

RENEWABLE ENERGY SCAVENGER HUNT

Increasing levels of greenhouse gases in the atmosphere are warming the planet. Carbon dioxide is the major greenhouse gas contributing to climate change. Carbon dioxide emissions from human activity come primarily from the burning of fossil fuels, such as gasoline and diesel used by vehicles and coal burned to generate electricity. Renewable energy, includes energy sources such as wind and solar power, geothermal, hydropower, and forms of biomass. In 2015, only 10 percent of total energy consumed in the United States came from renewable energy sources. These energy sources are considered renewable because they are continually replenished on the Earth, unlike fossil fuel sources which are finite. Learning about renewable energy can help familiarize people with the sources of renewable energy and how these sources can help mitigate climate change. In this activity, students will build awareness of biomass, wind, solar and other local sources of renewable energy.

Outcome

Understand sources of renewable energy and how these sources are an environmentally-friendly alternative to fossil fuels.

Audience

Youth (ages 12+), adults

Time

60+ minutes

Concepts

- Learn how renewable energy sources are more sustainable than fossil fuels.
- Explore the outdoors to find local sources of renewable energy such as biomass, wind and solar.

Supplies

- Energy Scavenger Hunt worksheet (1 sheet for every 2-3 students, located in Appendix)
- Writing utensils
- Clip board (*optional*)



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Preparation

- Find an outdoor area around your school or organization that you can investigate.
- Instructor note: assign clear physical boundaries and behavior expectations. Be sure to clearly explain that all students must return to you when you give a signal

that the activity is finished (a whistle, yell, etc.). Some of the scavenger hunt items may not apply to your location - you may add or subtract items from the list at your discretion.

Procedure

- In the classroom, lead a discussion about renewable energy. Make sure your students understand what renewable energy is and examples of renewable energy (wind power, solar energy, etc.). Discuss why renewable energy is a good alternative to fossil fuels because there is an infinite amount of renewable resources.
- Walk around the area outside your school or organization to note any local energy sources such as trees/timber, plants, animals (which we use for energy in the source of food), the sun, wind, even the moon (the moon controls high and low tide and capturing tidal energy is being explored in some coastal regions).
- Ask the students to explain “if this is an energy source, then what is its purpose?” and “who does it give energy to? Where does it get its energy from?”
- Have students form groups of 2-3 for an energy scavenger hunt. The groups will go out looking for

items, find the items and return as fast as they can. This scavenger hunt is made to work for many school yards but can be freely customized to fit your unique situation. Most of the items to be hunted for do not need to be picked-up or otherwise collected; students simply need to record what they find by recording it on the Energy Scavenger Hunt worksheet in the Appendix. They could also take photos of the items.

- As the students return, reflect on what everyone found. What did they notice? What was the easiest to find? What was the hardest to find?
- Back in the classroom, record your energy observations on the board and in their notebooks. Then reflect on: how would we use these types of energy? How do other living things use them? How could we capture this energy to use instead of fossil fuels? How do you think these local sources of energy are already being used in this way?

Discussion questions

- Why is renewable energy important? Why is it important to have alternatives to fossil fuels?
- What types of local energy sources did you find on the scavenger hunt that could supply energy to people?
- Why do you think more fossil fuels are used to supply the world’s energy instead of renewable energy? How could we use more renewable energy?
- What else did you find on the scavenger hunt that was interesting?

Additional activity ideas

Renewable energy freeze tag

- Discuss forms of renewable energy, such as wind, solar, geothermal, etc. These are alternatives to fossil fuels like coal, oil and gas. Play a game similar to TV tag. One person is “it” and must try to tag others. A player is safe from being tagged if they call out a form of renewable energy before being tagged. If a youth is tagged, they become the new “it.”

Purchase renewable energy

- Many utility providers offer customers an option to purchase renewable energy, usually for an additional charge.
- Learn about home installations of renewable energy at www.energy.state.mn.us

Resources

- Energy activities and curriculum www.climategen.org/what-we-do/education/climate-change-and-energy-curricula.