Energy Study Guide
SOL 3.11

Vocabulary

1. **Nonrenewable resource**- once the resources are used up, they are gone and cannot be replaced. (example: oil, coal, natural gas, and rocks and minerals)
2. **Renewable resource**- resources that can be replaced and conserved.
   (examples: wind, solar/(sun), hydropower/(water), plants, woods, and vegetables)
3. **Fossil fuels**- formed from decayed plants and animals. The formation of fossil fuels takes millions of years. (examples: coal, oil, and natural gas)
4. **Natural resource**- resources that we can get from nature (examples: sun, wood, wind, and water).
5. **Conservation**- protection of valuable resources
6. **Resource**- a material that is found in nature and that is used by living things.

Facts to Know

- A wind turbine uses **wind power** to generate electricity.
- Solar panels are used to absorb the **sun’s energy** which we use to heat water, power calculators, and power cars.
- **Hydropower**, or water power is a **renewable resource** that creates electricity through giant spinning turbines.
- To release the energy stored in fossil fuels, the fuels must be **burned**.
- When wood from trees burn, the stored energy is released as **heat** and **light energy**.
- **Oil and natural gas** are pumped from beneath the earth’s surface by drilling into the ground.
- **Sun, wind, and water** are renewable energy sources.
- The **sun** is the major source of energy for the Earth. The sun produces **light** and **heat** energy.
- **Coal** is a black rock dug out from below the Earth’s surface and burned to create electricity.
- **Oil** is a **fossil fuel** that is used to power vehicles.
- Natural gas is piped out from deep inside the **earth's core** and converted into electricity for our homes.
  - Be able to list examples of how natural gas is used. Example: water is heated by gas, food is cooked through the use of gas stoves, and clothes are dried in gas dryers.
  - Advantages of Renewable Resources: can be replaced, provide humans everything they need to survive, and do not cause pollution.
  - Disadvantages of Non-renewable resources: **CANNOT** be replaced, hard to get to and can cause pollution.
  - Name three ways that we can conserve, or save our natural resources: Reduce, reuse, and recycle.
  - Be able to label the different sources of energy below:

**WIND ENERGY**

**SOLAR ENERGY**

**HYDROPOWER ENERGY**

**OIL**

**COAL**