# Renewable Energy:

* **What is renewable energy?**
  + Renewable energy is energy derived from a source that can be replenished by nature.
  + Some examples of renewable energy include:
    - Hydropower
      * Example: A dam (like the Hoover dam).
      * As water runs through the dam, energy is captured from the water’s movement.
    - Wind
      * Example: Wind turbines.
      * It looks like a giant fan but it does the opposite! Instead of using electricity to make wind, wind turns the fan blades to make electricity.
    - Solar
      * Example: Solar panels
      * Solar panels capture energy from the sun when the sun shines on them.
    - Biomass
      * Example: Burning wood and other plant matter.
      * Burning plant materials can be used to power specialized equipment like tractors and trucks.
    - Geothermal
      * Heat from the Earth.
      * Similar to the sun, the earth actually generates heat. We can capture this heat and use it to heat homes and buildings.
  + Renewable energy is also called **clean energy** as creating it doesn’t pollute the environment.
  + **Fossil fuels**, like coal and oil, are different. There is only so much oil and coil buried in the earth, meaning someday it will run out and we can’t make more.
  + Fossil fuels also give off pollution, like CO2 and other greenhouse gases, when they are burned.
* **Where can we use renewable energy?**
  + Renewable energy can be utilized in many places around the world in some form or another
    - For example, if it’s usually pretty sunny where you live, solar power would be a great option.
    - Wind is a great option if you live in open, flat regions.
* **When was renewable energy created?**
  + Forms of renewable energy have been around for quite some time.
    - Did you know burning wood is considered a renewable energy? That’s been around for a LONG time.
  + Today, we have many more options than just burning wood.
  + We’ve created technology in the form of wind turbines, solar panels, and dams that have made it much easier to capture earth’s energy.
  + We’ve only *really* started using renewable energy in the last 20 years or so.
* **Why should we use renewable energy?**
  + Unlike fossil fuels, such as coal and oil, renewable energy won’t run out. It will always be there for us to use.
  + It is also doesn’t pollute the environment like fossil fuels.
* **Why DON’T we always use renewable energy**
  + We haven’t figured out how to capture and use renewable energy as well as we have with oil and coal. This make it more expensive to generate enough energy for everyone to use.
    - However renewable energy is becoming cheaper everyday as technology gets better.
  + Sometimes renewable energy isn’t always available like:
    - If the sun isn’t shining (nighttime).
      * Solar panels DO work when it’s cloudy, but they just don’t work as well.
    - If the wind isn’t blowing.
    - If a drought is causing a river to dry up.

**Questions:**

* Why should we use renewable energy?
  + It can be replenished quickly
  + It doesn’t pollute the environment
  + It is easier to use
  + **A and B**
* What is another term for renewable energy?
  + Better energy
  + Dirty energy
  + Quick energy
  + **Clean energy**
* A solar panel can produce electricity…
  + **Anytime the sun is shining, even if it’s cloudy**
  + Only when it’s a clear, sunny day
  + At night
  + All the time
* **True** or false?
  + Technology is helping us get better at capturing renewable energy
* Which of the following is not a renewable resource?

 