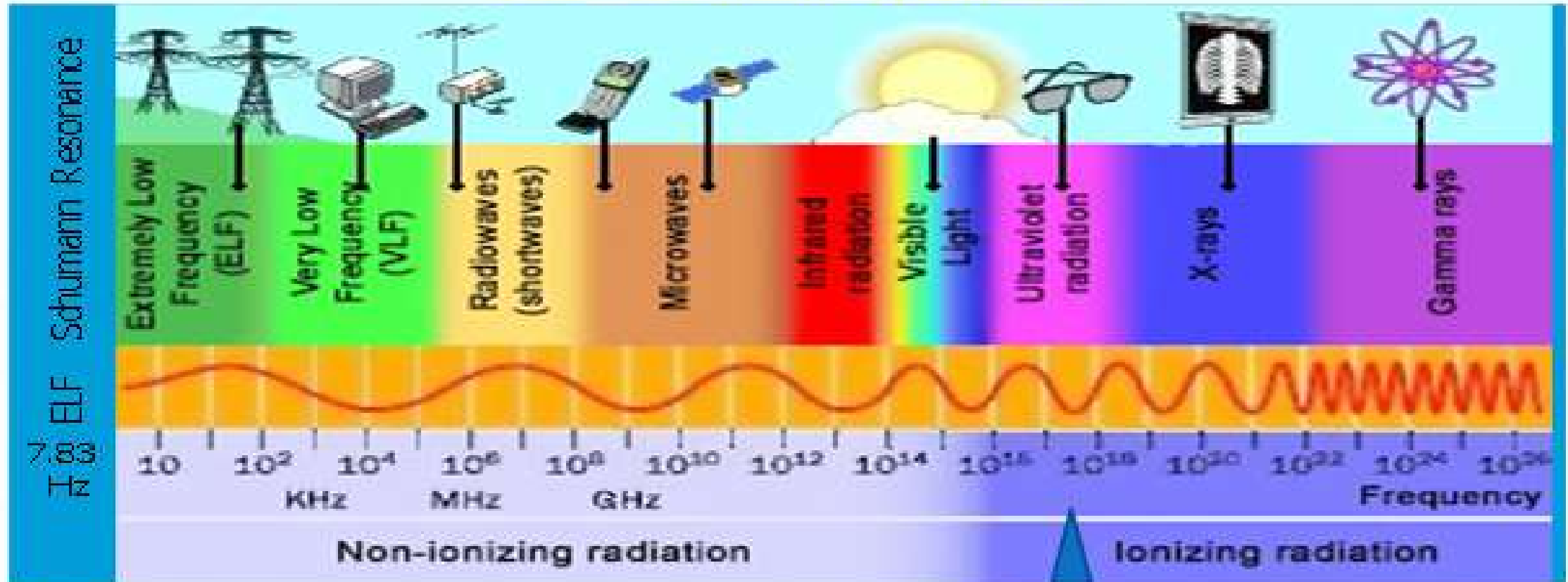


- ▶ <https://www.youtube.com/watch?v=gixkpsrxk4Y>

Electromagnetic Energy

- ▶ Any wave on the electromagnetic spectrum. Sometimes called **radiant energy**.
- ▶ Examples: **visible light**, microwaves, radio waves, and infrared light.

Electromagnetic Spectrum



 Long-term exposure
"cumulative"
non-thermal effects

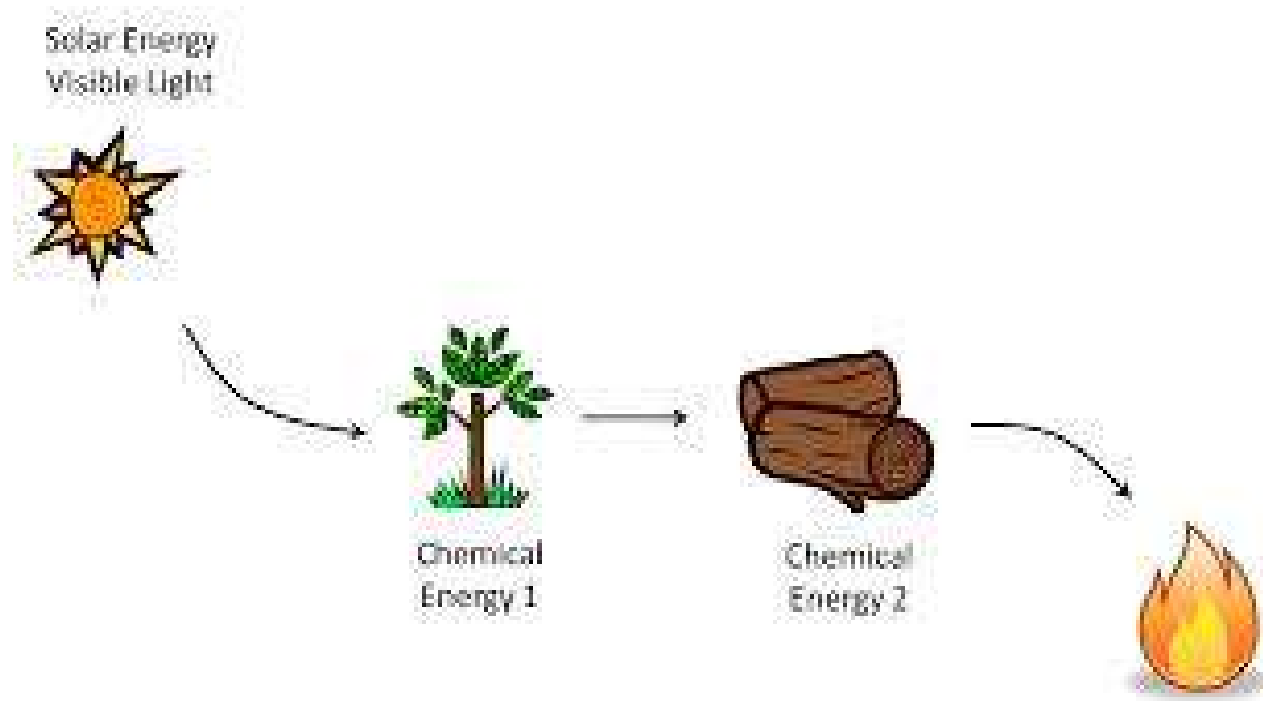
 Short-term exposure
Instant thermal effects

Chemical Energy



- ▶ Energy stored in the bonds of compounds and molecules. It is released in a chemical reaction, producing or absorbing heat.
- ▶ Examples: Batteries, gas, coal, food.
- ▶ https://www.youtube.com/watch?v=y_omJiYB2gk

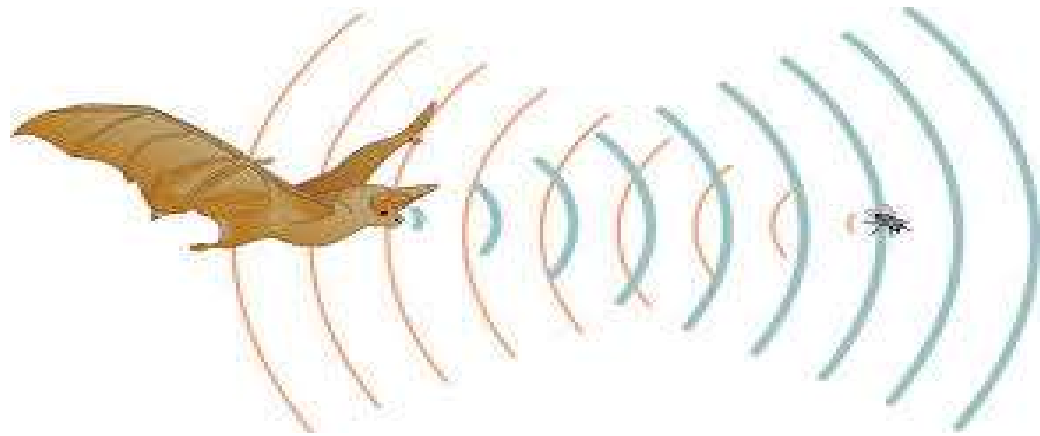
Chemical Energy Process Example



Sound Energy

▶ A form of energy associated with the vibration or disturbance of matter.

▶ https://www.youtube.com/watch?v=B5Id-_C05CI

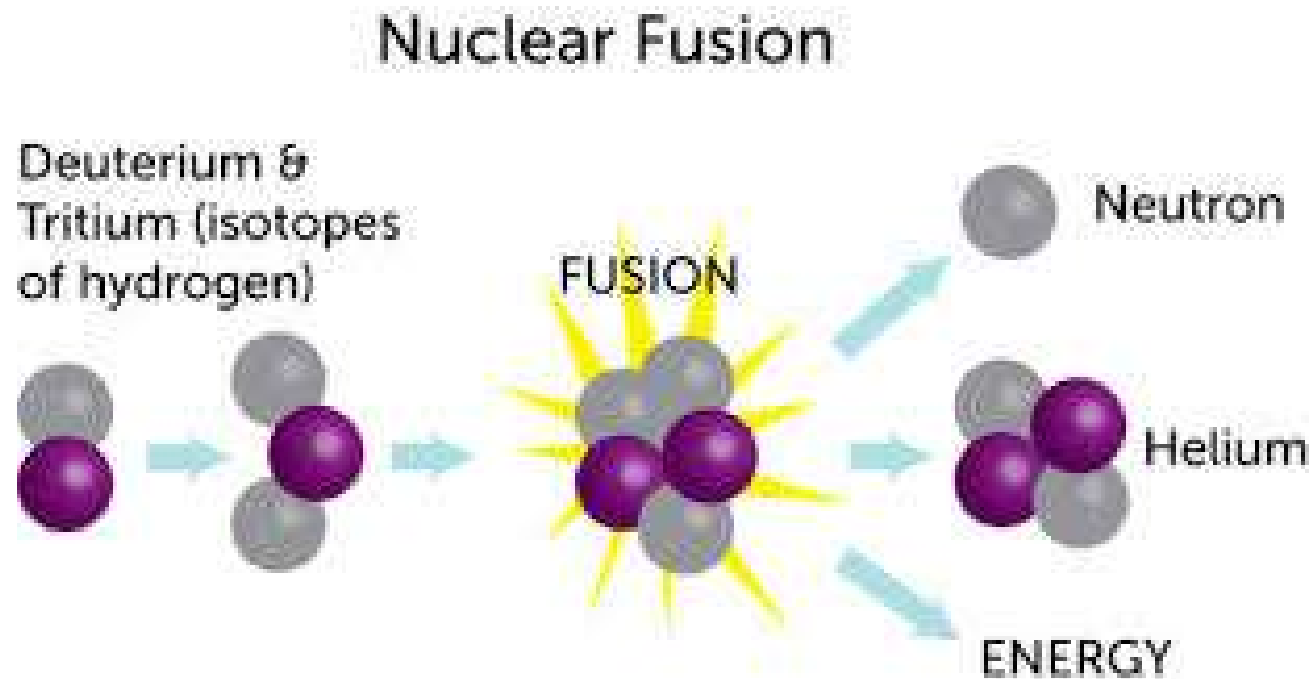


Nuclear Energy

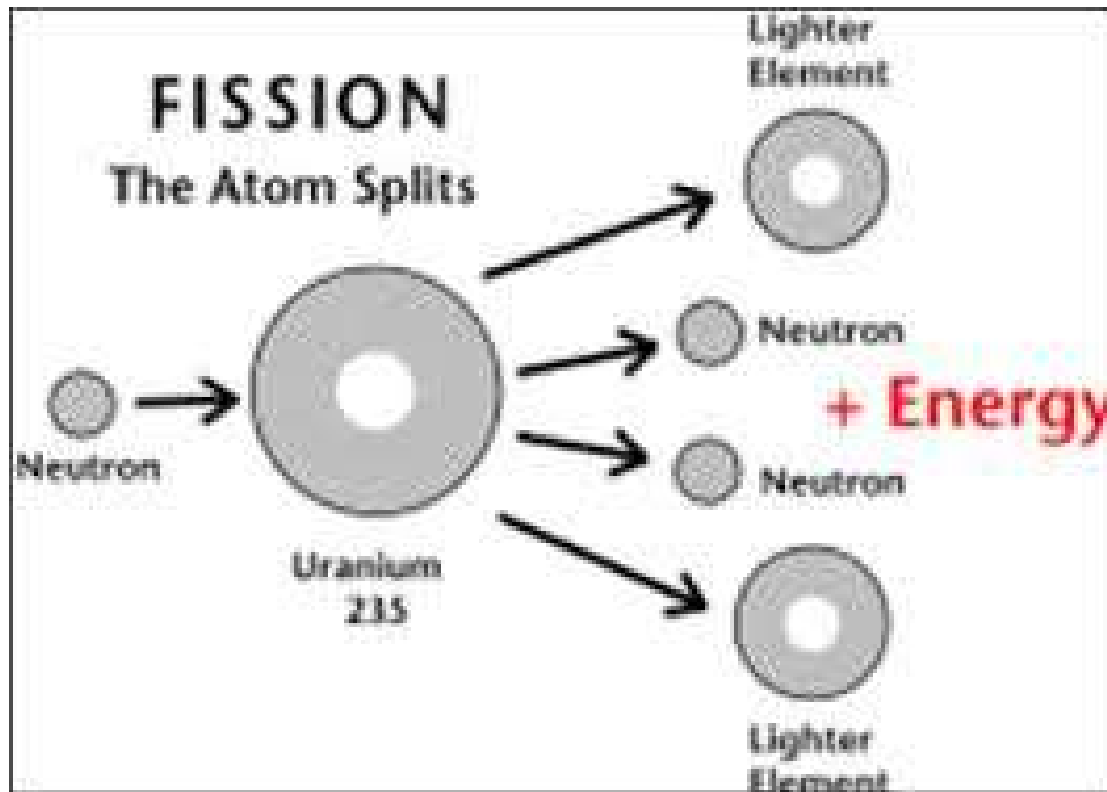
- ▶ Energy stored in the nucleus of atoms.
- ▶ released during a nuclear reaction as a result of fission or fusion.
- ▶ Also called atomic energy.
- ▶ Examples: nuclear fission, nuclear fusion, and radioactive decay.



Nuclear Fusion - Where the molecules bond together in a nuclear reaction.



Nuclear Fission - When the molecules split during a nuclear reaction.



▶ <https://www.youtube.com/watch?v=91XW8AkjG2Y>

Thermal/Heat Energy



- ▶ The internal energy of an object due to the kinetic energy of its atoms and/or molecules.
- ▶ The faster the molecules or atoms of a substance move the more heat energy it contains.
- ▶ The Energy that is generated and measured by heat.

<https://www.youtube.com/watch?v=xGKg3TS04v8>