

CHERNOBYL NUCLEAR DISASTER



webquest

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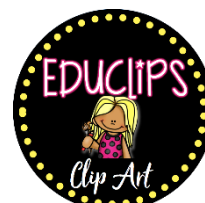
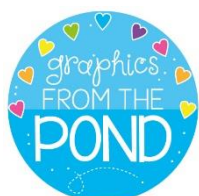
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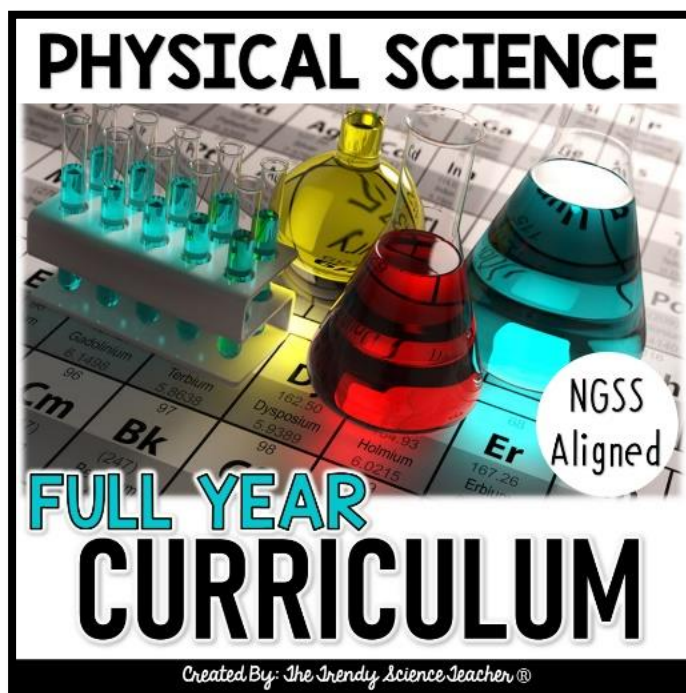
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The CHERNOBYL NUCLEAR DISASTER *webquest*

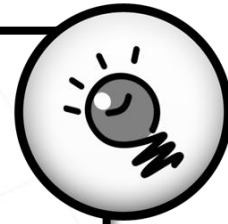
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Introduction:

What would you do if you were told you had two hours to pack your things and leave your home, never to return? That is exactly what happened to the people of Chernobyl, Ukraine, in 1986 when the worst nuclear disaster in history occurred. Decades later, Chernobyl's citizens are still not able to return to their homes. Nuclear pollution is just that dangerous! However, nuclear power plants generate nearly 15% of the world's electricity. So why would we use nuclear energy if it's responsible for the largest nuclear disaster in history? In this WebQuest, you will dig deeper to discover what happened all those years ago in Chernobyl and decide for yourself if nuclear energy is the best form of energy.

Step 1:

Use a search engine to find a labeled map of Europe. Then locate Ukraine. Color the country of Ukraine blue. Next, find the town of Chernobyl and label it on the map with a ★ .

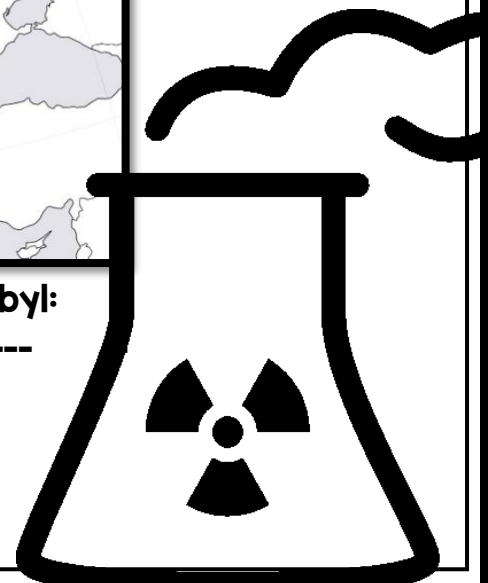


**DID YOU
KNOW?**

CHERNOBYL WAS
FOUNDED IN 1193
AND HAD OVER
14,000 RESIDENTS
PRIOR TO THE
NUCLEAR DISASTER.

List 3 facts about the geographic region of Chernobyl:

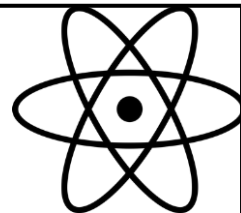
- 1- _____
- 2- _____
- 3- _____



Step 2:

Visit the following website and answer the questions below:

<https://en.wikipedia.org/wiki/Chernobyl>



4. When did the Chernobyl nuclear reactor explode?

5. Why did the reactor explode?

6. How long after the explosion did it take for residents to be evacuated?

7. Who lives in Chernobyl today?

Step 3:

Visit the following website and answer the questions below:

<https://www.livescience.com/39961-chernobyl.html>

8. How many nuclear reactors were in Chernobyl in 1986?

9. How many plant workers were killed by the actual explosion of the reactor?

10. Most of the radiation released from the failed nuclear reactor was from fission products _____, _____, and _____.

11. What were some of the health effects from the explosion?

12. What were some of the environmental effects from the explosion?

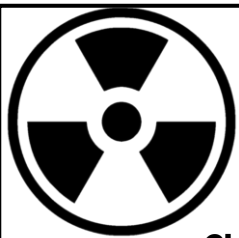
13. Describe the town of Chernobyl today.



NUCLEAR FALLOUT FROM THE
CHERNOBYL DISASTER SPREAD
THROUGHOUT EUROPE.

RESEARCH HOW THE NUCLEAR FALLOUT
SPREAD AND COLOR THE MAP TO
REFLECT THE AREAS AFFECTED BY THE
RADIATION.





Step 4:

Visit the following website and answer the questions below:
<https://www.history.com/topics/1980s/chernobyl>

14. How much more radiation was produced from the Chernobyl disaster than the atomic bomb dropped on Hiroshima?

Click on the "gallery of images" to answer the following two questions:

15. What is an "Elephant's Foot" made out of?

16. What city was evacuated by thousands of buses?

17. Why can't inhabitants return to Pripyat?

18. How many weeks did it take to extinguish all the fires using sand, lead, and nitrogen?

19. Why did the people evacuated from Pripyat take little with them?

20. What did the Soviets do three days after the accident (despite the fact that radiation was still streaming from the wrecked power plant)?

21. What disease spiked up significantly as a result of the radiation?

22. How much radiation did the "Elephant's Foot" give off each hour?

23. How many miles is the Chernobyl Exclusion Zone?

24. Approximately how many years will it take for humans to be allowed to live inside the Chernobyl Exclusion Zone?

25. Based on your research of nuclear energy thus far, how do you feel about the use of nuclear fission as a source of energy? (Write 5-8 sentences.)



Despite the severity of the impact on human life and the environment from nuclear power disasters, nuclear energy has become an increasingly popular form of energy in many countries. It is important to weigh the pros and cons of nuclear energy. In the next few websites, you will research the positive effects of nuclear energy.



Step 5:

Visit the following website and answer the questions below:

<https://bit.ly/learnnuclear>



**DID YOU
KNOW?**

NUCLEAR POWER PLANTS DO NOT
EMIT GREENHOUSE GASES WHILE
GENERATING ELECTRICITY. THEY
PRODUCE POWER BY BOILING
WATER TO CREATE STEAM.

26. What is nuclear energy?

27. What are the two types of nuclear reactions?

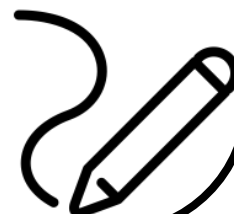
28. Which of these two types of nuclear reactions produces electricity via nuclear reactors?

29. Compared to fossil fuels, how much more energy (per atom) can nuclear energy release?

30. What are the benefits of nuclear energy (list 3)?

Illustrate It!

Use your favorite search engine to research "how nuclear reactors work." After researching, illustrate the process in the space provided below.



CHERNOBYL NUCLEAR DISASTER WEBQUEST



answer key

The CHERNOBYL NUCLEAR DISASTER *webquest*

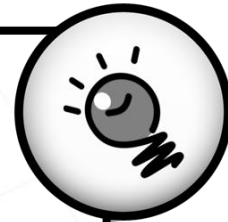
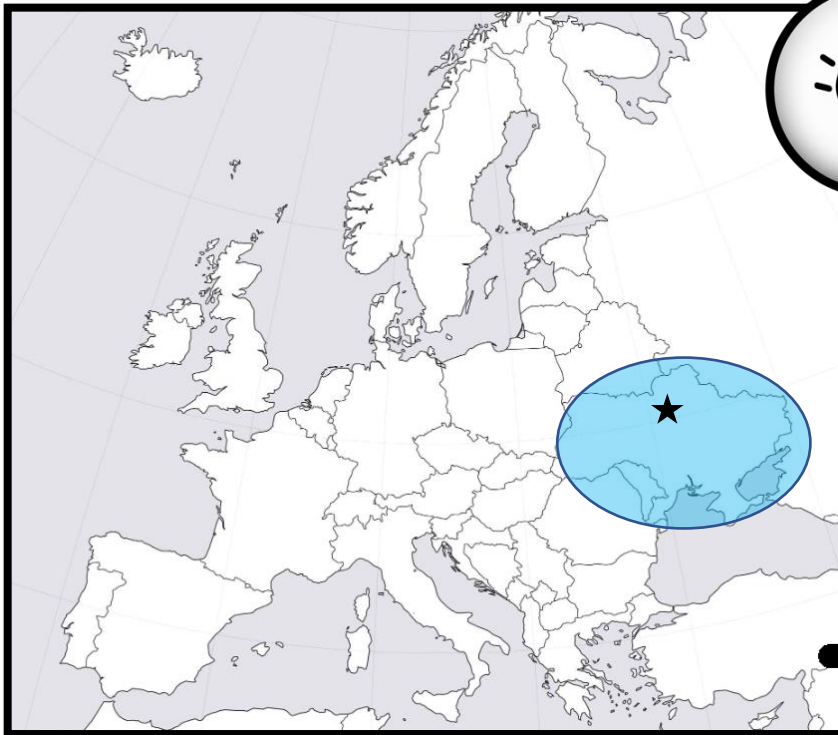
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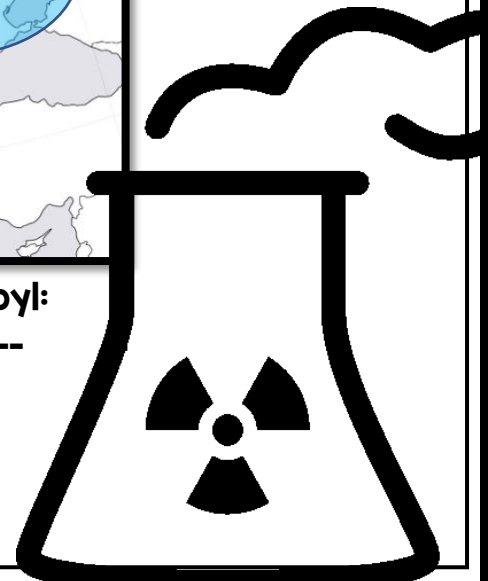
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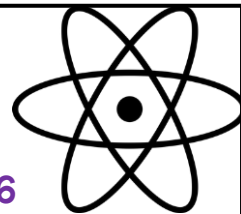
1-
2-
3-

answers will vary



Step 2:

Visit the following website and answer the questions below:
<https://en.wikipedia.org/wiki/Chernobyl>



4. When did the Chernobyl nuclear reactor explode? **April 26, 1986**
5. Why did the reactor explode? **Unsanctioned experiments on the reactor by plant operators were done improperly**
6. How long after the explosion did it take for residents to be evacuated?
9 days
7. Who lives in Chernobyl today? **Only a few people and animals**

Step 3:

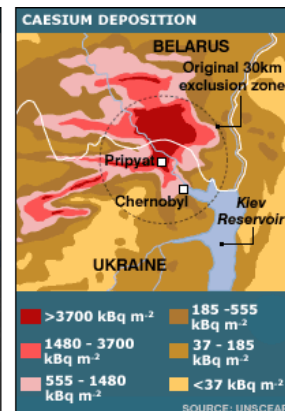
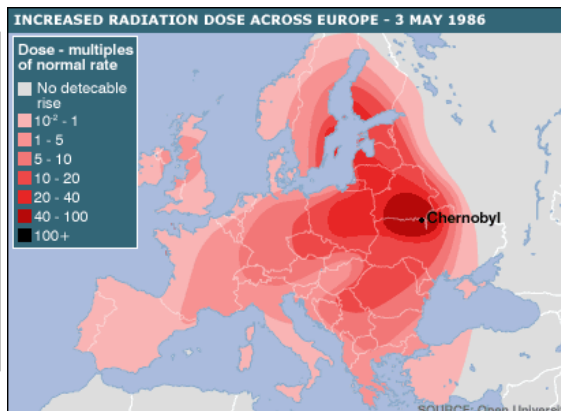
Visit the following website and answer the questions below:
<https://www.livescience.com/39961-chernobyl.html>

8. How many nuclear reactors were in Chernobyl in 1986? **4**
9. How many plant workers were killed by the actual explosion of the reactor? **2**
10. Most of the radiation released from the failed nuclear reactor was from fission products **iodine-131 cesium-134 and cesium-137**
11. What were some of the health effects from the explosion?
 - cancer from exposure to the radioactive fallout
 - 20,000 cases of reported thyroid illness
 - birth defects from exposure to radiation
12. What were some of the environmental effects from the explosion?
 - trees were killed
 - high levels of radiation
13. Describe the town of Chernobyl today. **A variety of wildlife live there along with a few people. Radiation levels are still too high for habitation.**



NUCLEAR FALLOUT FROM THE CHERNOBYL DISASTER SPREAD THROUGHOUT EUROPE.

RESEARCH HOW THE NUCLEAR FALLOUT SPREAD AND COLOR THE MAP TO REFLECT THE AREAS AFFECTED BY THE RADIATION.





Step 4:

Visit the following website and answer the questions below:
<https://www.history.com/topics/1980s/chernobyl>

14. How much more radiation was produced from the Chernobyl disaster than the atomic bomb dropped on Hiroshima?

400 times more

Click on the "gallery of images" to answer the following two questions:

15. What is an "Elephant's Foot" made out of? **Melted nuclear fuel mixed with concrete, sand and core sealing material**

16. What city was evacuated by thousands of buses? **Pripyat**

17. Why can't inhabitants return to Pripyat? **The radiation levels are still high**

18. How many weeks did it take to extinguish all the fires using sand, lead, and nitrogen? **2 weeks**

19. Why did the people evacuated from Pripyat take little with them? **They thought they would return in a few days**

20. What did the Soviets do three days after the accident (despite the fact that radiation was still streaming from the wrecked power plant)? **Held a parade called "May Day"**

21. What disease spiked up significantly as a result of the radiation? **cancer**

22. How much radiation did the "Elephant's Foot" give off each hour? **10,000 roentgens**

23. How many miles is the Chernobyl Exclusion Zone? **770 miles**

24. Approximately how many years will it take for humans to be allowed to live inside the Chernobyl Exclusion Zone? **24,000**

25. Based on your research of nuclear energy thus far, how do you feel about the use of nuclear fission as a source of energy? (Write 5-8 sentences.) **answers will vary**



Despite the severity of the impact on human life and the environment from nuclear power disasters, nuclear energy has become an increasingly popular form of energy in many countries. It is important to weigh the pros and cons of nuclear energy. In the next few websites, you will research the positive effects of nuclear energy.



Step 5:

Visit the following website and answer the questions below:

<https://bit.ly/learnuclear>



DID YOU KNOW?

26. What is nuclear energy? **The energy held in the nucleus of an atom**

NUCLEAR POWER PLANTS DO NOT EMIT GREENHOUSE GASES WHILE GENERATING ELECTRICITY. THEY PRODUCE POWER BY BOILING WATER TO CREATE STEAM.

27. What are the two types of nuclear reactions?

Fission and fusion

28. Which of these two types of nuclear reactions produces electricity via nuclear reactors? **fission**

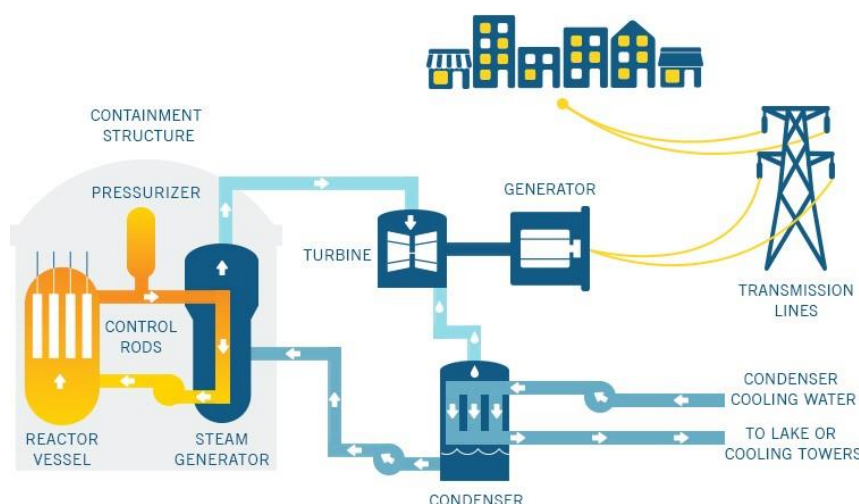
29. Compared to fossil fuels, how much more energy (per atom) can nuclear energy release? **1 million times more**

30. What are the benefits of nuclear energy (list 3)?

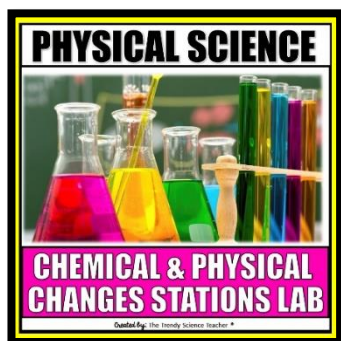
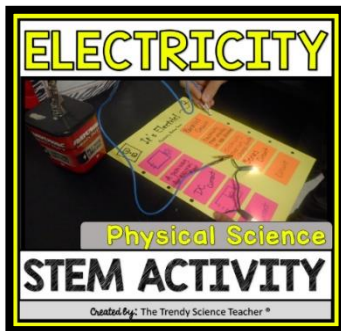
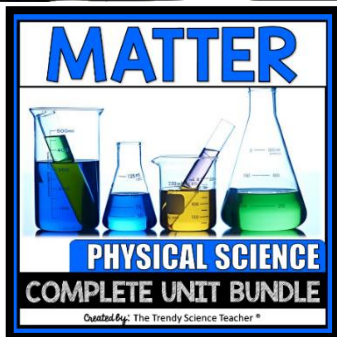
- large power-generating capacity**
- low operating costs**
- no greenhouse emissions**

Illustrate It!

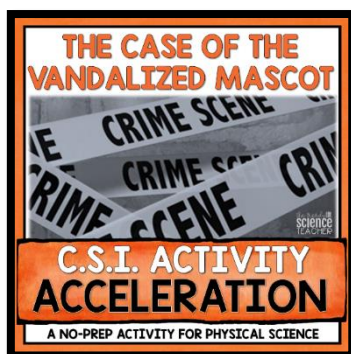
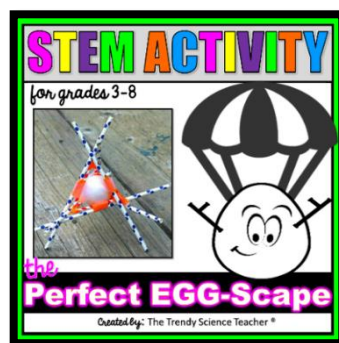
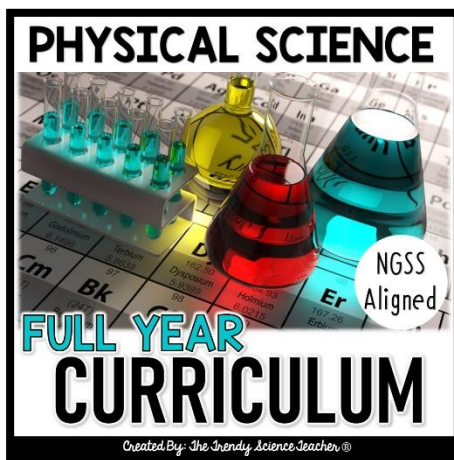
Use your favorite search engine to research "how nuclear reactors work." After researching, illustrate the process in the space provided below.



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