

MAKING A MENTAL MAP

1. Look at the outline map of Southwest and Central Asia on the next page. Then draw and label these features where you think they are located:
 - at least two physical features (these could be mountains, rivers, lakes, or deserts)
 - the other regions and the seas or gulfs that border this region
 - the boundaries of any countries you think you know
 - any area that you think has a very dry (arid) climate
 - any area that you think is densely populated

Introduction

Southwest and Central Asia are spread across one large section of the Eurasian **landmass**. The **region** is surrounded by seas, plains, and mountains.

Southwest Asia lies at the crossroads of Africa, Europe, and Asia. All three continents meet here at the Mediterranean Sea. Central Asia occupies the lonely center of the Eurasian landmass. Central Asia is a region of treeless plains and **deserts**.



Southwest Asia is bordered by several seas. The Mediterranean and Black seas mark the northwestern border. The Red Sea runs along the western side of the region. The Arabian Sea cradles the southern border.

Central Asia’s northern border looks over the plains of Siberia. Rugged mountains rise along the southern and eastern borders. These mountains include the Hindu Kush, one of the highest ranges in the world.

Your teacher will show a video of a physical feature of this region. Write some questions you have about physical geography in this region. As you read through the sections on the physical geography, come back here to add more questions.

Physical Features

The physical landscape of Southwest and Central Asia is marked by great contrasts. This region includes both the lowest spot on Earth and some of the highest peaks. Dusty deserts cover much of the region. Yet there are also large bodies of water, such as the Persian Gulf. A **gulf** is an arm of the sea that is partly surrounded by land. The Persian Gulf is about 600 miles long and averages almost 125 miles in width.



These rocky cliffs line part of the Persian Gulf.

Southwest and Central Asia also have several **inland seas**. These are large bodies of salt water with little or no connection to the ocean. The Caspian Sea is the world's largest inland body of water. Its waters are salty, but not as salty as the ocean. As a result, this inland sea is home to both **freshwater** and saltwater fish.

Southwest Asia

Southwest Asia is a land of **peninsulas** and **plateaus**. The Arabian Peninsula occupies the southern part of the region. Covering more than 1 million square miles, it is the largest peninsula in the world.

Farther north lies the Anatolia Plateau. This rugged region stretches across much of modern Turkey. The center of the plateau has **landscapes** that are often described as “moonscapes.” **Erosion** by wind and water has carved the hills in this volcanic region into caves, cones, and strange shapes called “fairy chimneys.”

Southwest Asia has other interesting features, including

- the Arabian Sea—a shipping route known as a “hurricane alley” because of the violent storms that develop there.
- the Tigris-Euphrates Valley—one of the most fertile river valleys of the ancient world.
- the Dead Sea—an inland sea between Israel and Jordan. At about 1,300 feet below sea level, it is the lowest place on Earth. The Dead Sea is nine times as salty as the ocean. This is so salty that almost nothing can live in its waters.

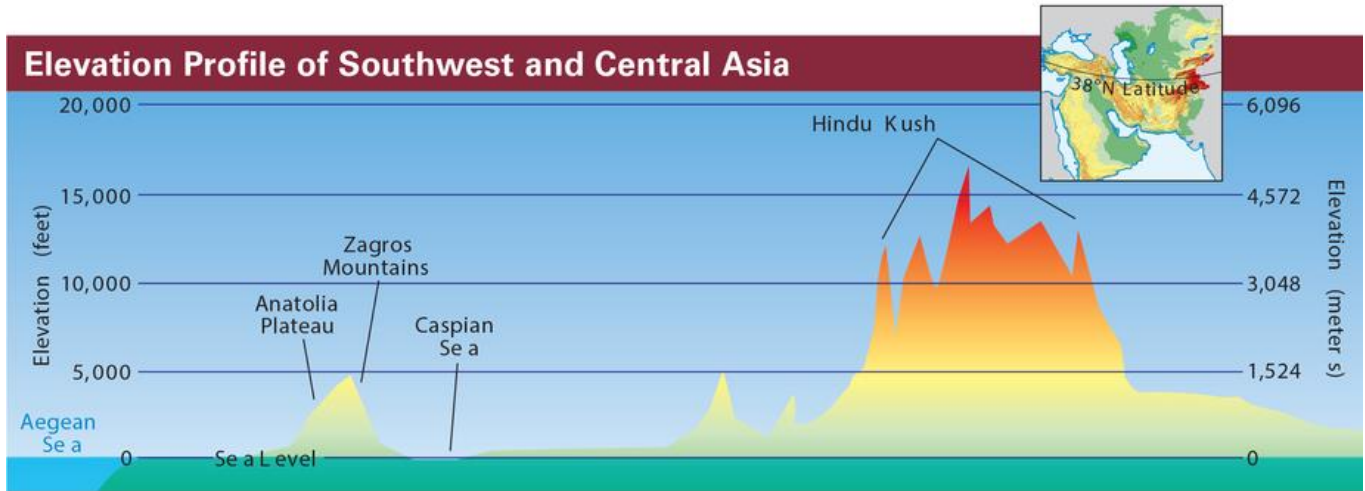
Central Asia

Central Asia also varies greatly in elevation. The Caspian Sea lies below sea level. But some Hindu Kush peaks rise over 25,000 feet.

Central Asia boasts some of Earth's largest inland seas. The Black Sea covers an area larger than the state of California. The Aral Sea was another large inland sea, but it is rapidly shrinking in size.

Geoterms:

Erosion: the gradual wearing away of Earth's surface by the action of wind, water, ice, and gravity



Find two or more sentences with information that is graphically represented on the Physical Features map.

Climate

Despite the many seas in this area, Southwest and Central Asia is a region of arid and semiarid **climate zones**. Areas with an **arid** climate zone receive less than 10 inches of **precipitation** a year. But that is an average. An arid area may receive no rainfall for several years. Then, large amounts of rain might fall in a few hours. Areas with a **semiarid** climate have some rain now and then.

Arid and semiarid climate zones are often the hottest places on Earth. Summer temperatures may reach 100°F or higher during the day. Winters are usually mild. There are, however, cold deserts. Some are cold because they lie at a high altitude. Others are cold because they are far from the equator. Still others are chilled by cold winds.

Southwest Asia

Temperatures inland on the arid Arabian Peninsula can climb to 115°F in the summer. There is little moisture in the air, so the air cools rapidly at night. Temperatures can drop sharply in just a few hours.

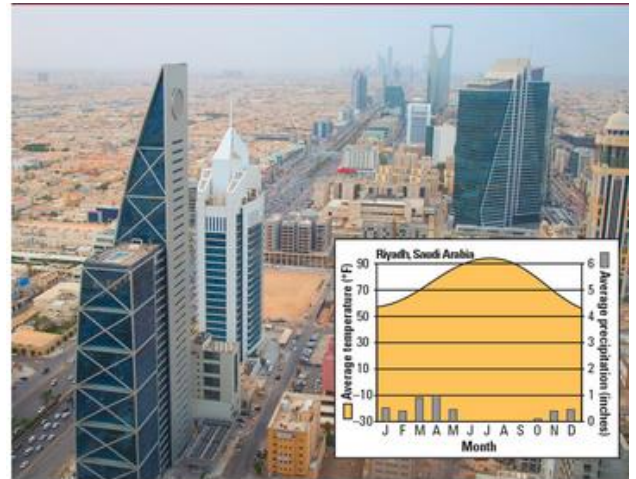
In coastal areas, the seas create a more moderate climate. For example, coastal Turkey enjoys a **Mediterranean** climate. The same climate zone extends south along the seacoast into Israel. Summers here are warm and dry. Winters are mild and rainy.

The climate varies more in the mountainous parts of this region. In general, temperatures drop as one goes up in elevation.

Central Asia

The tall mountains that bound Central Asia prevent storms that form over the Indian Ocean from reaching the center of the continent. As a result, little rain falls in this inland region. Thus, most of Central Asia has an arid or semiarid climate.

Two large deserts cover much of the Turan Lowland. North of this arid plain lie the **steppes**. Precipitation on these rolling plains is less than 15 inches a year. The mountains of Central Asia have varied climates, depending on elevation. The highest peaks of the Hindu Kush are covered with snow throughout the year.



Riyadh, the capital of Saudi Arabia, is located near the center of the Arabian Peninsula. When are air conditioners in Riyadh likely to work the hardest?



A good amount of rain falls in the foothills of the Hindu Kush. This allows for plants to grow more readily than in other parts of this region.

Geoterms:

arid: dry or lacking rainfall; also a climate or climate zone that is hot and dry all year with very little rain

Find two or more sentences with information that is graphically represented on the Climate Zones map.

Vegetation

Vegetation in Southwest and Central Asia is limited by the dry climate. **Desert scrub** covers much of the region. Desert scrub is mostly small trees and shrubs that can survive long periods without rain.

Plants adapt to arid conditions in many ways. For example, desert plants rarely grow close together. By being spread out, each plant can pull water from a larger area.

Some plants obtain water from deep beneath the ground. The roots of the acacia tree may reach as much as 100 feet underground in search of water. Other plants store precious rainwater in their leaves, roots, or stems. For example, the aloe plant stores water in its long, thick leaves. Aloe leaves have a waxy surface that limits water loss.



Desert scrub is found in much of the region, as seen here in southwest Jordan.

Many other desert plants also survive by reducing water loss through their leaves. The leaves of desert bushes tend to be small and sparse. During very dry periods, plants may shed their leaves altogether.

Southwest Asia

Southwest Asia has a mixture of **vegetation zones**. The type of plants growing in a particular place depends mostly on the temperature and rainfall.

Patches of **temperate grassland** appear on the central Anatolia Plateau. These grasses are adapted to the cooler climate found in this highland area.

Hills and river valleys are covered with **mixed forests**. Both deciduous and coniferous trees grow in these areas. At higher elevations, only coniferous trees grow.

The Mediterranean coastline supports **chaparral**. The small trees and bushes of this area are well adapted to a Mediterranean climate.

Desert scrub covers the deserts in southern Israel and much of the Arabian Peninsula. The more arid parts of this peninsula are too dry to support much plant life.

Central Asia

Temperate grasslands cover the steppes that stretch across the northern part of Central Asia. Steppes are broad, treeless plains that are usually covered with grasses.

Farther south, much of the region is covered in desert scrub. In the spring, the desert grasses and shrubs burst into bloom. Later on, the heat of summer dries them out.

Trees grow in areas with adequate water. The saxaul tree grows only in Central Asia. For thousands of years, people have relied on saxaul for firewood. The region is also known for its walnut trees.

Deciduous and **coniferous forests** grow in highland areas.

In the eastern part of Central Asia, the mountains are very high. This small **ice cap** zone is too cold to support any plant life.

Geoterms:

temperate grassland: vegetation or a vegetation zone of mainly grasses and scattered trees adapted to a tropical wet and dry climate

ice cap: a climate or climate zone that is very cold all year with permanent ice and snow; also a permanent, dome-shaped covering of ice over a large area; also a vegetation zone that is too cold to support plant life

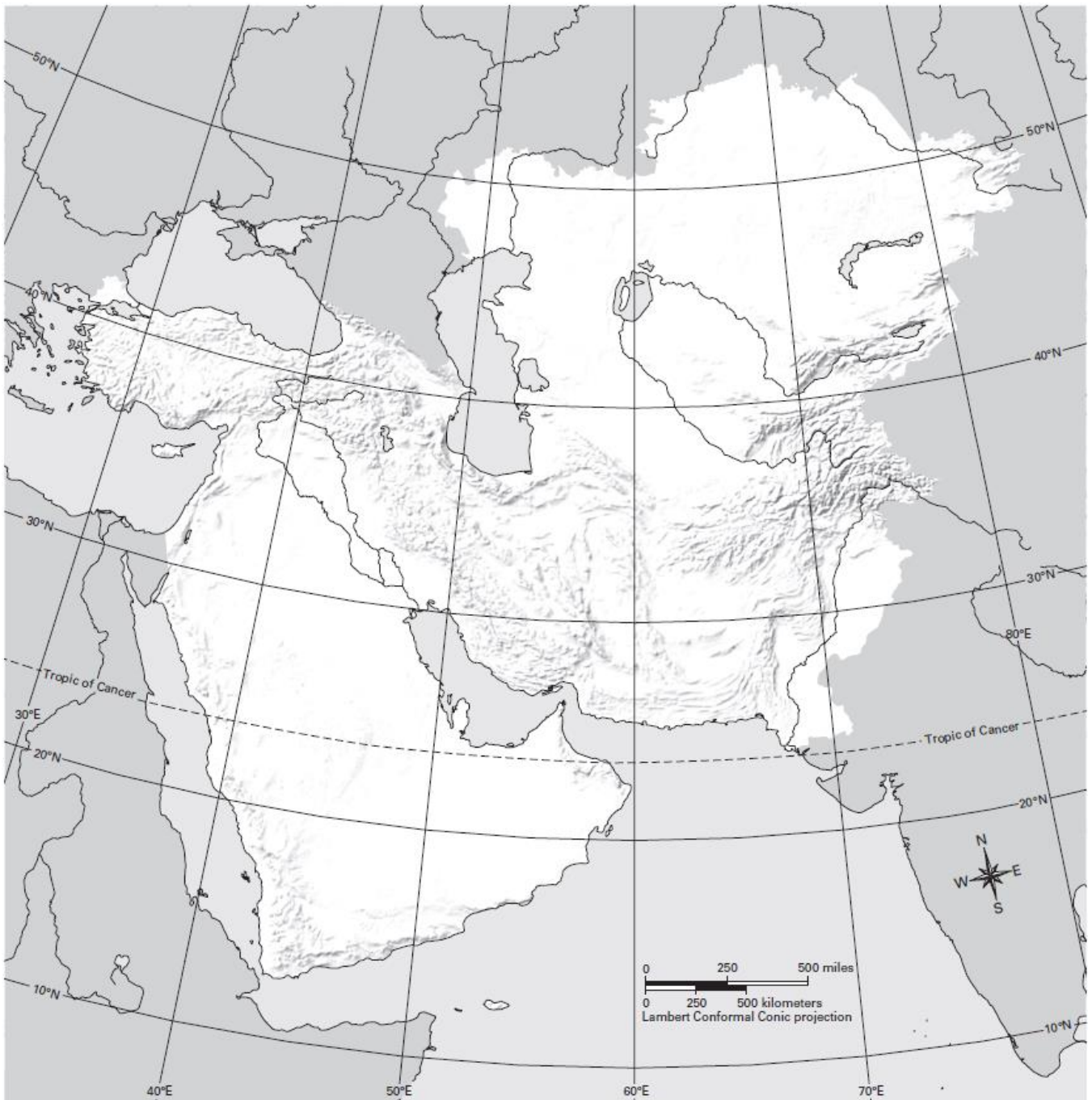
Find two or more sentences with information that is graphically represented on the Vegetation Zones map.

GEOGRAPHY CHALLENGE 1

Part A: Locate Physical Features of Southwest and Central Asia

Use the coordinates to locate and label each feature. Make sure it is clear where each feature is.

1. Arabian Peninsula (25°N, 45°E)
2. Kazakh Upland (49°N, 75°E)
3. Zagros Mountains (33°N, 50°E)
4. Anatolia Plateau (40°N, 35°E)
5. Hindu Kush (35°N, 70°E)
6. Caspian Sea (45°N, 50°E)
7. Aral Sea (45°N, 60°E)
8. Persian Gulf (28°N, 50°E)
9. Tigris River (33°N, 45°E)
10. Arabian Sea (20°N, 65°E)



Human Geography

The Southwest and Central Asia region has 25 countries. Pakistan has by far the largest population. Almost 189 million people live there. The largest country in area is Kazakhstan. It is over 1 million square miles in size. Qatar is the wealthiest country on a **per capita** basis. It is also one of the smaller countries in this region.

Southwest and Central Asia have long been linked by trade. Camel caravans carried trade goods from Southwest Asia across Central Asia to China and back as far back as 2,000 years ago. The two parts of this region are also linked to each other by a common faith. Most people in this region follow the religion of Islam.

Your teacher will show a video of a physical feature of this region. Write some questions you have about physical geography in this region. As you read through the sections on the physical geography, come back here to add more questions.

History

Southwest Asia is known as the “cradle of civilization.” Farming began here. The world’s first cities arose here. This region is also the birthplace of three major religions. All three share the belief that there is only one God. Each religion began with a single person. And each has its own sacred writings, or holy book.

Early Times

According to the Torah, or Jewish holy book, Judaism was founded around 1800 b.c.e by a man named Abraham. God told Abraham to leave his home on the Euphrates River. Abraham obeyed and moved his family to the land now known as Israel. God promised Abraham that this land would belong to him and his descendants if they would set the example of how God wants people to live. Abraham’s descendants are known as Jews.

Christianity began with a Jew named Jesus about 2,000 years ago. The Gospels, part of the Christian Bible, or holy book, say that Jesus became a preacher in Israel. His words attracted many followers. They also created enemies powerful enough to have him killed. The Gospels say Jesus rose from the dead and appeared to his followers. Those who follow the teachings of Jesus are known as Christians.

Islam was founded on the Arabian Peninsula by a prophet named Muhammad. In 610 c.e., Muhammad told his family that he had seen an angel sent by God. The angel came many times, bringing Muhammad messages from God. These messages were later collected in the Qur'an, the holy book of Islam. Those who follow the teachings of the Qur'an are known as Muslims.

Conquest and Colonies

After his death, Muhammad's followers spread Islam across Southwest Asia, North Africa, and Spain. By the late 800s, Muslim kingdoms were centers of a brilliant culture.

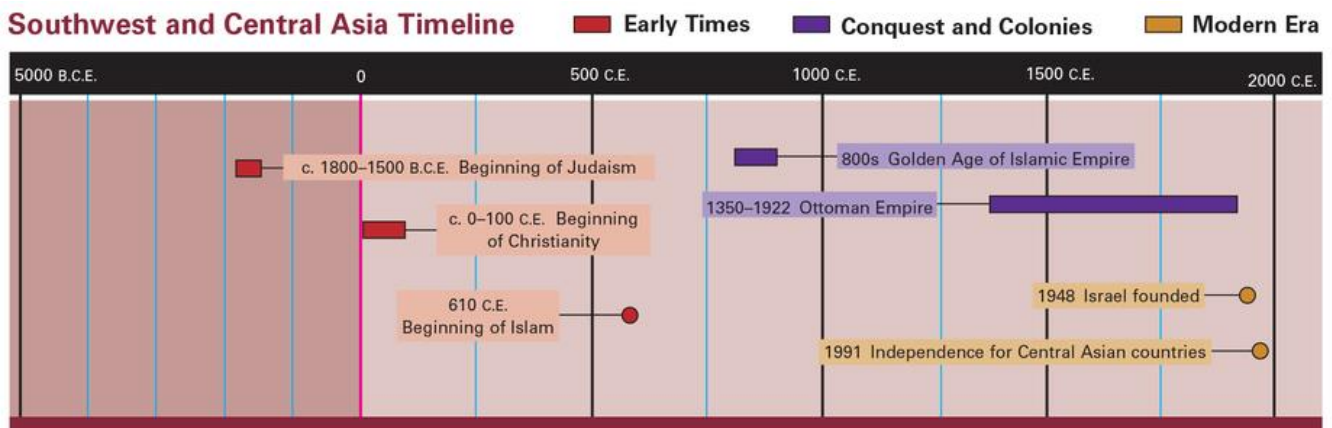
Later, Turks from Central Asia established the Ottoman Empire in this same region. Islam was the empire's official religion. But Ottoman rulers allowed people of other faiths to live in peace in their empire.

The Ottoman Empire collapsed in 1922. Its territory was carved up into a patchwork of countries and colonies. The Soviet Union took over parts of Central Asia. Britain and France created colonies in Southwest Asia.

The Modern Era

In time, most countries in Southwest and Central Asia threw off colonial rule. Iraq became independent in 1932. Israel was founded as a Jewish state in 1948. The countries of Central Asia broke away from the Soviet Union after its collapse in 1991.

Today, deep conflicts divide this region. Many stem from religious differences. In many parts of Southwest Asia, Muslims oppose the existence of the Jewish state of Israel. In some Muslim countries, there is conflict between the two main branches of Islam—Sunnis and Shi'ites. In Central Asia, Christians sometimes clash with Muslims.



Find two or more sentences with information that is graphically represented on the timeline.

Population

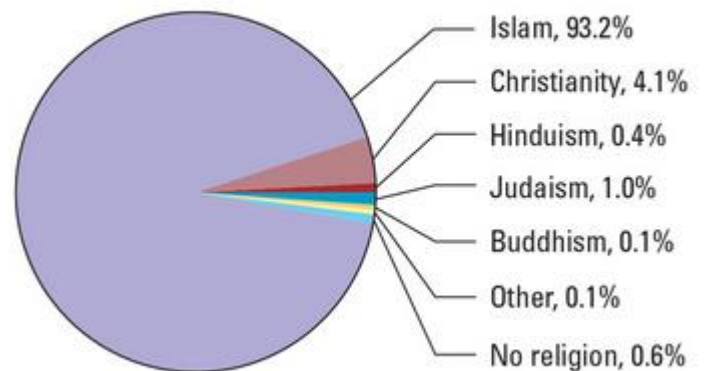
About 652 million people live in Southwest and Central Asia. They make up only about 9 percent of the world's population. People are not spread evenly across the region. A few places have a **population density** of well over 250 people per square mile. Many more places have less than 2 people per square mile.

This region is still mostly **rural**. Yet the population has become more **urban** in recent years. In Saudi Arabia, for example, less than 50 percent of Saudis lived in urban areas in 1970. By 2015, over 80 percent of Saudis lived in urban areas.

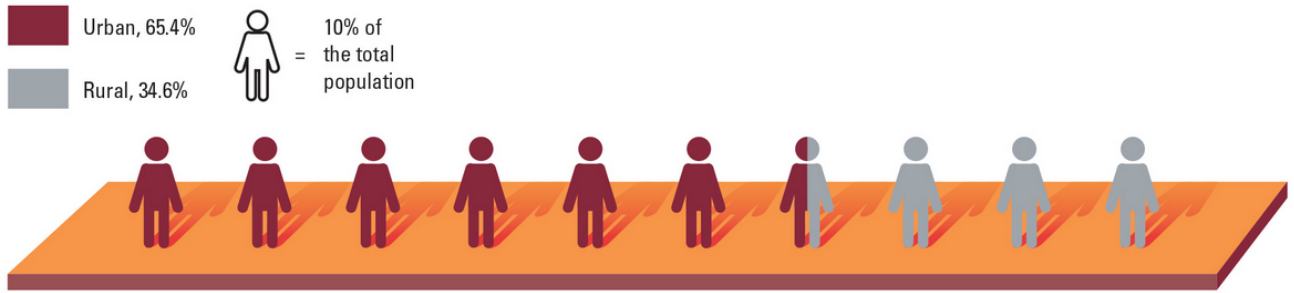
The Southwest and Central Asia region has one of the fastest-growing populations in the world. It also has one of the youngest populations. The majority of its people are younger than 25.

Most people in this region are Muslim. About 85 to 90 percent of these are Sunni Muslims. Only about 10 to 15 percent are Shi'ites. The region is also home to smaller numbers of Jews and Christians. Jerusalem, the capital of Israel, has holy sites sacred to each of these three religious groups.

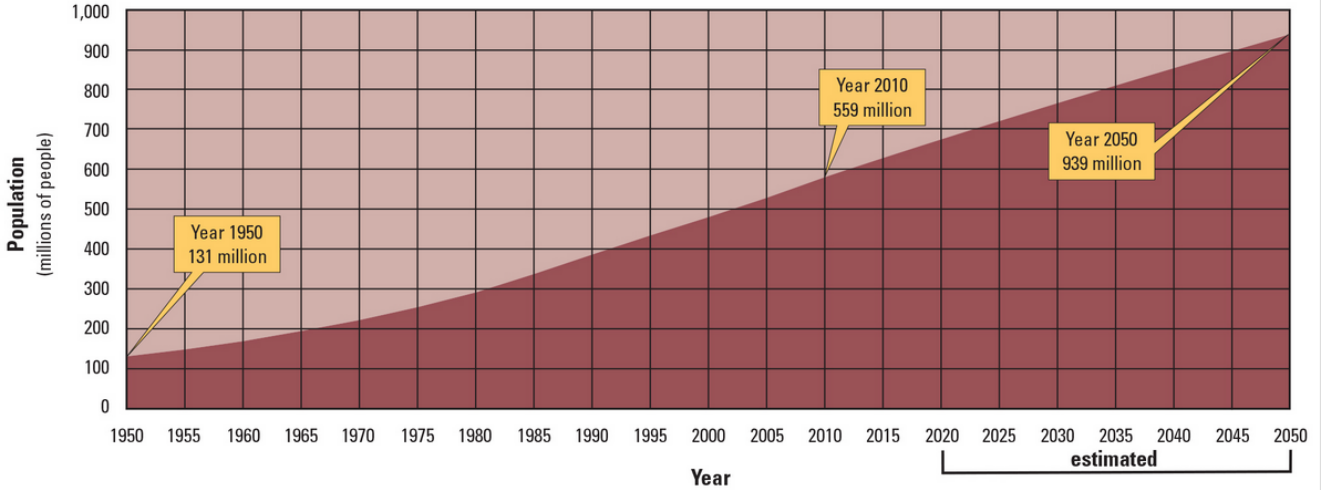
Southwest and Central Asia: Major Religions



Southwest and Central Asia: Urban and Rural Population, 2007



Southwest and Central Asia: Population Growth, 1950–2050



Sources: United Nations Department of Economic and Social Affairs, Population Division.
Encyclopaedia Britannica.

Find two or more sentences with information that is graphically represented on the Population Density map.

Economic Activity

Two resources shape **economic activity** in Southwest and Central Asia. The first is petroleum, or oil. The second is water. Oil is important because the region is rich in it. Water is important for the opposite reason—because the region has so little of it.

As in other arid places, a lack of water limits commercial farming and livestock raising. In many areas, there is not enough water to grow large crops.

Nomadic herding, however, is still important in this region. Nomadic herders move around to find food and water for their herds. Their camels, sheep, and goats graze on the wild grasses in one area. Then, when the grass is gone, the herders move their animals to a fresh grazing area. Herders depend on their animals to meet most of their needs. They use and sell their animals' milk and meat. They also make tents and clothing from their animals' skin and wool.



Herding is an important industry throughout this region.

Resources

Fossil fuels are key resources in this region. Southwest Asia has the world's largest known oil deposits. Because refined oil is used to fuel cars, trucks, and planes, it is in great demand worldwide. Countries with large oil deposits have grown rich meeting this demand.

In Central Asia, coal is an important fossil fuel. Coal is used for heating and for generating electricity. It is plentiful in Kazakhstan and Afghanistan. Pakistan has large natural gas fields.

Land Use

Commercial farming is an important economic activity in some parts of this region. Olives, wheat, and fruit grow well along the Mediterranean coast. Dates grow in Saudi Arabia, Yemen, and Iran. Cotton is an important crop in Iran and Central Asia.

In some very dry areas, farmers have worked hard to make the most of their scarce water. Israel, for example, is more than half desert, yet it produces 95 percent of the food its people need.

Large cities are centers of trade and manufacturing. In Israel, many companies develop computer software and other advanced products. Israel also has a diamond cutting industry. In Pakistan, factories turn out cotton cloth and clothing for export. Industries in Iran produce building materials, leather goods, and tools.



Onions grow in desert areas in Israel. Farmers irrigate their fields with salt water in drip irrigation.

Geoterms:

Nomadic herding: the raising of livestock for food by moving herds from place to place to find pasture and water.

Fossil fuel: any fuel, such as petroleum, coal, and natural gas, that is made from the remains of prehistoric plants and animals

Find two or more sentences with information that is graphically represented on the Economic Activity map.

GEOGRAPHY CHALLENGE 1

Part B: Locate Countries of Southwest and Central Asia

Use the coordinates to locate and label each place. Make sure it is clear where each country is.

1. Afghanistan (35°N , 65°E)
2. Azerbaijan (40°N , 48°E)
3. Iran (34°N , 55°E)
4. Iraq (35°N , 43°E)
5. Kazakhstan (50°N , 70°E)
6. Kuwait (29°N , 47°E)
7. Pakistan (30°N , 70°E)
8. Syria (35°N , 40°E)
9. Turkey (39°N , 35°E)
10. Yemen (15°N , 45°E)



GEOGRAPHY CHALLENGE 2

Use the thematic maps to answer the questions. For each question,

- write your answer.
- record the thematic maps you used.

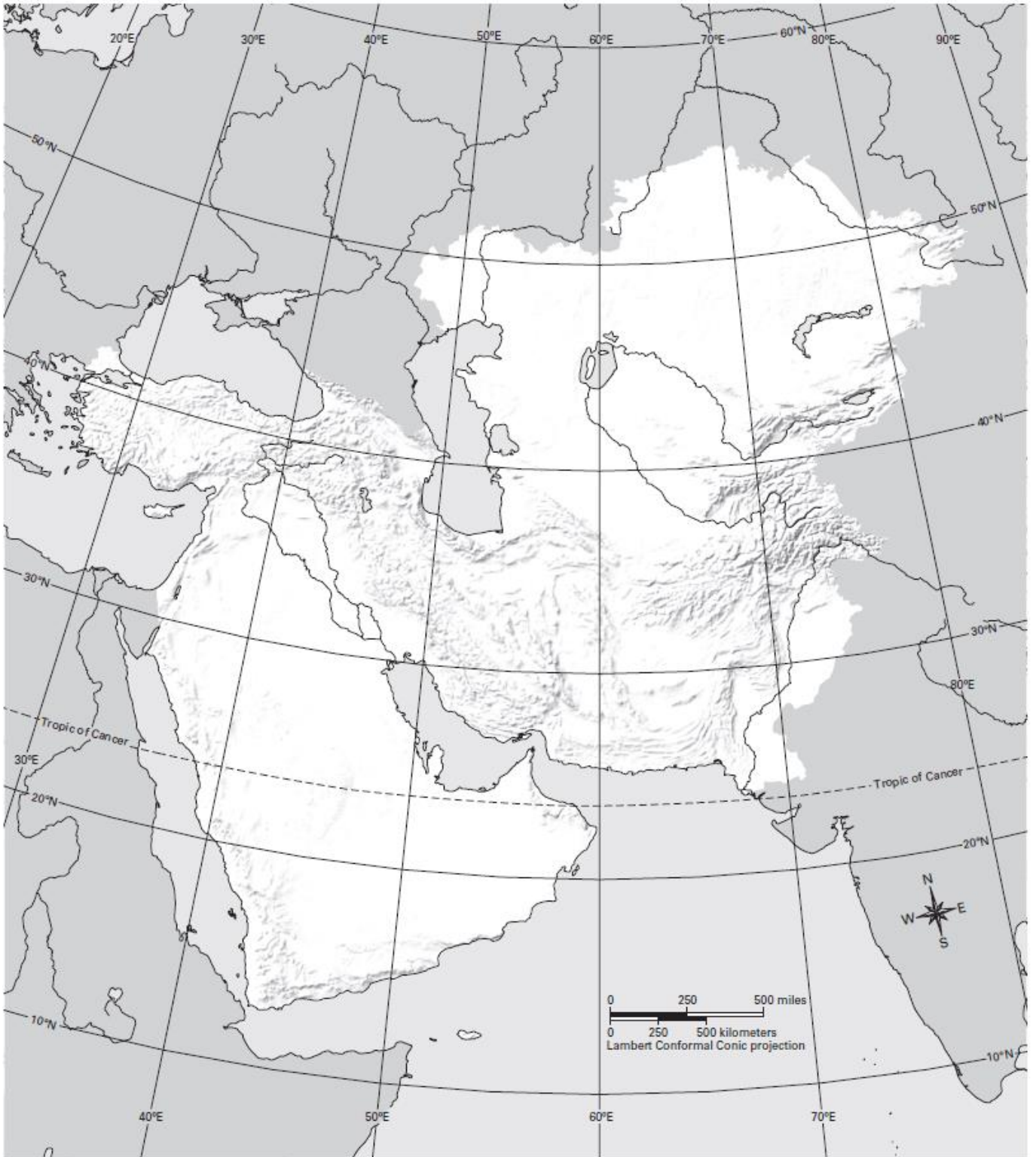
Question	Answer
1. What is the most common type of vegetation in Southwest and Central Asia? Name three small countries that have only this type of vegetation.	
Map Used:	
2. What is the primary resource found in Southwest Asia near the Persian Gulf?	
Map Used:	
3. The countries of Tajikistan and Kyrgyzstan are at mostly what elevation? What physical feature contributes to this?	
Map Used:	
4. What four climates can be found in Kazakhstan?	
Map Used:	
5. The countries of Saudi Arabia, Yemen, Oman, United Arab Emirates, Bahrain, Qatar, and Jordan are almost all in what climate zone?	
Map Used:	
6. Which two countries have the highest overall population?.	
Map Used:	

<p>7. Which country has no desert scrub but has a large amount of mixed and coniferous forest?</p>	
<p>Map Used:</p>	
<p>8. Name three countries that do not have mostly arid or semiarid climate zones. What physical features might explain why these countries have more moderate climates?</p>	
<p>Map Used:</p>	
<p>9. List four countries that have a coniferous forest vegetation zone. What physical features might help explain why this type of vegetation is found there?</p>	
<p>Map Used:</p>	
<p>10. Which two larger countries have large areas that are scarcely populated? How might the vegetation and climate zones of these areas help explain why the population is so low?</p>	
<p>Map Used:</p>	

GEOGRAPHY CHALLENGE 3

1. Mark locations A, B, and C on the map.

- Location A (22° north, 48° east)
- Location B (34° north, 50° east)
- Location C (25° north, 67° east)



1. Use the thematic maps to write as much information as possible about the three locations.

Thematic Map	Location A (22° north, 48° east)	Location B (34° north, 50° east)	Location C (25° north, 67° east)
Physical Features			
Climate Zones			
Vegetation Zones			
Population Density			
Economic Activity			

Where Are You! Game

We think the field photograph best matches Location _____ .

Supporting-evidence statements:

1. From the _____ map, we learned that this location ...

In the field photograph, we see ...

2. From the _____ map, we learned that this location ...

In the field photograph, we see ...

3. From the _____ map, we learned that this location ...

In the field photograph, we see ...

Oil in Southwest Asia: How “Black Gold” Has Shaped a Region

Dubai, like much of Southwest Asia, has been transformed by oil. Southwest Asia provides much of the oil that is used in the world today, and this **region** has some of the world's largest known **oil reserves**. This term refers to underground oil, or petroleum, that has been discovered but remains unused. There are also large reserves of **natural gas**, which is gas found within Earth's **crust**, or outer layer. Money from the sale of oil and natural gas has been used to pave roads and construct modern buildings throughout Southwest Asia. In addition, the money has provided medical care that will help people live longer.

In this lesson, you will learn how vast oil and natural gas reserves have affected Southwest Asia's economic development. You will also discover how these resources have changed the lives of many people in the region.



Essential Question

How might having a valuable natural resource affect a region?

This map shows 10 oil-rich countries in Southwest Asia. Together, they export billions of barrels of oil each year. The sale of this valuable natural resource has changed life in these countries. Keep this map in mind as you try to answer the Essential Question.

Graphic Organizer



1. The Geographic Setting

Southwest Asia lies at the crossroads of three continents: Europe, Africa, and Asia. During ancient times, this location brought traders from distant lands to this region. Most traveled by land over dusty caravan routes. Traders from all over the world continue to come to Southwest Asia today. However, now many of them arrive in huge tanker ships and are looking for only one product: oil.

Oil: Southwest Asia's Hidden Treasure On the surface, Southwest Asia does not appear very welcoming. Much of the region is hot and dry. The Arabian Desert is so barren that some people call it "the place where no one comes out." However, hidden beneath the region's deserts are vast reserves of oil and natural gas.

More than half of the world's proven crude oil reserves lie under Southwest Asia. **Crude oil** is another name for petroleum as it is found in the ground. Proven crude oil reserves are known deposits that can be pumped to the surface at a reasonable cost.

Worldwide demand is high for oil and natural gas. **Developed countries** depend on these fuels to meet most of their energy needs. Modern forms of transportation run mainly on oil, and power plants burn oil and natural gas to generate electricity. Oil is also a raw material that is used to make plastics, medicines, and other goods. Some of the countries in Southwest Asia have grown rich meeting the world's ever-growing demand for oil.

Although Southwest Asia has large oil reserves, it lacks other resources. Fresh water, for example, is in short supply throughout the region. Moreover, oil is a **nonrenewable resource**, which means there is only a limited amount of it. Once the world's supply of oil has been used up, it cannot be replaced.

When the supply of oil is gone, the world will have to rely on **renewable resources**. This term refers to resources that will not run out or that can be replaced. Three examples of renewable energy resources are sunlight, wind, and **geothermal energy**, which is heat energy drawn from inside Earth. Waterpower and trees are two other renewable resources.

Many Ethnic Groups, One Major Religion Most of the people who live in Southwest Asia are Arabs, people who speak Arabic. Other major **ethnic groups** include the Kurds and the Persians. The Kurds live in parts of Turkey, Syria, Iraq, and Iran, and the great majority of Persians live in Iran.

Islam is the most important religion in Southwest Asia. Only one country in the region, Israel, does not have a Muslim majority. There are, however, several branches of Islam. Conflict among different ethnic and religious groups has led to unrest and violence.

In this lesson, you will look at how oil has shaped the development of 10 countries in Southwest Asia: Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates, and Yemen. These countries differ in area and population. However, each has large oil reserves, and each has used oil in different ways to meet the different needs of its people.



Oil in the Desert

The Arabian Desert covers an area of about 1 million square miles. Most of this region is too arid to farm. However, beneath the sandy wastes lie vast reserves of oil and natural gas. Oil rigs like this one bring that oil to the surface.

Symbol:	Definition:
	Sentence

ethnic group

Symbol:	Definition:
	Sentence

geothermal energy

Symbol:	Definition:
	Sentence

nonrenewable resource

Symbol:	Definition:
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	Sentence

oil reserves

Symbol:	Definition:
	Sentence

renewable resource

Symbol:	Definition:
	Sentence

2. The Geology and Geography of Oil

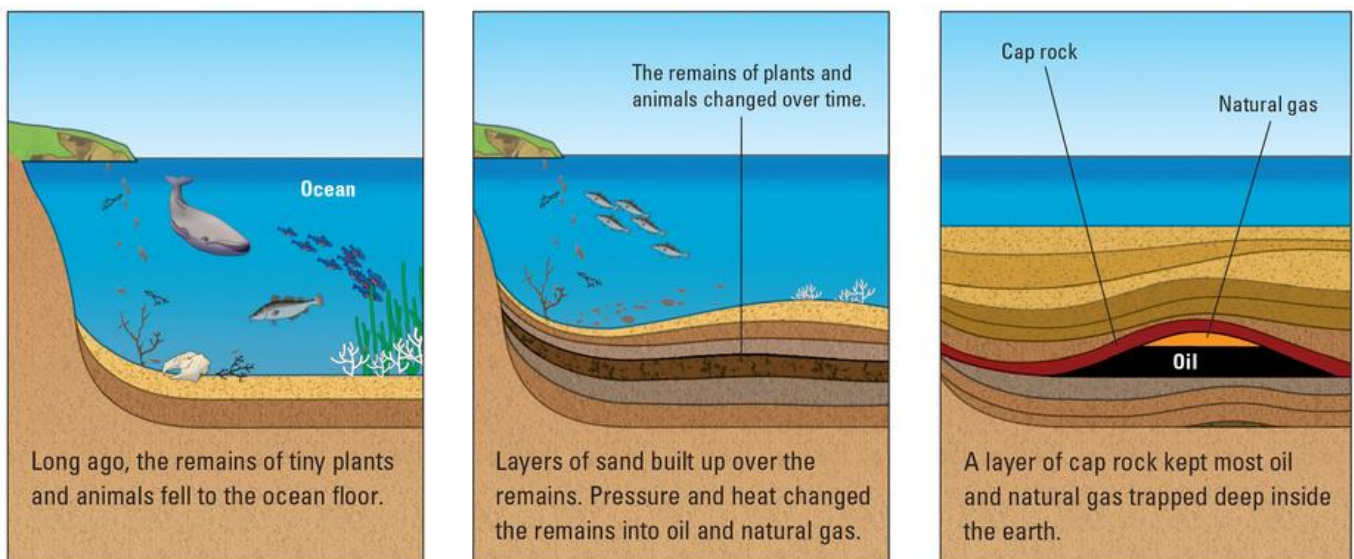
For most Americans, oil comes from a gas station, which is where they typically purchase oil to lubricate their car engines. To power those engines, they also buy gasoline made from oil. In some regions of the United States, people also heat their homes by burning oil. The oil that Americans burn in their cars and homes took a long time to form, and more often than not, that oil has traveled a very long distance to reach this country.

Oil Was Formed Millions of Years Ago The oil that is pumped out of the ground today was formed a very long time ago. It began as tiny plants and animals that lived and died in the oceans. After they died, these creatures sank to the ocean floor. Most of their remains were eventually transformed into rock, and layer after layer of rock was formed in this manner. However, some of these plant and animal remains did not turn into rock. The weight of the water, heat from Earth's core, and chemical changes combined to transform some of the remains of these creatures into oil and natural gas.

Over time, the oil and natural gas seeped into pores, or tiny holes, within the layers of rock. These pores may be too small to see, but they are large enough to hold oil and gas, in much the same way that a sponge holds water.

At times, some of this oil or gas has risen to Earth's surface. However, most of it remains trapped underneath a layer of **impermeable rock**. Impermeable means "preventing the passage of liquid or gas." Geologists call this layer a cap rock because it functions like the cap on a container, keeping most of the oil and natural gas contained deep inside the earth and preventing them from escaping.

Oil Is Found in Pockets Deep in the Earth A great amount of the world's oil lies buried under Southwest Asia. One reason for these large deposits is that millions of years ago this area was under water. The sea that covered the region contained the tiny plants and animals that were transformed into oil.



From Sea Creatures to Crude Oil

The oil we use today was formed millions of years ago. It began as tiny creatures and plants that sank to the bottom of the sea, and as they decayed, parts of their remains slowly turned into oil. Because oil formation is so slow, oil is a nonrenewable resource.

Who Has the Oil?

The table lists the proven oil reserves of 10 Southwest Asian countries. Proven reserves are deposits that oil companies know they can pump to the surface at a reasonable cost.

Another reason that oil formed underneath Southwest Asia has to do with the movement of Earth's crust. You read in Lesson 17 that Earth's crust is broken into giant sections called **tectonic plates**. These plates continue to drift very slowly over the surface of Earth. When two tectonic plates collide, they may create pockets where oil can form, which is what happened in Southwest Asia very long ago. The Iranian Plate and the Arabian Plate bumped up against each other, creating spaces where oil and gas were formed and trapped.

It takes extensive effort to remove oil from underground pores and pockets. Oil companies must drill through the cap rock to get at the oil underneath. Then they pump the oil up to the surface, but sometimes this pumping process is not successful. When that happens, petroleum engineers inject water or gases into the well, creating added pressure to force the oil out of the rocks. This process is called fracking.

The oil that reaches Earth's surface does not look much like the gasoline or oil that people purchase at their local gas station. Crude oil is usually combined with water and natural gas when it emerges from the ground. Oil companies have to refine this crude oil to make it into gasoline and other useful products. Some other petroleum products are asphalt, plastics, and wax used to make candles.

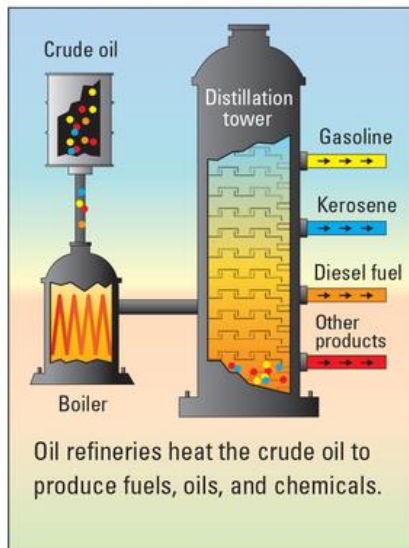
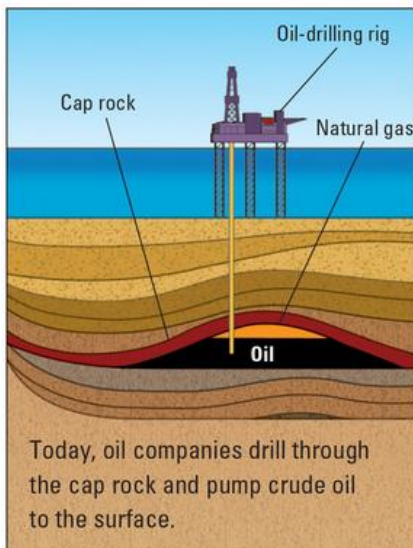
Oil Is Not Distributed Equally Because very specific conditions were necessary for the creation of oil, it is not surprising that these conditions existed in some places but not in others. Southwest Asia was one of the regions where an enormous amount of oil formed long ago.

Within Southwest Asia, however, the **distribution** of oil is uneven. Saudi Arabia is the largest country in this region, and it also has the most oil. In fact, around 18 percent of the world's proven oil reserves lie under its desert sand.

Oil Reserves in Southwest Asia

Country	Proven Oil Reserves (in millions of barrels)
Saudi Arabia	269,000
Iran	157,800
Iraq	143,000
Kuwait	104,000
United Arab Emirates	98,000
Qatar	25,000
Oman	5,300
Yemen	3,000
Syria	2,500
Bahrain	100

Source: Central Intelligence Agency.



Kuwait, in contrast, is a tiny country. Saudi Arabia could contain 120 Kuwaits and still have space left over, but little Kuwait holds almost 7 percent of the world's known oil reserves. Other countries in Southwest Asia, such as Syria and Yemen, have less oil, but they still have more oil than most other countries in the world.

► Geoterms

impermeable rock: rock that does not allow liquid or gas to flow through it

tectonic plate: a large piece of Earth's crust that floats on the liquid mantle

distribution: the way people or things are spread out over an area or a space; also the way resources, power, or goods are divided among people or groups

impermeable rock

Definition:

Illustration:

Examples:

Non-examples:

Distribution

Definition:

Illustration:

Examples:

Non-examples:

tectonic plate (Draw a diagram)

Investigating Oil Wealth and People's Well-Being

Gross Domestic Product

Gross domestic product (GDP) is the value of all the goods and services produced in a country in a year. The table lists the GDP of each of 10 oil countries in Southwest Asia, from highest to lowest. Analyze the table, and discuss these questions in your group:

- Which oil countries have the highest GDP? Which have the lowest?
- What might be the relationship between a country's GDP and the well-being of its people?

GDP of Ten Southwest Asian Oil Countries, 2017		
Rank	Country	GDP (in U.S. dollars)
1	Saudi Arabia	\$1,789,000,000,000
2	Iran	\$1,631,000,000,000
3	United Arab Emirates	\$691,900,000,000
4	Iraq	\$660,700,000,000
5	Qatar	\$341,700,000,000
6	Kuwait	\$302,500,000,000
7	Oman	\$187,900,000,000
8	Bahrain	\$69,770,000,000
9	Yemen	\$68,950,000,000
10	Syria	\$50,280,000,000

Source: Central Intelligence Agency.

Per Capita GDP

Per capita GDP is a country's total GDP divided by its population. The next table lists the per capita GDP of these 10 oil countries, from highest to lowest. Analyze the table and discuss these questions in your group:

- Which oil countries have the highest per capita GDP? Which have the lowest?
- Are the rankings on this table the same as on the GDP table above? Why or why not?
- Which type of information—GDP or per capita GDP—do you think might give better information about the well-being of a country's people? Why?

Per Capita GDP of Ten Southwest Asian Oil Countries, 2016		
Rank	Country	Per Capita GDP (in U.S. dollars)
1	Qatar	\$127,300
2	Kuwait	\$71,900
3	United Arab Emirates	\$68,100
4	Saudi Arabia	\$55,300
5	Bahrain	\$50,700
6	Oman	\$46,100
7	Iran	\$19,300
8	Iraq	\$17,200
9	Syria	\$2,900
10	Yemen	\$2,400

Source: Central Intelligence Agency.

Critical Thinking Question B

One way to measure people’s well-being is through the Human Development Index, or HDI. This index is used by the United Nations. It combines a variety of information, including per capita GDP, life expectancy, literacy, and level of education.

Think about what you’ve discovered about the GDP and per capita GDP of these 10 oil countries. Based on that information, which set of countries below do you think would rank the highest in the Human Development Index? Why? Be ready to justify your group’s choice to the class.

Set 1: Syria, Yemen, Iran
Set 2: Oman, Saudi Arabia, Qatar
Set 3: Bahrain, United Arab Emirates, Kuwait

3. Oil Wealth and People's Well-Being

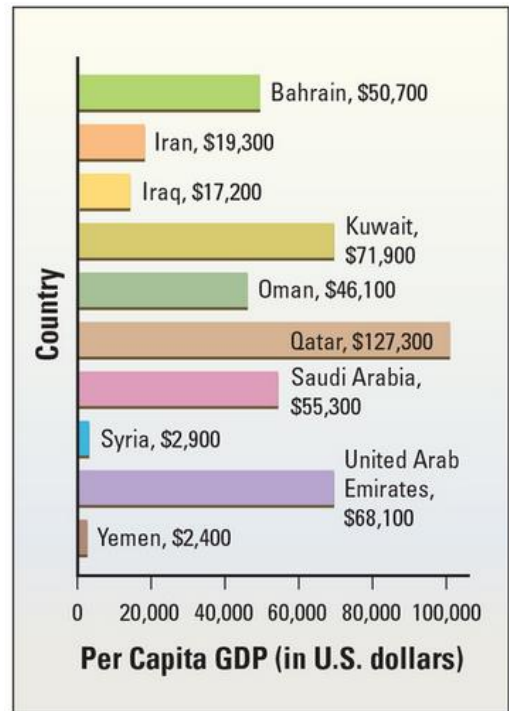
Oil has made the royal family of Saudi Arabia extremely wealthy. Consider the multi-million dollar extravagant vacation the royal family took in 2015. King Salman and about 1,000 guests visited the town of Vallauris on France's Mediterranean coast. To prepare for the three-week visit, the king had an elevator built to carry him between his villa and the beach below. Among the expenses were rooms in luxury hotels for the hundreds of guests who did not stay in the villa and around 400 cars and drivers to cater to the visitors.

Few people in Saudi Arabia have such a luxurious lifestyle. Just as some countries have more oil reserves than others, some of the people living in oil-rich countries have much more wealth than others.

Oil Has Made Many People Better Off In general, oil money has improved the lives of many people in Southwest Asia. Since 1970, **life expectancy** has increased by more than 20 years. During that same period, the number of infants who die in their first year of life, or the **infant mortality rate**, has fallen by around 85 percent.

There is no doubt that oil has made some countries rich, but just how rich? There are two common methods to measure a country's wealth. The first method is to examine a country's **gross domestic product**, or GDP. As you read in Lesson 7, GDP is a measure of all the goods and services produced by a country each year. The second method of determining a country's wealth is to look at the **per capita GDP**, which measures the average income of the people in a country. To calculate this per-person GDP figure, divide the total GDP by the number of people in the country.

Per Capita GDP of Southwest Asian Oil Countries, 2016



Source: Central Intelligence Agency.

Wealth from Oil

This bar graph compares the per capita GDP of 10 Southwest Asian countries. Per capita GDP shows how rich one country is compared to another, but it does not show whether a country's wealth is being divided evenly among its people.



Rich and Poor

Oil has brought great wealth to some people in Southwest Asia. However, as these images show, that wealth is not distributed evenly. Some people are fabulously rich, whereas others are desperately poor.

Per capita GDP varies extensively from country to country for many reasons. The United Arab Emirates and Kuwait, for example, both have a high GDP from selling oil. Because both of these countries have small populations, they also have a per capita GDP that is relatively high. Countries with larger populations, such as Saudi Arabia and Iran, have to divide their GDP among many more people, thereby resulting in a lower per capita GDP..

Bahrain, in contrast, has far smaller oil reserves than the other oil-rich countries of Southwest Asia. Nevertheless, its per capita GDP is quite high because

the country earns much of its GDP by processing, instead of pumping, crude oil. Bahrain's wealth has also increased as a result of the country's development into an international banking center.

Per Capita GDP Does Not Tell the Whole Story Per capita GDP is an average, which assumes that a country's wealth is divided equally among its citizens. In reality, however, some people may be extremely rich, whereas many of their fellow citizens remain quite poor. Accordingly, per capita GDP does not always reflect the general well-being of the people of a country.

Another method of measuring how well people are living in a country is the United Nations' Human Development Index (HDI). As you read in Lesson 9, the HDI examines a country's per capita GDP along with other factors that reflect the general quality of life. One of these factors is life expectancy. Another significant factor is education. How many of the people are literate—that is, how many know how to read? How many of the children receive a high school education? When these numbers are evaluated, countries are ranked from best to worst, with 1 being best.

Based on the HDI, Bahrain is fourth among the oil-producing nations of Southwest Asia in terms of living well. Although Bahrain does not have the most oil or the highest per capita GDP in Southwest Asia, the country does use its wealth to educate its population. Almost all of its young people, both boys and girls, are literate. Bahrain also invests in health care. The infant mortality rate in Bahrain is one of the lowest in Southwest Asia. As you have read, the infant mortality rate is the number of deaths of babies under age one that occur for every 1,000 births in a year.

Oil Has Not Improved Life for All Money from selling oil has not eliminated poverty in Southwest Asia. Yemen, for example, remains one of the 40 poorest countries in the world. Its population is nearly the same size as the population of Saudi Arabia, but its oil reserves are only a little more than 1 percent the size of those in Saudi Arabia. This means that the amount of oil produced by Yemen each year has not been sufficient to pull its people out of poverty.

Other Southwest Asian countries have made considerable money from oil, but they have not used that money to improve people's lives. For example, Iraq has the third-largest oil reserves in the region, but from 1979 to 2003, a dictator named Saddam Hussein controlled Iraq's oil income. He spent most of Iraq's oil wealth building an army, buying weapons, and fighting wars. Very little of the money went to make life better for ordinary Iraqis.

HDI Ranks in Southwest Asia, 2016

Country	World Rank
Qatar	33
Saudi Arabia	38
United Arab Emirates	42
Bahrain	47
Kuwait	51
Oman	52
Iran	69
Iraq	121
Syria	149
Yemen	168

Source: United Nations Development Programme, "Human Development Reports."

Measuring Well-Being

The Human Development Index measures the well-being of a country's people. This table shows the ranks of most of the oil-rich countries in Southwest Asia. Note that Bahrain ranks fourth in this region but 47th in the world.



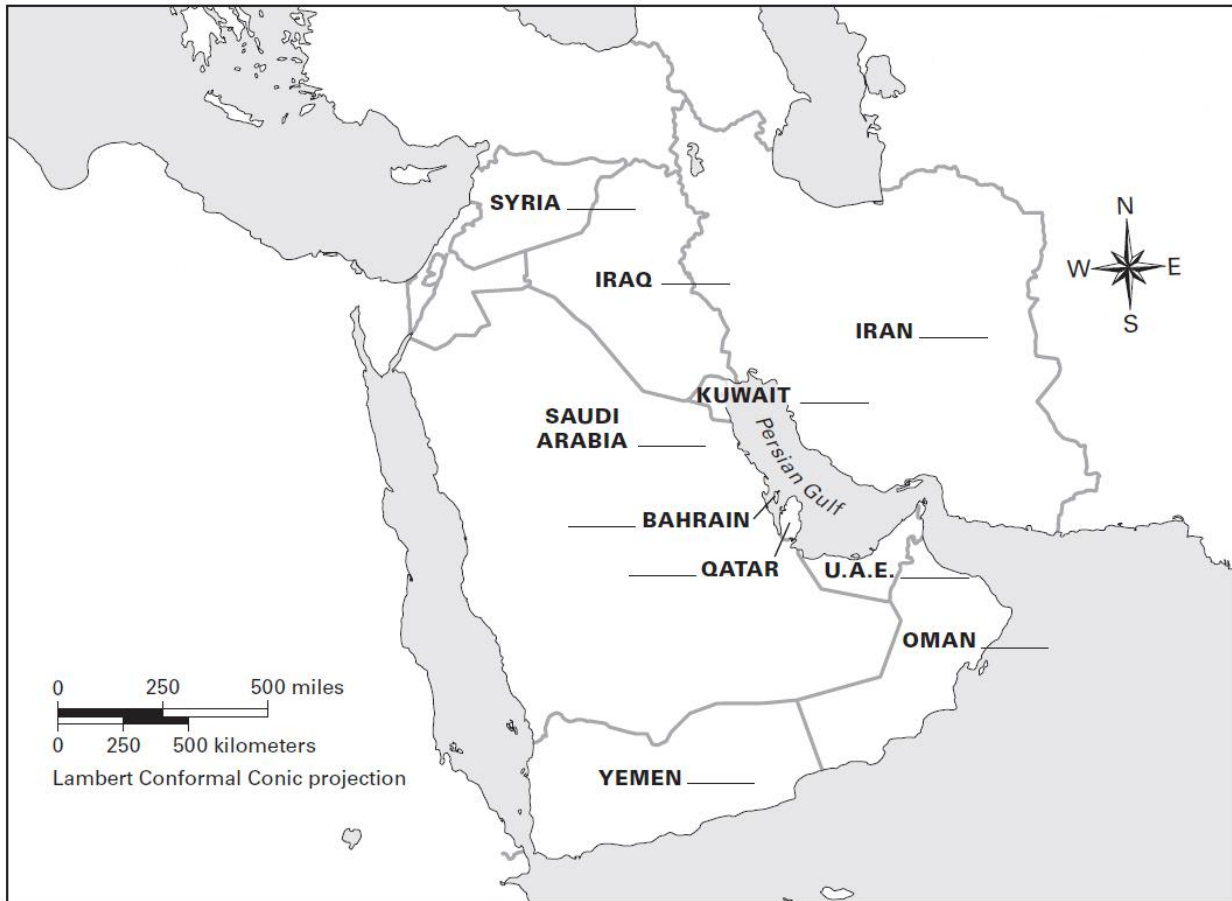
► Geoterms

infant mortality rate: the number of infants, out of every 1,000 babies born in a particular year, who die before reaching age 1

per capita: by or for each person. A per capita figure is calculated by dividing the total amount of something by the number of people in a place.

Read Section 3. Then, on the map, rank each of Southwest Asia's oil countries according to its Human Development Index (HDI) rank. Label them from 1 (highest rank) to 10 (lowest rank). Shade the three countries with the highest HDI ranks.

Southwest Asia: Measuring Well-Being with HDI



Answer these questions:

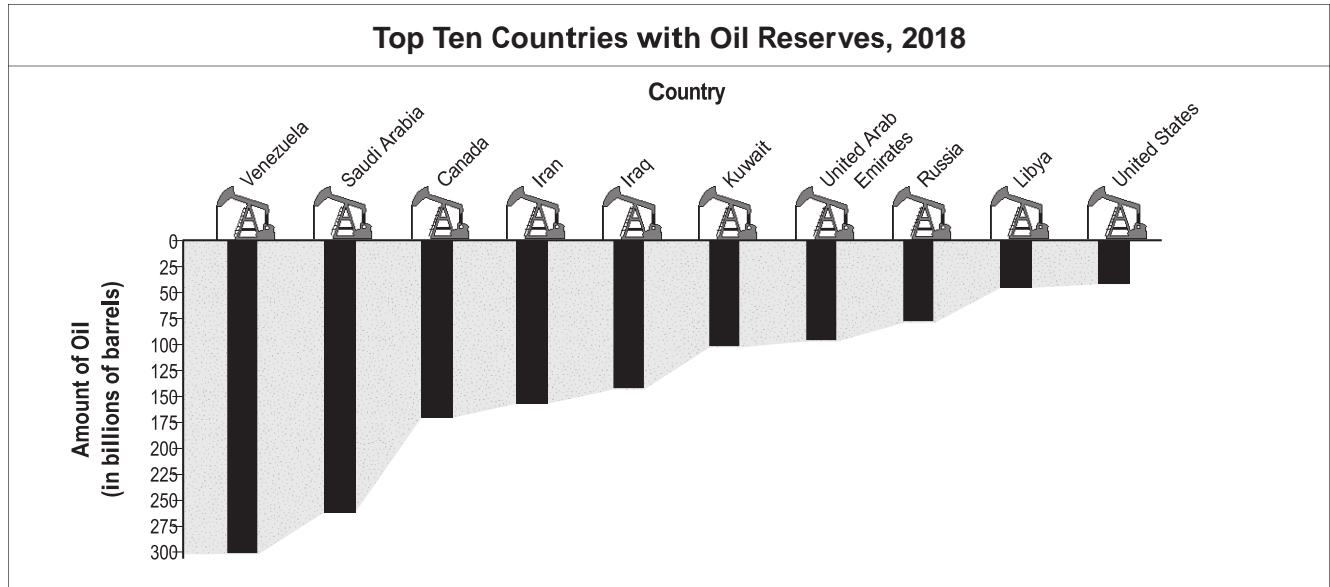
- How has oil made the people of Southwest Asia better off?
- Why isn't per capita GDP always an accurate reflection of people's wealth?
- What are some examples of why some oil countries haven't been able to end poverty?

Investigating the Price and Flow of Oil

World Oil Reserves

The bar graph below highlights the countries around the world with the largest known oil reserves. The length of the bars show the size of each country's reserves. Closely examine the graph, and discuss these questions in your group:

- Which countries have the largest oil reserves?
- Why might countries with large oil reserves be interested in controlling the price and supply of oil?



Source: World Atlas.

Critical Thinking Question C

In 1960, several oil-producing countries around the world decided to join together to better control the price and supply of oil. These countries founded the Organization of the Petroleum Exporting Countries, or OPEC. The majority of oil countries in Southwest Asia are members of OPEC. Some OPEC members are countries outside of Southwest Asia, such as Venezuela, Indonesia, Libya, Nigeria, and Algeria.

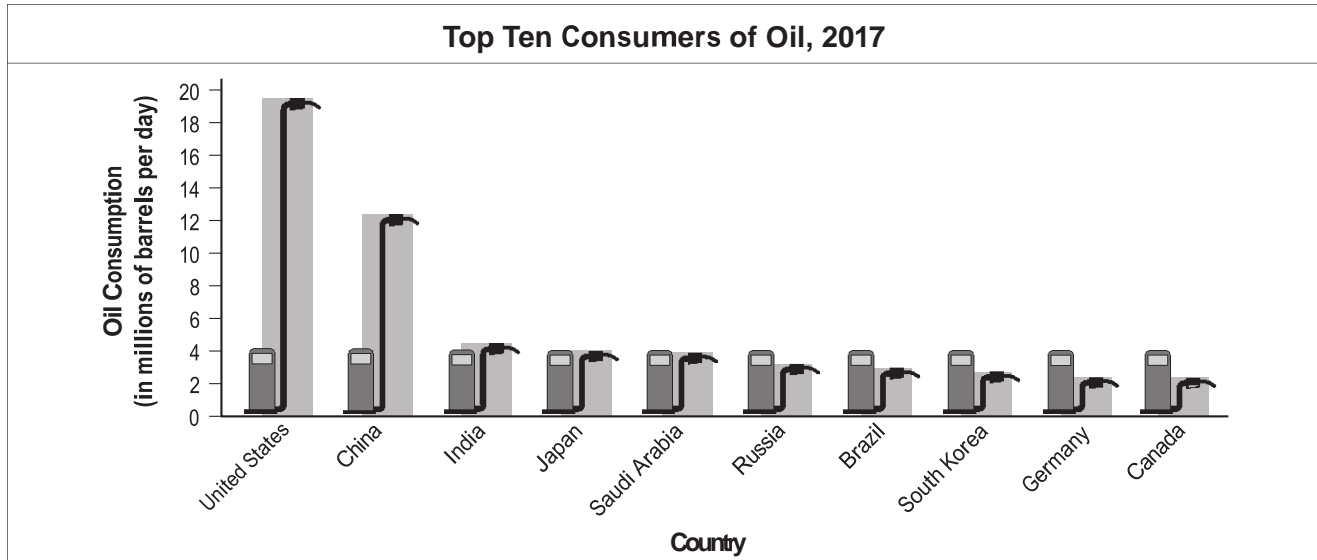
Based on what you have investigated, which set of countries below do you think are *not* OPEC members? Why? Be ready to justify your group's choice to the class.

Set 1: Iran, Iraq, Kuwait
Set 2: Oman, Syria, Yemen
Set 3: Qatar, Saudi Arabia, United Arab Emirates

World Oil Consumption

The graph below highlights the countries in the world that consume the most oil. The height of the bars reflects the amount of oil each country uses each day. Analyze the graph, and discuss these questions in your group:

- Which countries consume the most oil? What is similar about them?
- Why might countries that consume a lot of oil be interested in controlling the price and supply of oil?
- Analyze the two graphs. What generalization can you form from the two sets of data?



Source: Statista.

Critical Thinking Question D

In 1990, Iraq invaded the neighboring country of Kuwait. This invasion threatened the flow of oil from this part of Southwest Asia. In response, the United States and many other countries worked together to drive Iraq out of Kuwait. This became the 1991 Persian Gulf War. Some countries contributed soldiers, equipment, and money to the war. Top contributors included the United States, Germany, and Japan. Many oil countries in Southwest Asia were also big contributors.

Based on what you have learned, which set of countries below do you think contributed the most toward the costs of the Persian Gulf War? Why? Be ready to justify your group's choice to the class.

Set 1: Iran, Oman, Qatar

Set 2: Saudi Arabia, Kuwait, United Arab Emirates

Set 3: Yemen, Bahrain, Syria

4. The Price and Flow of Oil

Thick black smoke filled the sky, darkening what had otherwise been a bright, sunny day. Kuwait's oil fields were on fire. The year was 1991, and Iraq had invaded Kuwait the previous year in an effort to gain control of its oil reserves. This invasion led to a conflict known as the Persian Gulf War. When the war ended, retreating Iraqi troops torched some of Kuwait's oil wells.

The Persian Gulf War was one of many conflicts over oil in Southwest Asia. These conflicts have involved both oil-exporting countries and oil-importing countries

Oil-Exporting Countries:

Working to Control the Price of Oil

Most oil-exporting countries depend on oil sales to support their economies. Therefore, one of their goals is to have a steady supply of oil flowing out of their countries. In return for their oil, they expect a steady flow of money to come into their countries.

To ensure a steady supply of oil and a steady income, several oil-exporting countries formed the Organization of the Petroleum Exporting Countries (OPEC) in 1960. In 2017, OPEC had 14 member countries. Six members were Southwest Asian countries, but the organization also included eight oil producers from outside the region: Algeria, Angola, Ecuador, Equatorial Guinea, Gabon, Libya, Nigeria, and Venezuela. Meanwhile, not all of the Southwest Asian oil producers belong to OPEC. Bahrain, Yemen, Oman, and Syria have not joined the organization.

OPEC wants oil prices to be steady—not too high and not too low. If too much oil is offered for sale, there will be less competition among buyers to purchase the oil they need. As a result, prices will drop too low. On the other hand, if too little oil is offered for sale, there will be more competition between buyers, causing prices to rise too high. In order to keep prices steady, OPEC members have agreed to regulate how much oil they will sell.

However, two realities limit OPEC's ability to control oil prices. First, OPEC cannot control all of the world's oil sales because its members produce only around 40 percent of the world's crude oil. The rest of the crude oil comes from non-OPEC countries such as Russia and Mexico. Second, OPEC members do not always act as a united group. For example, sometimes some members refuse to follow OPEC decisions on how much oil to sell.

Oil-Importing Countries: Working to Protect the Flow of Oil Other countries depend on the flow of oil from Southwest Asia to fuel their economies. The United States, Japan, and many countries in Europe are huge oil importers and therefore have a strong interest in protecting the flow of oil around the world.

Top Contributors to Persian Gulf War Costs

Country
United States
Saudi Arabia
Kuwait
United Arab Emirates
Japan
Germany
United Kingdom
South Korea

Sharing the Cost of War

Many countries shared the costs of the 1991 Persian Gulf War. About two-thirds of the money came from oil-exporting countries that wanted to protect their oil reserves. The rest came from oil-importing countries that wanted to protect the flow of oil into their countries.



Oil Fields in Flames

Oil is so valuable that countries have gone to war over it. In 1990, Iraq invaded Kuwait to take control of Kuwait's oil reserves. A coalition of countries drove Iraq's forces out of Kuwait, but they were not able to prevent Iraqi soldiers from setting more than 730 oil wells in Kuwait on fire. It took eight months to put out these raging fires.

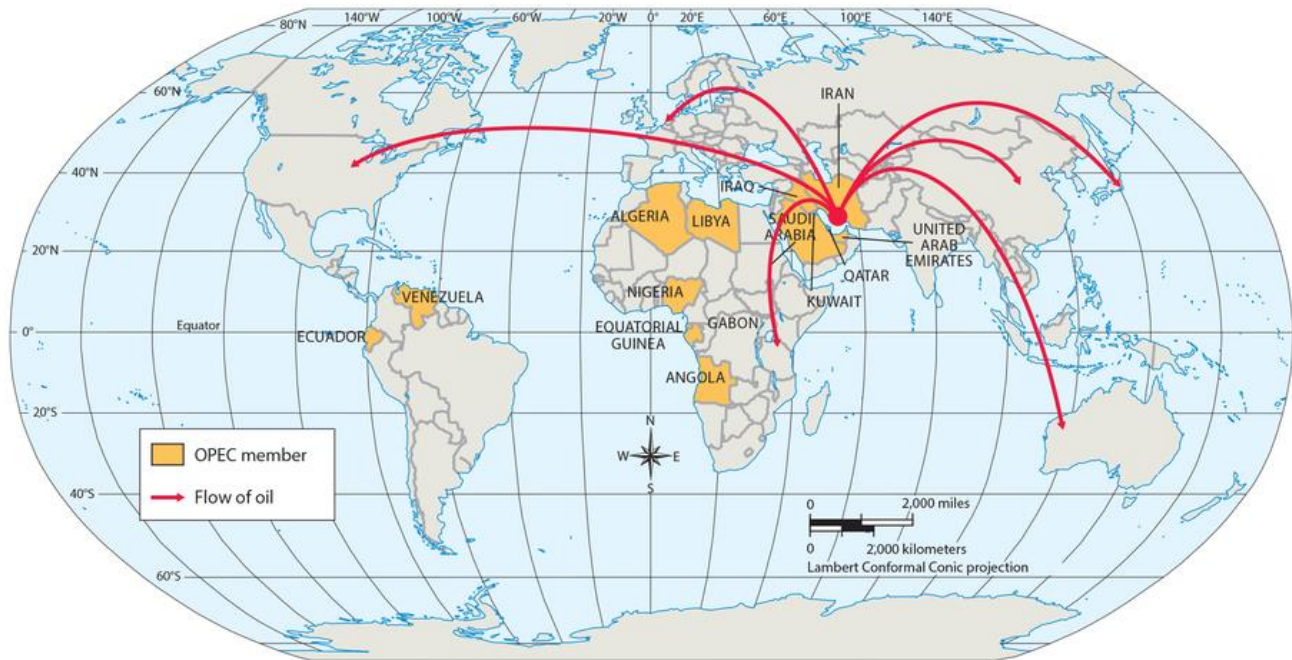
As you have read, Saddam Hussein, the dictator of Iraq, ordered his military to invade neighboring Kuwait in 1990. This invasion gave Saddam Hussein control of Kuwait's oil fields. Fears grew that the

dictator would target Saudi Arabia next. If Iraq were to take over Saudi Arabia, Hussein would control much of the world's oil supply. If he then decided to cut off oil sales, many oil-importing countries would suffer severe energy shortages.

The United States and many other countries formed a coalition, or alliance, to drive Iraq out of Kuwait. Some members of the coalition were oil-importing countries that did not want their oil supplies threatened by Iraq. Others were oil-exporting countries that feared losing control of their oil reserves to Iraq.

The coalition went to war in 1991 to drive Iraqi forces out of Kuwait. The Persian Gulf War lasted just a few weeks, but in that time, Kuwait was freed from Iraqi control. The coalition victory sent the world a clear message: as long as oil is the world's main source of energy, countries that import oil will work to keep it flowing.

Oil Flows from Southwest Asia



OPEC and Oil Flow

This map shows the members of OPEC, the Organization of the Petroleum Exporting Countries. It also shows where the oil-exporting countries of Southwest Asia send their oil. The United States alone uses one-fifth of the world's oil. That's an average of 2.5 gallons of oil per person every day.

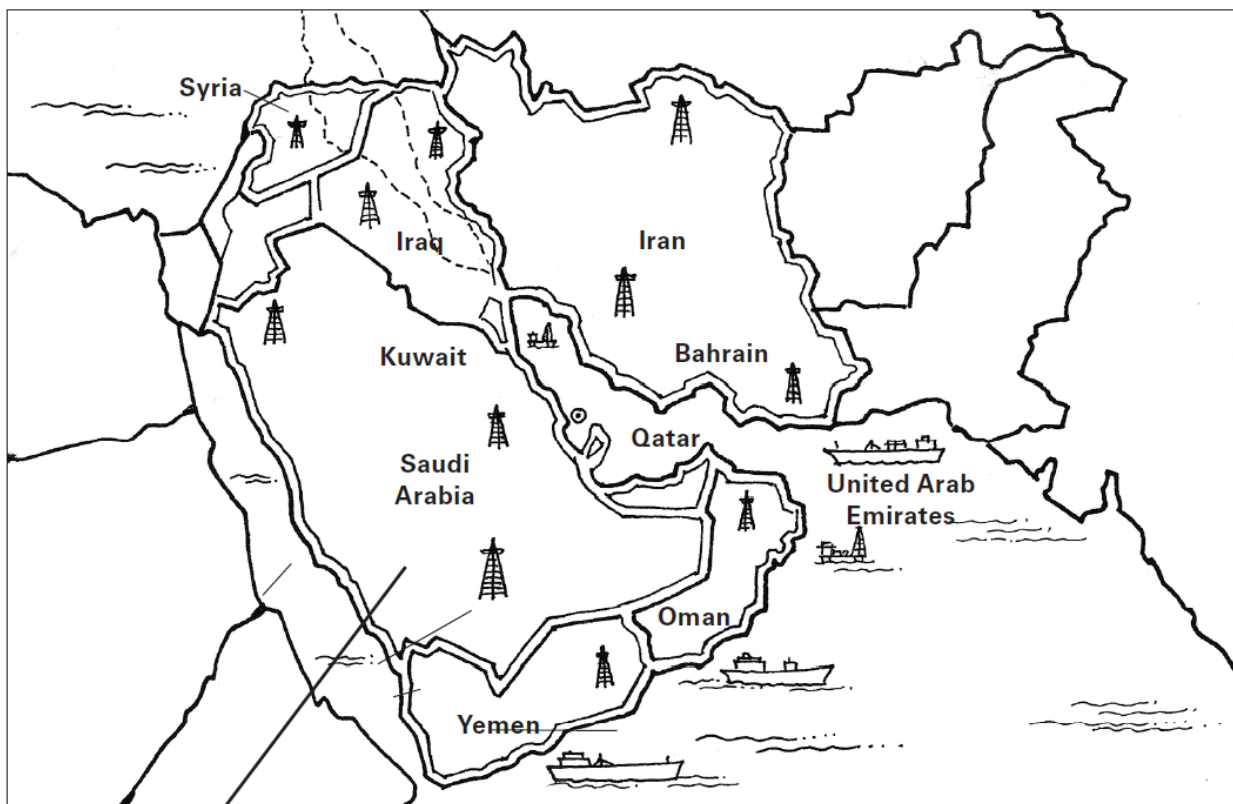
Processing

Explain the title of this lesson by adding to the map below.

- Around the map, write at least three sentences explaining how oil has affected Southwest Asia. • Your sentences should mention at least three countries in Southwest Asia.
- Your sentences should use at least three of this lesson's Geoterms: *crude oil*, *nonrenewable resource*, *oil reserves*, and *renewable resource*.
- Connect each sentence to a specific part of the map with a line.

An example is done for you.

Oil in Southwest Asia: How "Black Gold" Has Shaped a Region



Saudi Arabia has the largest known oil reserves in Southwest Asia.

