

STORY

Nuclear Power Plant Failures in Japan Raise Safety Questions

3/17/2011

http://www.pbs.org/newshour/extra/features/science/jan-june11/nuclear_03-17.html

Estimated Time: One 45-minute class period with possible extension

Student Worksheet (reading comprehension and discussion questions without answers)

PROCEDURE

1. WARM UP

Use initiating questions to introduce the topic and find out how much your students know.

2. MAIN ACTIVITY

Have students read NewsHour Extra's feature story and answer the reading comprehension and discussion questions on the student handout.

3. DISCUSSION

Use discussion questions to encourage students to think about how the issues outlined in the story affect their lives and express and debate different opinions.

INITIATING QUESTIONS

1. Where do people get electricity from?
2. What is radiation?
3. Where does nuclear power come from? Why can it be dangerous?

READING COMPREHENSION QUESTIONS

1. What is the name of the nuclear power plant where the tsunami disabled backup systems and workers are worried about a nuclear meltdown?

Fukushima Daiichi

2. How many workers are still at the plant, exposing themselves to radiation?

180

3. If someone lived 10 miles from the Fukushima Daiichi plant, would they be told to evacuate or stay indoors?

Evacuate

4. How do nuclear power plants create energy?

Nuclear power plants create energy by splitting the atoms of the volatile chemical

element uranium.

5. What is an example of non-dangerous radiation that humans experience?

The sun, X-rays or airport body scanners

6. What are the most dangerous types of radiation that result from the nuclear fission, or atom-splitting, process?

Iodine and cesium

7. Why do some people consider nuclear power cleaner than coal or oil?

Some consider nuclear power a cleaner form of energy than fossil fuels like coal and oil because no carbon dioxide is released into the atmosphere during the nuclear fission process.

8. Why do some people think nuclear power pollutes the environment?

Others argue that nuclear power is dangerous and pollutes the environment because used up uranium fuel rods are still radioactive and have to be buried deep within the earth.

9. What two nuclear disasters is the Japanese incident being compared to? Which was more serious?

Three Mile Island and Chernobyl; Chernobyl was more serious

10. What two European countries are re-examining their nuclear power plants?

Germany and Switzerland

DISCUSSION QUESTIONS

1. If you were one of the nuclear plant workers who was asked to stay behind and make sure a full meltdown didn't happen, would you do it? Why or why not?

2. Do you think nuclear power should be used? Why or why not?

3. President Obama said nuclear power is one of an "array" of power sources the U.S. needs to use. What are some others? Which do you think are best? Why?

4. Can you think of other sources of radiation besides those mentioned in this article? Are they dangerous to humans?

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