

Environmental Issues in Europe

Acid Rain in Germany, Air Pollution in UK, &
Nuclear Disaster in Chernobyl, Ukraine

Standards

SS6G9 The student will discuss environmental issues in Europe.

a. Explain the major concerns of Europeans regarding the issues such as acid rain in Germany, air pollution in the United Kingdom, and the nuclear disaster in Chernobyl, Ukraine.

Teachers

Print off the following slide for each student. They should complete the chart while discussing the presentation.

Environmental Issues in Europe

	Air Pollution in the United Kingdom	Acid Rain in Germany	Nuclear Disaster in Chernobyl, Ukraine
Problem			
Effects			
Solution			
Illustration			

Environmental Issues in Europe

Acid Rain in Germany, Air Pollution in UK, &
Nuclear Disaster in Chernobyl, Ukraine



Acid Rain
in Germany

Acid Rain

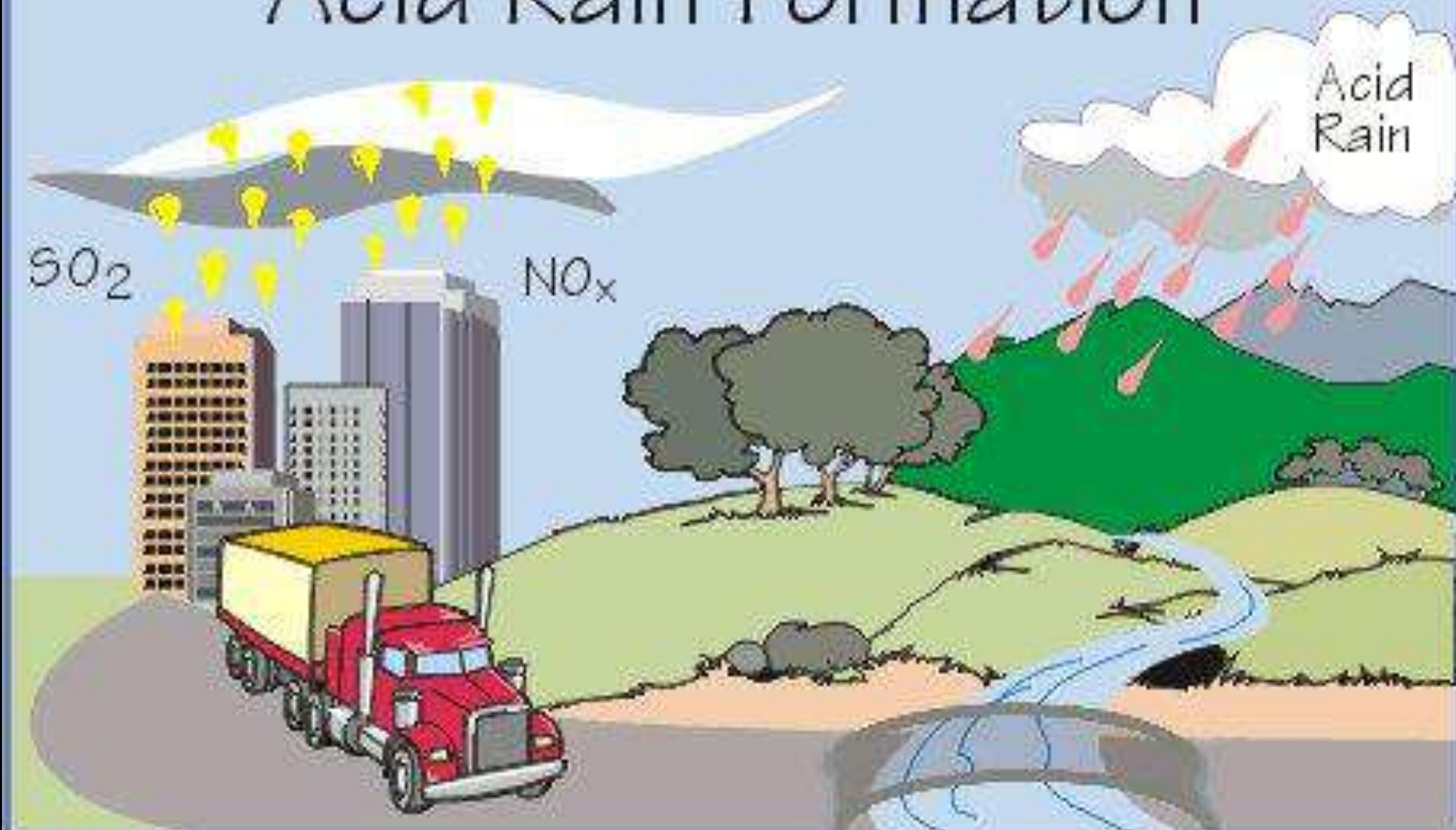
- Over the past 30 years, acid rain has been damaging Germany.
- It contaminates soil, kills trees, eats holes in the surfaces of buildings & statues, pollutes rivers, and harms wildlife.



What is Acid Rain?

- Acid rain is a result of air pollution.
- When any type of fuel is burnt, a lot of different chemicals are produced and released into the air.
- The chemicals mix with water in the clouds and come down with rain.

Acid Rain Formation



What is Acid Rain?

- The rain that falls has weak levels of acid mixed in.
- It's not acidic enough to burn your skin, but it is very harmful for the environment.



Left Branch shows needle loss and discoloration due to acid rain.

Causes

- The main source of acid rain is smoke from factories (burning fuels like natural gas, coal, & oil).
 - Germany is a top manufacturing country.
 - It leads the world in cars, steel, & chemical products.
 - The economy depends on these factories.
- Cars & buses also produce harmful gases.

Effects

- Acid rain can effect trees in several different ways:
 - Dissolves & washes away the nutrients and minerals in the soil
 - Causes the release of harmful substances such as aluminum into the soil
- Acid rain has destroyed nearly half of the Black Forest!
 - This has really harmed Germany's economy because one of its major natural resources is timber.




Acid Rain Can Cause Erosion in Stone Statues & Buildings



Germany's Solution

- In Germany, power plants that use water power are replacing many coal-burning factories.
- They are developing new types of energy, such as wind turbines and solar power.
- Germany's government has passed laws to reduce emissions from cars and factories.



**Air Pollution
in the
United Kingdom**

Air Pollution

- Many of the world's largest and most industrialized countries are in Europe.
 - Paris, London, Berlin, Rome, Amsterdam
- These cities tend to have a lot of factories, a lot of traffic, and produce a lot of air pollution.
- A country that has been greatly effected by this problem is the UK.



UK's Air Pollution

- London, the capital of UK, is famous for air pollution.
- The word “smog” was first used in 1905 to describe air in London (thick fog + smoke).
- Thick London smog happens when water in the air mixes with smoke particles from a coal fire.



Causes

- In the past, the major source of air pollution was smoke from burning coal in factories.
- Today, exhaust from automobiles is the problem.






Effects

- Asthma and pneumonia are linked to vehicle emissions.
 - It burns the lungs, nose, and eyes, and endangers human life.
- It also blackens buildings and harms wildlife.





**What is Europe
doing to fix
these problems?**

Environmental Policies

- In Western Europe, nations are trying to lessen pollution.
 - They are spending money and researching new ways to produce power that cause less environmental damage.
- In Eastern Europe, few nations are researching new technologies.
 - They have less money.

Environmental Policies

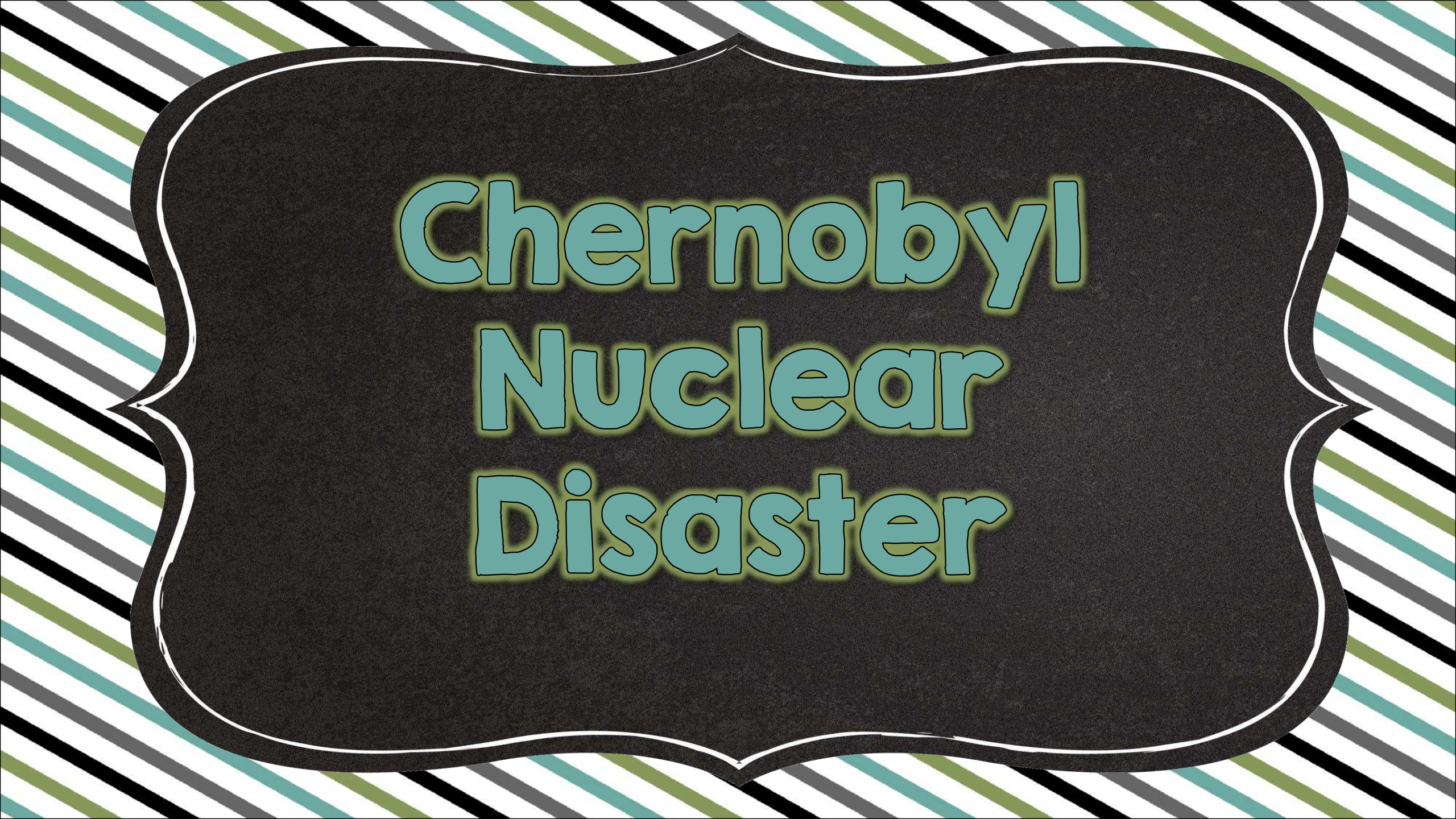
- Ukraine still has a higher than normal radiation level.
- Bulgaria has made no effort at all to decrease its air pollution that's caused by traffic.
- Romania has one of the highest industrial pollution rates in Europe. This is because its factories are still using old-fashioned methods.
- Lithuania's forests are dying rapidly from acid rain, but the government refuses to acknowledge the problem.
- Yugoslavia is preparing to build a new nuclear power plant but hasn't let anyone see the plans or safety policies.

Environmental Policies

- Governments are also researching alternative fuel sources for cars which would lessen air pollution and acid rain.
- Rather than being made of oil, these fuels come from plant soil.

European Union

- Most countries in Europe are members of a group called the European Union.
- Since its formation in 1993, the EU has passed policies designed to fight acid rain, improve air quality, restrict toxic waste, and reduce pollution.



Chernobyl Nuclear Disaster



Lithuania

Belarus

Russia

Poland

Rovno ■
Khmelnitski ■

Chernobyl ■
Kiev ●

Pripyat

Slovakia

Ukraine

Zaporozhe ■
South Ukraine ■

Hungary

Moldavia

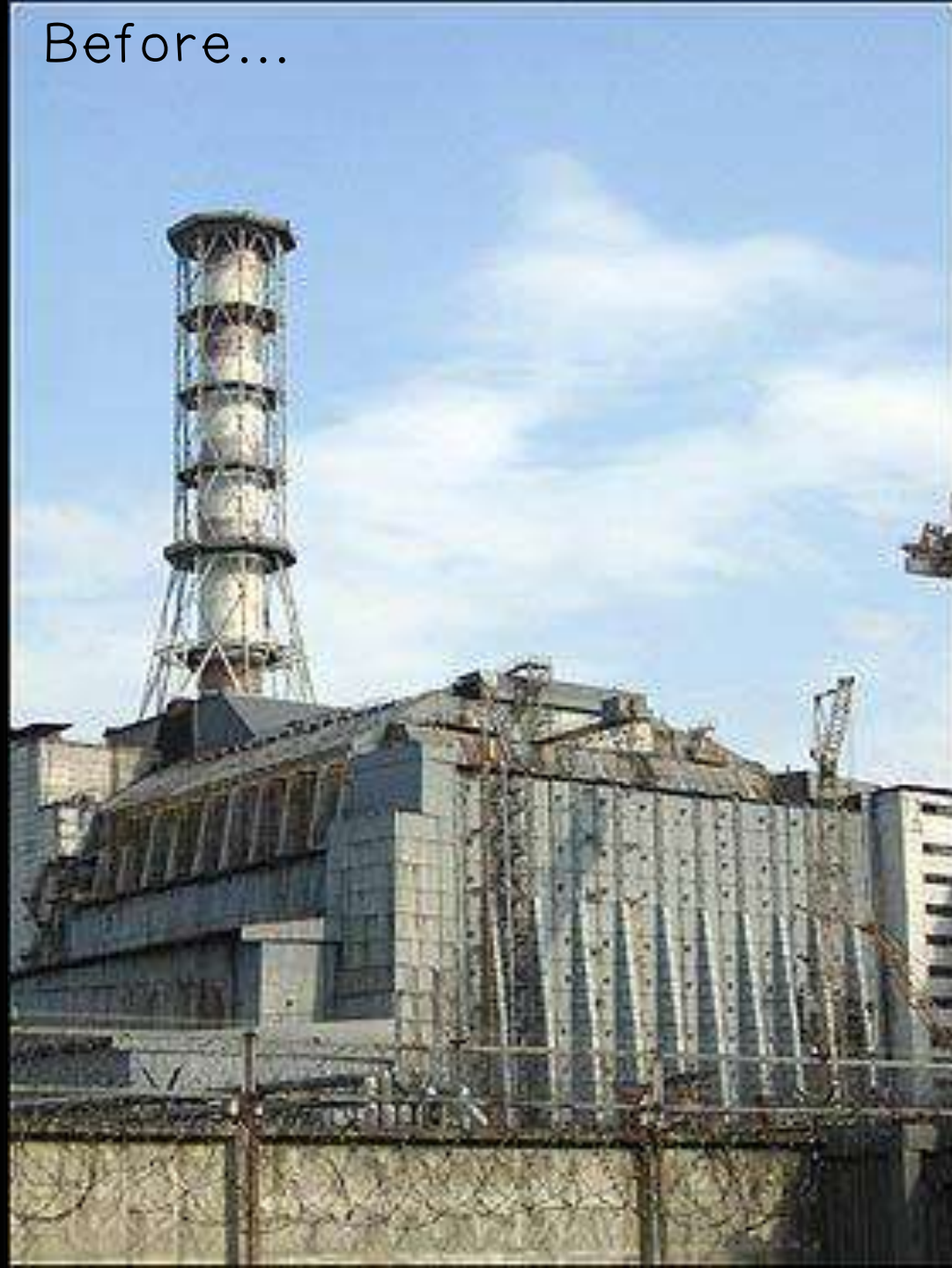
Odessa ●

Romania

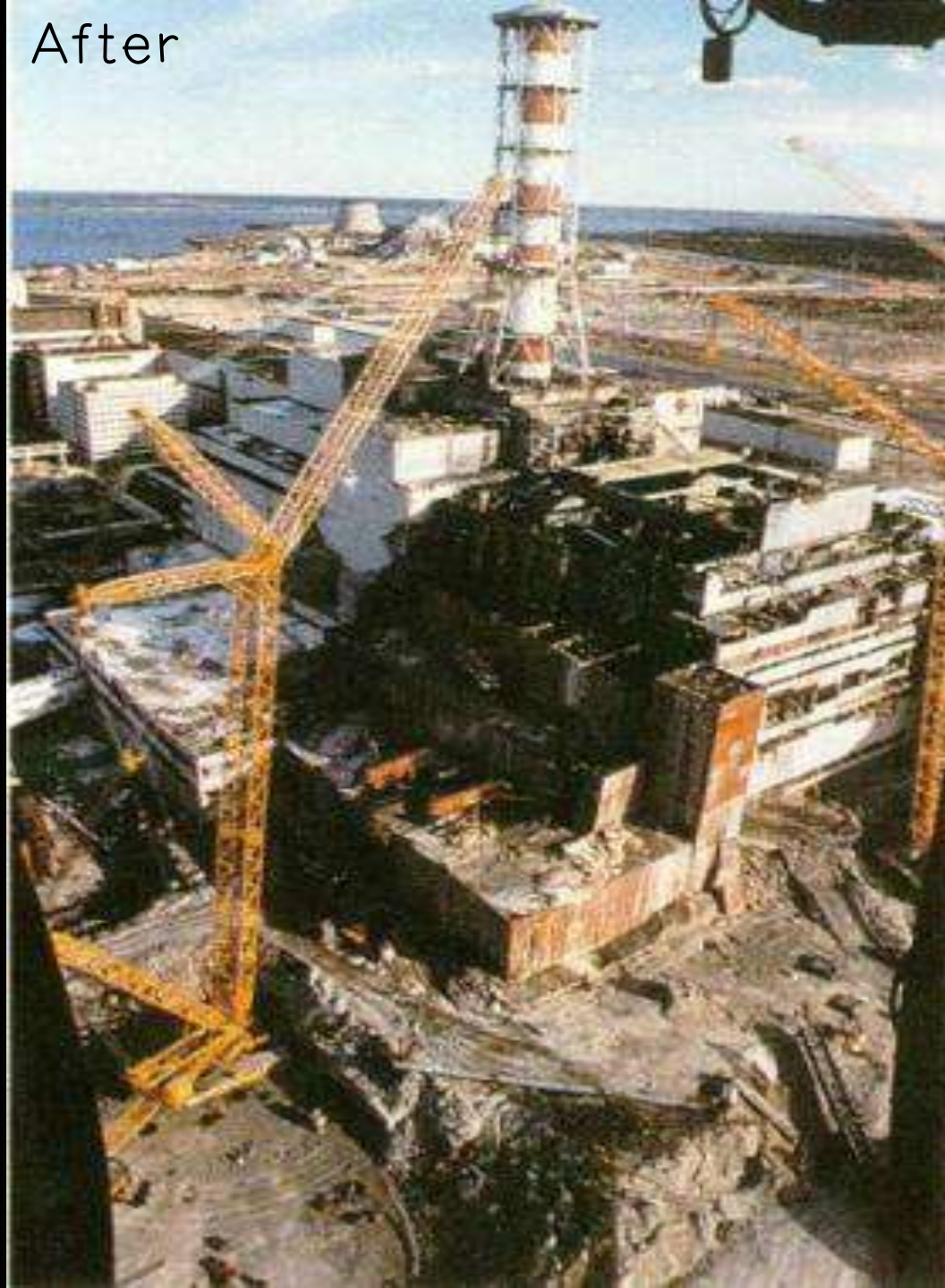
Chernobyl, Ukraine

- In 1986 the Soviet Union generated 10% of the world's nuclear power.
- One of the USSR's nuclear power plants located in Chernobyl, Ukraine exploded in April 1986.
- The explosion released large amounts of deadly radiation into the atmosphere.

Before...



After

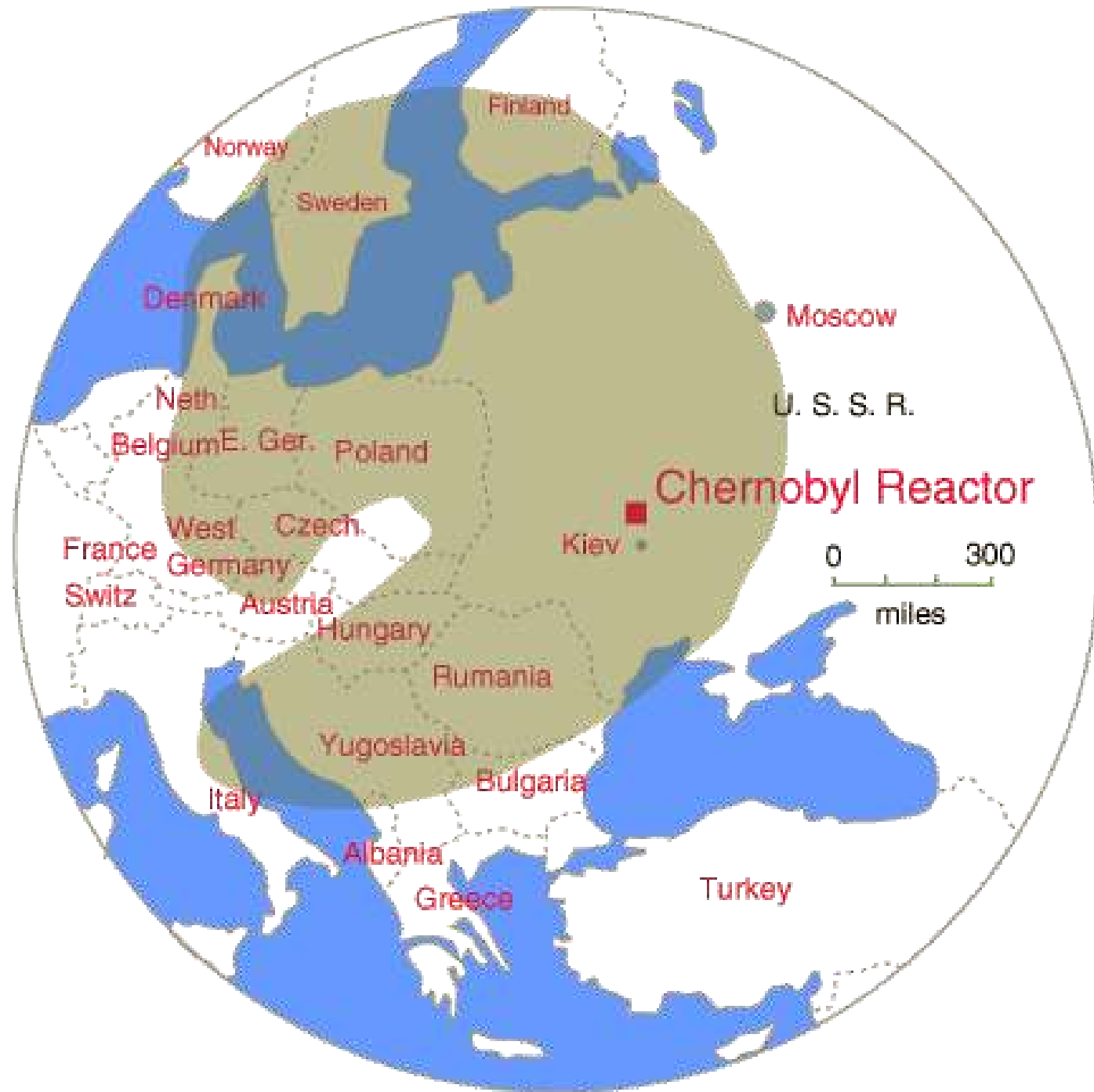


How Did USSR React?

- The morning after the explosion, there was no hint of a disaster.
- After 36 hours of being exposed to radiation, the people were finally told to pack their clothing and evacuate their homes.
- There was a 30 kilometer (18 mile) evacuation zone.

Effect Around the World

- Nearly nine tons of radioactive material (90 times as much as the Hiroshima bomb) was hurled into the sky.
- Over the following days, winds mostly blowing north and west, carried fallout into Belarus, as well as Russia, Poland, & other countries around the world.



Effects of the Disaster

- In the first months after the accident, 28 emergency workers died from acute radiation syndrome.
 - Doctors have noticed an increase in cases of cancer who lived nearby.
- Many animals died or got sick.
 - Fish in nearby rivers were unsafe to eat for many years.
- Millions of acres of farmland have been poisoned.



Radiation Suits Worn By Workers



Multi-head Suit (Helm, Neck, Wrist, & Goggles)
Used in an oil well
It was used in a number of wells for the purpose
of protecting personnel against acid rain and other
chemical substances. It was used in 1988
in the Republic of Cameroon and in the West Coast
Africa for oil well work.

White protective suit
Used in an oil well
It was used in a number of wells for the purpose
of protecting personnel against acid rain and other
chemical substances. It was used in 1988
in the Republic of Cameroon and in the West Coast
Africa for oil well work.

Dark protective suit
Used in an oil well
It was used in a number of wells for the purpose
of protecting personnel against acid rain and other
chemical substances. It was used in 1988
in the Republic of Cameroon and in the West Coast
Africa for oil well work.

Today

- Chernobyl continued to produce electricity for another 14 years, until international pressure forced its closure in 2000.
- An official exclusion zone around the plant remains in place, extending for 30 kilometers (18 miles).
 - It is one of the most radioactive spots on Earth.

Chernobyl Today...A Ghost Town





Amusement Park

Hospital (Baby Room)



School Classroom



School

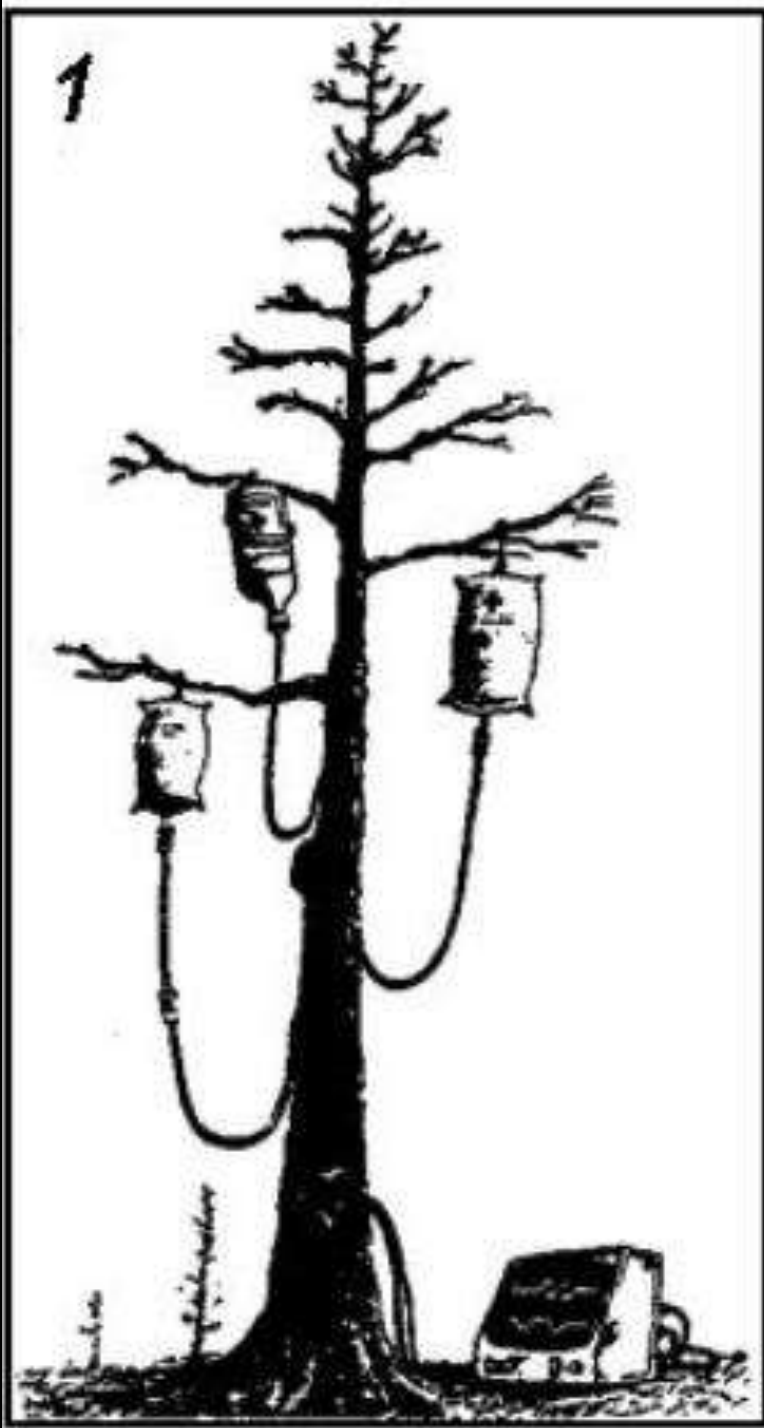


Grocery Store



♪ I'M SING-ING IN THE ACID RAIN,
JUST SING-ING IN THE ACID RAIN... ♪





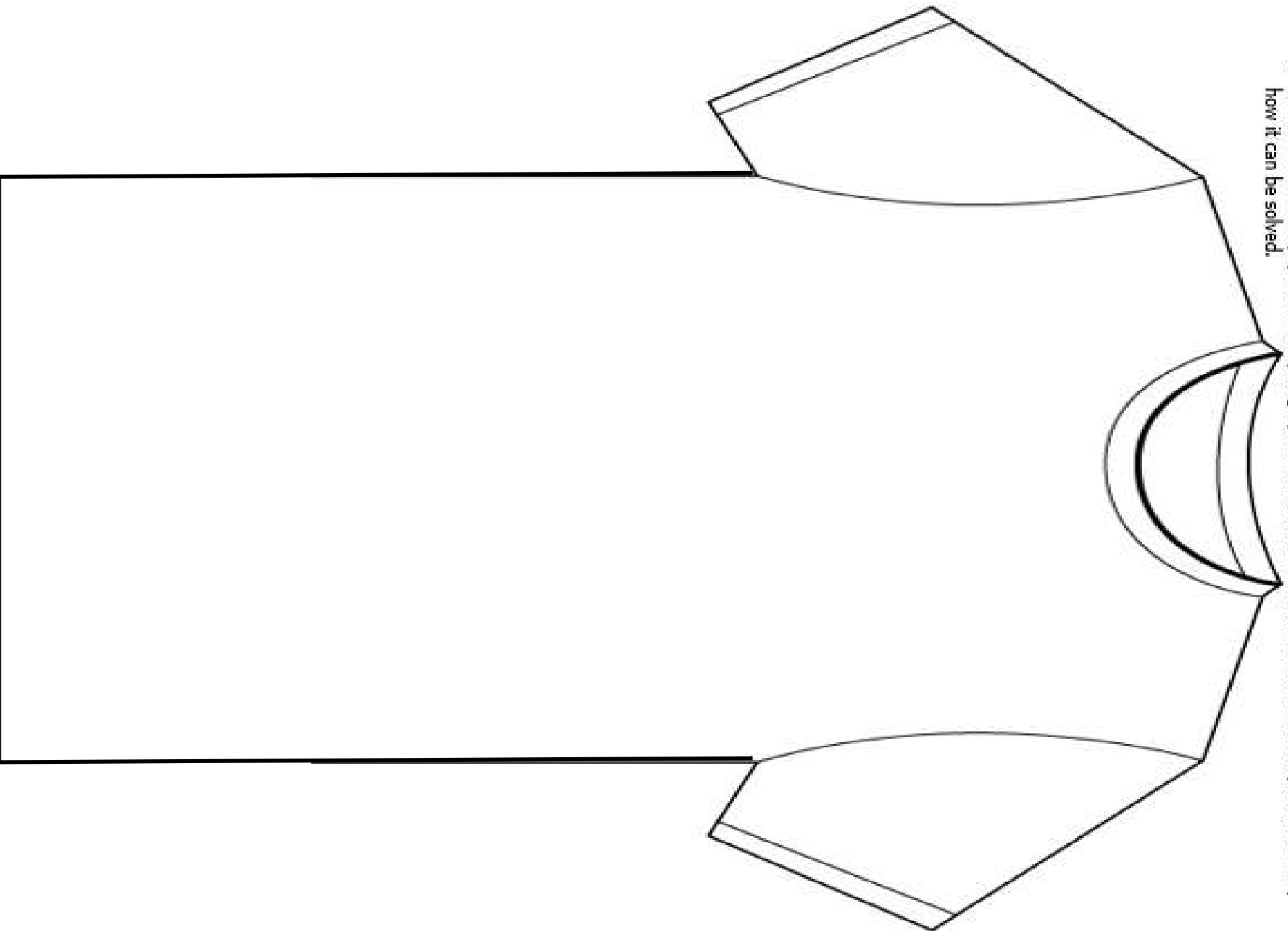
Political Cartoon Analysis

Visuals	Words
<p>1. List the objects or people you see in the cartoon.</p>	<p>1. Identify the cartoon caption or title:</p> <p>2. Record any important words or dates that appear in the cartoon.</p>
<p>2. Which of the objects in your list (above) are symbols?</p> <p>3. What do you think each symbol means?</p>	<p>3. Which words in the cartoon appear to be the most significant? Why do you think this is so?</p> <p>4. List some adjectives that describe the emotions portrayed in the cartoon.</p>
<p>Questions to Consider:</p>	
<p>A. Describe the action taking place in the cartoon:</p> <p>B. Explain the message of the cartoon:</p> <p>C. What group would agree with the cartoon's message? Why?</p> <p>D. What group would disagree with the cartoon's message? Why?</p>	

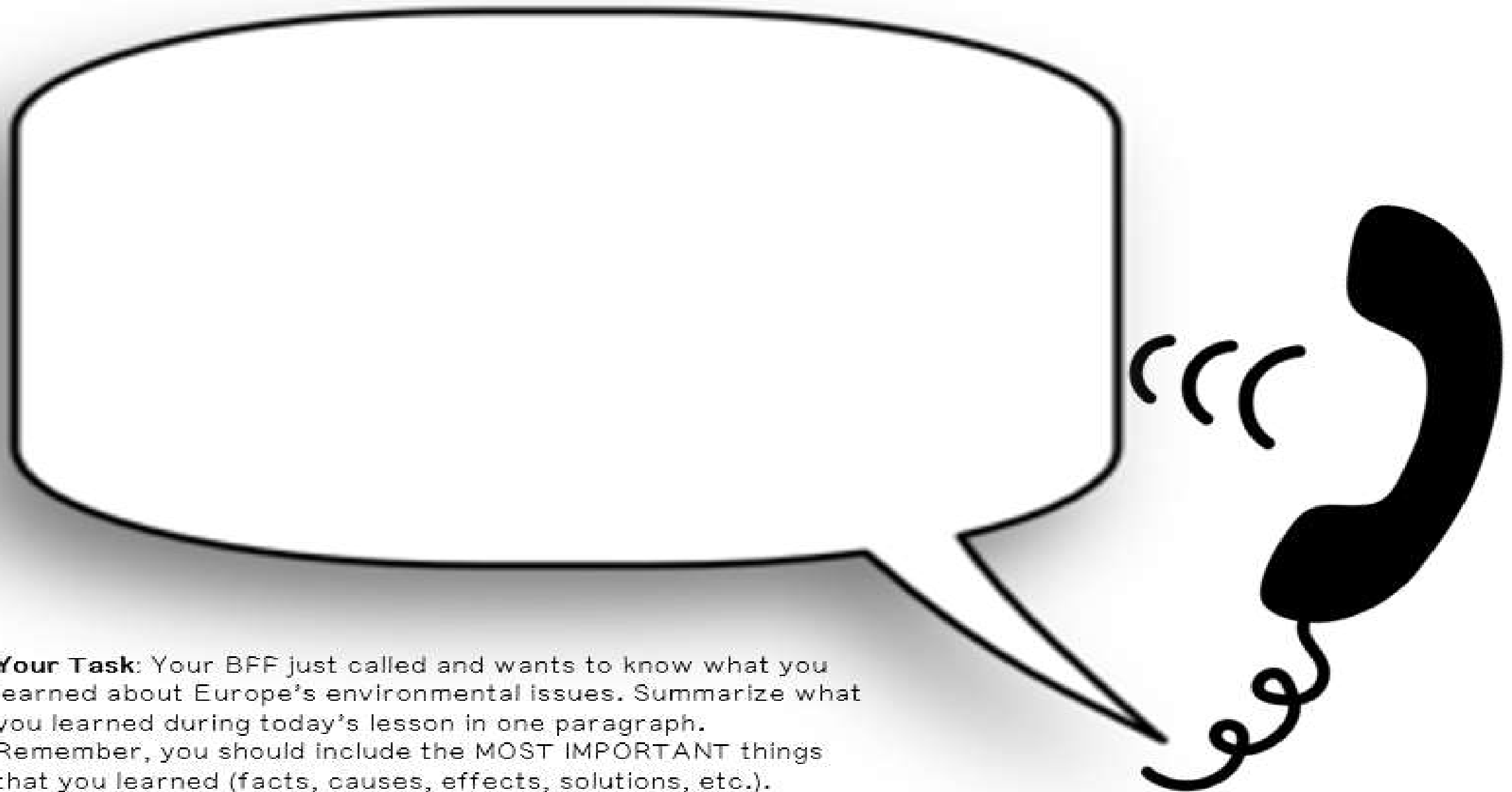
Design a Shirt

Your Task: Design a t-shirt that will convince others to help solve one of Europe's environmental issues.

1. Create a slogan for the shirt. This needs to be a thoughtful message or statement that describes the environmental issue and how it can be solved.
2. Draw a colorful visual for the shirt.
3. On the back of this paper, write a paragraph to describe the environmental issue and your ideas for how it can be solved.



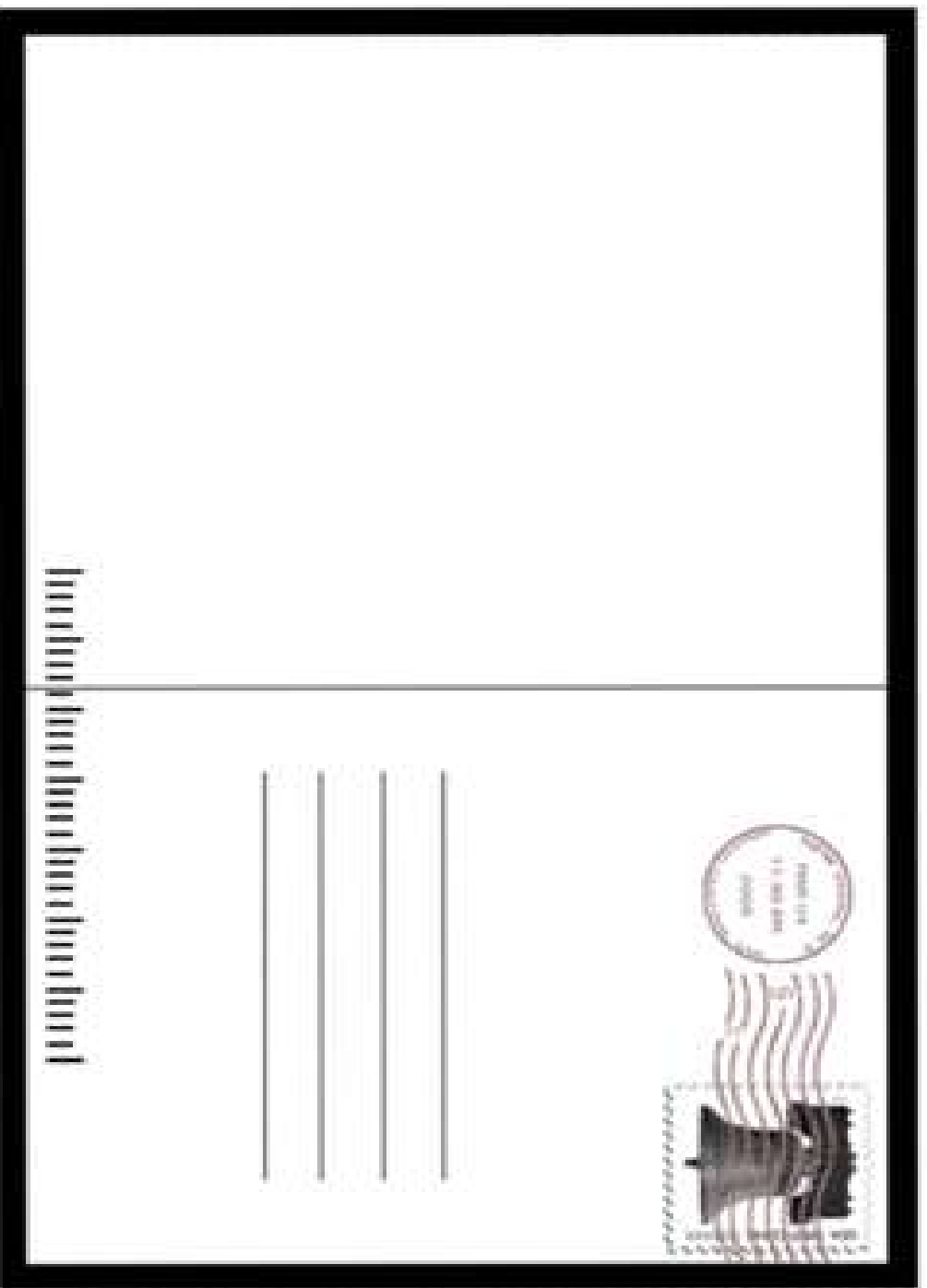
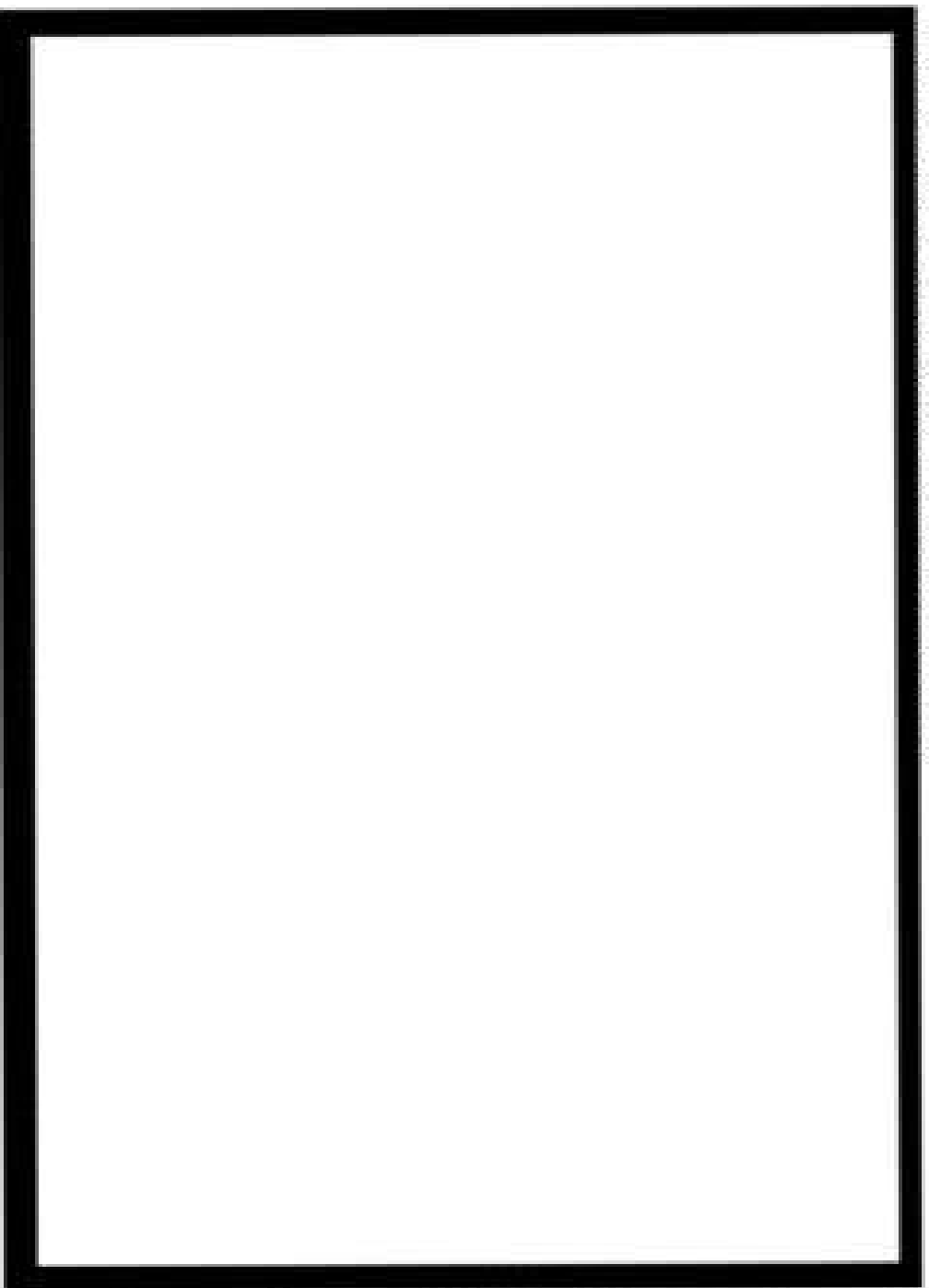
Phone-a-Friend



Your Task: Your BFF just called and wants to know what you learned about Europe's environmental issues. Summarize what you learned during today's lesson in one paragraph. Remember, you should include the MOST IMPORTANT things that you learned (facts, causes, effects, solutions, etc.).

Environmental Issues Postcard

Directions: Which environmental issue are you most concerned about? Write a postcard to a friend who lives in the country where the problem is occurring. On the front of the postcard, draw an illustration of the environmental concern. On the back, describe what's happening in the concern and what you think the country's government should do to fix it.



Teachers

The following slide is meant to be a three-flap foldable. I have the students cut along the two lines between “Nuclear Disaster”, “Acid Rain”, and “Air Pollution”. Then, they glue the side that says, “Environmental Concerns” to their Interactive Notebooks. Inside of each flap (right side), they write definitions/facts about the issue. On the left side of the flap, they draw a picture of the issue.

Environmental Concerns of Europe

Acid Rain in
Germany

Air Pollution in
the United
Kingdom

Nuclear
Disaster in
Chernobyl,
Ukraine

Teachers

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- For more social studies materials, please visit my store:
<http://www.teacherspayteachers.com/Store/Brain-Wrinkles>
- I teach 6th grade Language Arts and Social Studies in Georgia, so my products are aligned with Common Core (LA) and Georgia Performance Standards (SS).

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