

ENERGY DEFINED IN A DAY

We all use energy every day in countless ways. Where does the energy come from? Learning about where energy comes from is important to conserving energy. This activity is from TOLBY (Turn Off the Lights Behind You) to help students learn about daily activities that use energy and brainstorm ways to incorporate energy conservation into their daily lives.

Outcomes

Learn about daily energy use and how to conserve energy.

Audience

Youth (ages 11+)

Time

30+ minutes

Concepts

- Understand that many daily activities use energy.
- Learn what energy is and where it comes from.
- Brainstorm ways to conserve energy every day.

Supplies

- Notebook paper
- Writing utensil
- Whiteboard, blackboard or large piece of paper for mind map



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Procedure

- Take about five minutes to have students make a list of everything they have done today since they woke up. Yes, everything.
- Then, ask the students to circle everything on the list that used energy. If students are having trouble brainstorming, make suggestions such as turning the lights on when they woke up, getting food from the refrigerator or riding the bus to school.
- Next, have the students share their lists with one another and then share a few examples with the large group.
- What is something they circled?
- In what ways does this activity use energy?
- Do all things use energy? What is something you did today that didn't use energy?
- Ask the class "what is energy?"
- As a class, use the whiteboard or blackboard or large piece of paper to make a mind map of energy. Use words, colors and images. If students run out of ideas, you can ask "how can we tell if something is using energy?" or "what sources of energy can you think of?"
- Ask students to think about the fundamental laws of energy. Add "energy is never created or destroyed" to the mind map. And ask, "If this is true, what happens to energy? Where does it go?" Answer: Energy is just a quantity that passes from system to system. When we think it is "gone" or for example, when our gas tank is empty, it's not because that energy has completely disappeared. Rather, it transferred into heat and motion to move your vehicle. The energy still exists; it has just transferred to a different system. Physicists know this as the Law of Conservation of Energy, the First Law of Thermodynamics.

Discussion questions

- Which daily activities do you think use the most energy?
- Why isn't energy created or destroyed? Where does energy go?
- Where can you conserve energy in your daily activities?
- Are there any barriers that are stopping you? How could you overcome those barriers? How can you commit to conserving energy? What do you need to make it part of your daily routine?
- How could you encourage your family and friends to conserve energy?

