

6th

The main environmental effects of the disaster have been contaminated farmland, surface water, and groundwater. Today, the area around the Chernobyl nuclear plant is considered one of the most polluted places on Earth. Although the reactor was buried in a concrete casing designed to absorb radiation, experts fear leakage into the nearby groundwater, and are working to re-contain the site. No one knows exactly how many illnesses and cancers have been caused by this disaster, but about 4,000 children in the fallout zone have been diagnosed with thyroid cancer in recent years. Ukraine and Belarus have spent huge amounts of money on cleanup efforts.



Chernobyl nuclear plant



Hard-To-Believe-But-True!

The Chernobyl blast released 100 times more radiation than the two atomic bombs released over Japan near the end of World War II



Quick Quiz

Answer the questions below.

1. The worst nuclear disaster in history occurred at the _____ nuclear power plant in _____.
2. True or False? Radioactive material from the blast stayed within 20 miles of the nuclear plant.

3. Some environmental effects of the disaster include contaminated _____, and groundwater.
4. True or False? The concrete casing around the reactor is guaranteed never to leak.

5. True or False? Many cases of cancer have been linked to this disaster. _____

Chapter 22

SS6G10 The student will explain the impact of location, climate, natural resources, and population distribution on Europe.

a. Compare how the location, climate, and natural resources of the United Kingdom and Russia affect where people live and how they trade.

b. Compare how the location, climate, and natural resources of Germany and Italy affect where people live and how they trade.

Today, the UK's air pollution is mainly caused by **emissions** from cars and trucks and from ozone. Pollutants from cars include carbon monoxide and nitrous oxides. They hover close to the ground, contaminating the air people breathe. **Ozone** adds to the problem, forming when air pollutants mix and react with sunlight to form smog. Air pollution can lead to many health problems.



Word Definition

smog: a visible haze of air pollution over cities

The UK has been working hard to reduce air pollution since the Great London Smog occurred. The government has tightened emissions standards for vehicles, endorsed the use of cleaner fuels, and urged citizens to use public transportation like buses and subway systems.



Essential Skills

Write F for Fact and O for Opinion.

- ___ 1. Air pollution is the biggest problem faced by citizens of the UK.
- ___ 2. The Great London Smog was the saddest event in UK history.
- ___ 3. The UK's air pollution problem today is caused by vehicle emissions and ozone.
- ___ 4. Ozone forms when air pollutants interact with sunlight.
- ___ 5. The UK government is not doing enough to reduce pollution.
- ___ 6. The UK government has tightened emissions standards for vehicles to help reduce pollution.

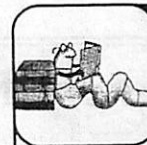


Background Check

The word 'smog' originally meant a combination of smoke and fog. Today, smog refers to a combination of many pollutants visible in a brownish-yellow haze.

Nuclear Disaster in Ukraine

In April 1986, a nuclear reactor exploded at the Chernobyl nuclear power plant in Ukraine, causing the worst nuclear disaster in history. At the time, Ukraine was part of the Soviet Union, which dissolved in 1991. Toxic radioactive material shot into the air and drifted over western parts of the Soviet Union, Eastern Europe, and Scandinavia. Fallout (radioactive particles falling to the ground) contaminated about 100,000 acres, including the animals, crops, and forests on the land. About 135,000 people were evacuated and resettled in other areas. About 30 people died in the blast, and thousands more who cleaned up the site died later from radiation poisoning.



Word Definition

nuclear power: generates electricity using the heat produced when atoms are split

It All Makes Sense!

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The location of a country, its climate, and its natural resources have a tremendous impact on where its people live, how they make a living, and how they trade with other countries. You will learn about a few examples in Europe below.

Welcome to the United Kingdom!

The United Kingdom (UK) may be a small island nation, but it has had a tremendous impact on world history! The UK consists of Great Britain (includes England, Scotland, and Wales) and Northern Ireland. Its capital is London, England.



Although the UK is located very far north, a current of warm ocean water called the Gulf Stream flows by the British Isles and keeps the temperatures mild. Its moist climate with plenty of rain is good for crops. The island of Great Britain has a jagged coastline with good harbors for trading vessels.

Great Britain is divided into a highland zone (north and west) and a lowland zone (south and east). Important natural resources like coal, oil, and natural gas are found in the mountainous highland zone. Large reserves of oil and natural gas found recently in the North Sea have made Great Britain a major supplier of those resources. Most Britons live in the lowland zone, where farming and England's major cities are located. Only about one percent of British people work in agriculture, and the country has to import about one-third of its food.

(farming)

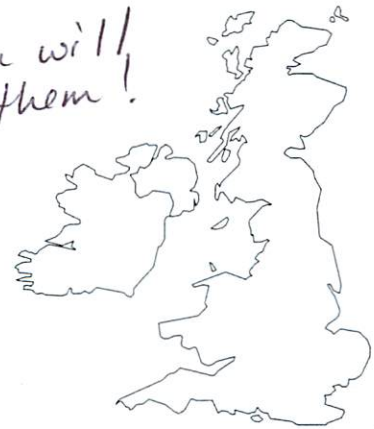
Most British citizens live in urban areas. The capital city of London, a world center for trade and banking, is located in the southeastern part of England. More than 7 million people live in London! Many Britons work in service industries like banking, insurance, and tourism. Great Britain also has thriving manufacturing industries, including iron and steel production and electronics.



Quick Quiz

Write T for True and F for False.

*Copy questions!
Answers only - You will
copy if you miss them!*



- ___ 1. Great Britain has a very cold, Arctic climate.
- ___ 2. The UK includes England, Scotland, Wales, and Northern Ireland.
- ___ 3. Oil and natural gas are important British natural resources.
- ___ 4. Farming is the largest industry in Great Britain.
- ___ 5. Most Britons live in urban areas.

The Big Country—Russia!

In contrast to the UK, Russia is the largest country in the world! Most citizens live in western Russia on the European Plain. This “heartland” is home to Russia’s major cities, farms, grazing land for livestock, and the country’s warmest temperatures.

Russia has a very cold climate, thanks to its location near the Arctic Ocean. Russia does not get a lot of rainfall, and only about 10 percent of Russia’s total land is suitable for agriculture. Grains like wheat and barley are major crops. Russia imports a lot of its food, particularly meat.

Russia is rich in mineral resources, with huge deposits of coal, oil, and natural gas, and massive forests. Unfortunately, it is difficult and expensive to harvest and transport these resources because of the harsh climate and remote locations. Many Russian goods are transported by railroad because rivers and major ports are blocked by ice in the winter. Russia’s mining, manufacturing, and fishing industries are fueled by the country’s natural resources.



Quick Quiz

Circle the correct answers below.

1. Russia is the largest / smallest country in the world.
2. Most Russians live in western / eastern Russia.
3. Russia’s climate is warm / cold.
4. Russia has many / few natural resources, but they are easy / hard to get to.

*Answers only -
Will copy if you
miss them. :)*



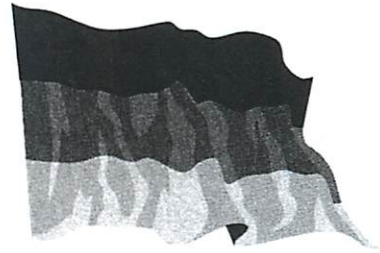
Quick Review

Fill in the chart below comparing the United Kingdom and Russia. Circle the things that the UK and Russia have in common.

Copy chart

	United Kingdom	Russia
Location		
Climate		
Farmland		
Where People Live		
Natural Resources		

Genuine Germany



You might say that Germany has it all! Germany is a very prosperous nation, with one of the largest populations in Europe and the strongest economy. Germany truly owes much of its success to its location, climate, and natural resources!

Germany enjoys a moderate climate with warm, mild summers and cool winters. Extreme weather conditions do not occur very often. This mild climate is good for Germany's agriculture industry, which uses about half of Germany's land. *farming*

Germany's location and geography yield many other benefits. Although Germany produces many crops, manufacturing drives the country's economy. The Ruhr Valley in western Germany is the most densely populated area in the country, filled with factories, cities, and towns. Most Germans live in the cities and towns of western Germany. Enormous deposits of coal and iron ore found in the Ruhr region fuel a huge manufacturing industry known for steel production, automobiles, building materials, and many other items. These manufacturing products are easily transported to the nearby Rhine River, Germany's major commercial waterway, and then on to the North Sea and the Atlantic Ocean to trade with the world!



Quick Quiz

Fill in the blanks below.

Copy sentences! Answers only!

1. Germany has the strongest _____ in Europe.
2. Germany has a _____ climate, which is good for agriculture.
3. _____ is the driving force behind Germany's economic success.
4. The _____ Valley is densely populated. It holds massive deposits of natural _____ needed for German industry.

Incredible Italy!

Italy attracts millions of tourists every year because of its spectacular scenery, beautiful weather, and fascinating history and culture. Italy enjoys a moderate climate with generally cool winters (colder in mountain regions) and warm summers. Mountains cover about 70 percent of the country. *tourism*



About two-thirds of Italians live in the northern part of the country, home to most of Italy's industry and agriculture. Because of their location close to central Europe, the industrial cities in northern Italy can trade easily with other European countries. Grapes, often grown along mountainsides, are Italy's most valuable crop. Italian grapes have made Italy the largest wine producer in the world.



Mona Lisa by Leonardo da Vinci

Italy has few mineral resources, and has to import most of its raw materials for industry. Tourism is the country's most important industry. Tourists flock to Italy to enjoy its climate and view ancient ruins and magnificent art from some of history's most famous artists like Leonardo da Vinci and Michelangelo.



Quick Review

Fill in the lists below. Use the word bank to help you. Some words may be used more than once.

COPY THIS

Germany

Italy

Climate

Most Important Industry

Natural Resources

Highly Populated Area

Trade

Word Bank

tourism west
 moderate access to rivers and sea
 few minerals manufacturing
 coal and iron ore close to central Europe
 north