Leo & Layla | Grades 3-5

Niyah | Lesson Plan

What are the different sources of energy and which is the most efficient?

Students will understand how energy is produced by both reliable and unreliable sources. Students will understand the positive and negative aspects of each source of energy used to produce electricity. Students will also understand the importance of being cautious of misleading information and making informed decisions or opinions.

Learning Objectives:

- Identify the difference between reliable and unreliable energy.
- Identify the various sources of energy used to produce electricity in the modern world.
- Analyze how renewable energy impacts the environment.
- Analyze the positive and negative aspects of each energy source used to produce electricity.
- Evaluate which energy source is the most efficient and the best for the environment.
- Evaluate the importance of being cautious of misleading information.

Key Vocabulary:

- **Energy:** The power or ability to do work, produce change, or make things happen.
- **Environmental scientist:** A professional who studies the natural environment, the impact of human activity on it, and different energy sources.
- **Reliable energy:** Sources of energy that are dependable and can consistently provide power when needed, without interruptions or fluctuations, such as coal, natural gas, and nuclear power plants.
- **Unreliable energy:** Sources of energy that are only sometimes available or predictable in their production because they rely on nature, such as energy from the sun and wind.
- **Nuclear energy:** A highly efficient and reliable energy type used to generate electricity in nuclear power plants.
- **Renewable energy**: A form of energy that comes from sources that are naturally replenished and can be used indefinitely, such as solar and wind.
- **Uranium**: A heavy, naturally occurring metal found in rocks, used as fuel in nuclear power plants to produce energy.

Educational Standards: CCRA.L.1, CCRA.L.2, CCRA.L.4, CCRA.W.2, CCRA.W.4, CCRA.R.7, CCRA.SL.1, CCRA.SL.2, CCRA.SL.4

Academic Subject Areas: Global Issues, Environment, Energy

What You'll Need

- Video: *Niyah: Africa's Energy Poverty* (Watch Here)
- Worksheet: *Niyah: Africa's Energy Poverty* (Click Here)

Scan to watch episode:

Lesson Plan (45 minutes)

Warm-Up: (15 minutes)

1. Initiate a class discussion on energy and electricity. Prompt students to share examples of ways they have used electricity today at home or at school.
2. Encourage students to consider how this electricity is produced. Prompt students to also consider if some ways of producing energy are better or "cleaner" than others. Invite students to share aloud different ways energy is produced and which they think is best.
3. Display a copy of the "Niyah Worksheet" and pass out individual worksheets to students.
4. Instruct students to complete #1-#3 in the Warm-Up Activity. Students will write examples of ways they use electricity, where they think this energy comes from, and which way of producing energy they think is best.
5. Once completed, encourage students to reflect on the benefits of having electricity. Invite students to share ways that electricity makes their lives easier or better.
6. Preview the video by explaining to students that Leo and Layla visit a girl named Niyah who lives in an area that does not have electricity. Invite students to consider how not having electricity would make life very different. Prompt students to predict how Niyah's everyday life might be impacted by not having electricity.
7. Instruct students to complete the remainder of the Warm-Up Activity #4 and #5. Students will write the benefits of electricity and predict how Niyah's life is impacted by not having electricity.
8. Read over the rest of the worksheet as a class so students know what to listen for during the video.
9. Set the stage for the upcoming video by highlighting the importance of being well-informed in order to form opinions or make decisions. Encourage students to look for ways throughout the video in which a character's initial opinion is changed once he/she learns more information.

Watch and Complete: (20 minutes)

1. Watch the video.
2. Assist students with completing the worksheet alongside the video, encouraging note-taking and active listening.
3. Pause throughout the video to allow students to answer questions, especially short answer responses. If necessary, model short answer responses by restating the question and writing a complete sentence.

Wrap-Up: (10-15 minutes)

1. Allow students 10 minutes to complete the worksheet independently.
2. Collect as formative assessment or discuss in class.
3. Ask students to read aloud their responses to the Making Connections section, reflecting on the lesson Layla learned on the importance of being cautious of misleading information and how her opinion changed throughout the video.
4. Conclude with open-ended prompts on ways students can efficiently use energy sources and what students can do to avoid being misled when gathering information:
    - What did you learn about how energy is produced that you didn't know before this lesson?

    - How do you think the environment is impacted differently by reliable and unreliable sources of energy?
    - How can learning about different energy sources help you make better decisions in the future?
    - If you were an environmental scientist, what energy source would you recommend for your community and why?
    - What are some ways you can check if the information you find about energy sources is reliable?
    - Why is it important to be cautious of misleading information when learning about energy sources?
    - What steps can you take to ensure the information you use for school projects or personal knowledge is trustworthy?
5. Reinforce the value of research and obtaining trustworthy information before making decisions or forming opinions.

Don’t have time for the full lesson? Quick Activity (15-20 minutes)

Distribute the worksheet and allow students to complete it while they follow along with the video.