

understanding of plants probably while, hunters' expert knowledge of **domestication**, or taming, of animals. The farming, domestication of animals driven herds of animals into rocky step to drive herds into human-made the animals as a constant source of

toral nomads, or wandering herders. These herders moved their animals

barren rolling foothills of the Zagros likely site for the birthplace of agriculture. In the wood, thousands of years ago the development of agriculture. Pigs, sheep, and horses, had once

archaeological dig at a site called Jarmo. He built there about 9,000 years ago:

MAIN IDEA

Analyzing Primary Sources

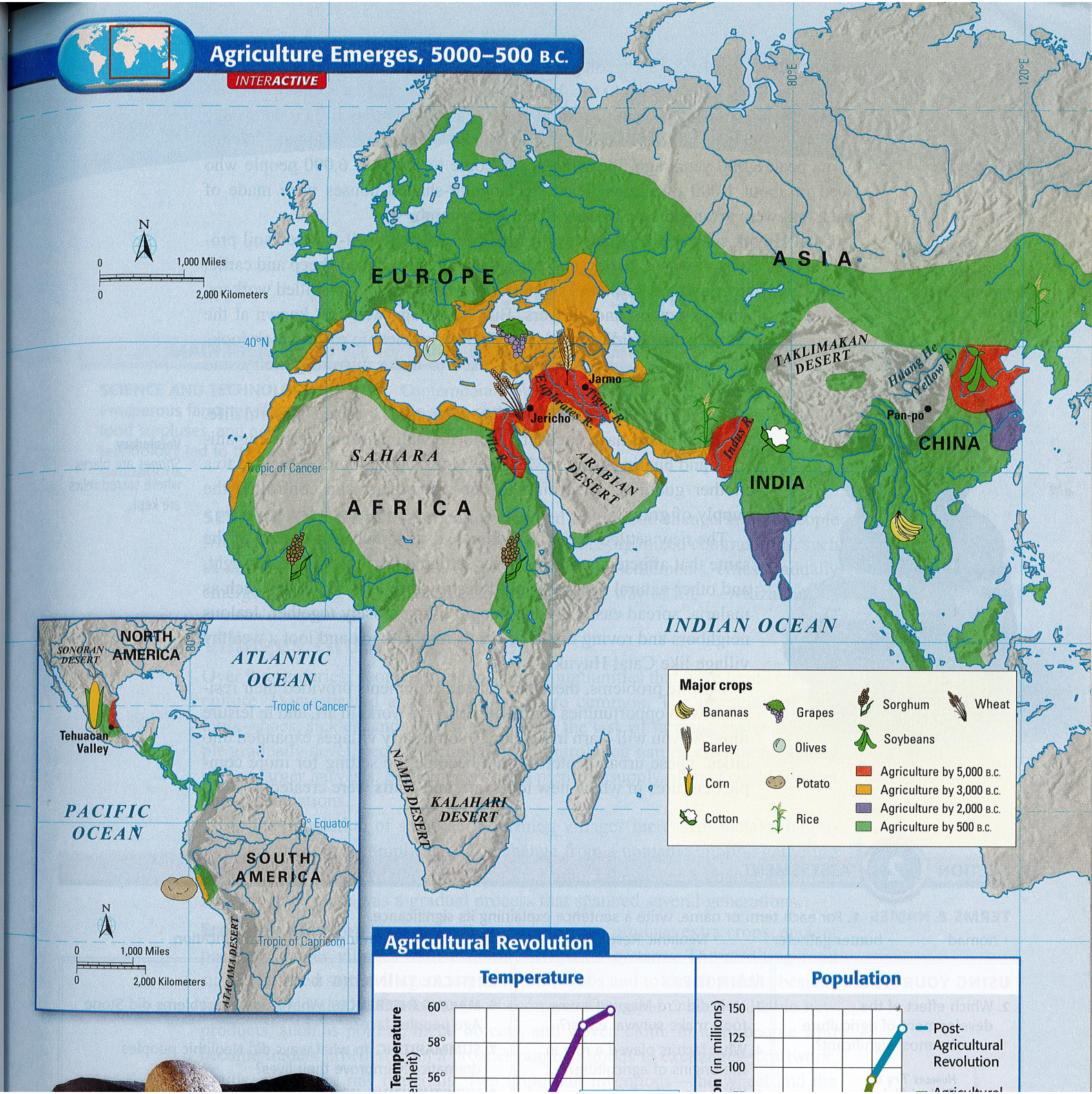
A Why do you think Braidwood believes that we can learn from early peoples?

BRAIDWOOD, quoted in *Scientific American*

in places as far apart as Mexico and sites such as Jarmo marked the beginning of modern life.

to farming and herding took place not only in many parts of the world independently but also in some 5,000 years ago.

A few thousand years ago, people in many parts of the world turned to farming. This led to an important agricultural center in Mesopotamia.



CASE STUDY: UR IN SUMER

Civilization Emerges in Ur

Ur, one of the earliest cities in Sumer, stood on the banks of the Euphrates River in what is now southern Iraq. Some 30,000 people once lived in this ancient city. Ur was the site of a highly sophisticated civilization.

After excavating from 1922 to 1934, English archaeologist Leonard Woolley and his team unraveled the mystery of this long-lost civilization. From archaeological evidence, Woolley concluded that around 3000 B.C., Ur was a flourishing urban civilization. People in Ur lived in well-defined social classes. Rulers, as well as priests and priestesses, wielded great power. Wealthy merchants profited from foreign trade. Artists and artisans created lavish jewelry, musical instruments, and gold daggers. Woolley's finds have enabled historians to reconstruct Ur's advanced culture.

An Agricultural Economy Imagine a time nearly 5,000 years ago. Outside the mud-brick walls surrounding Ur, ox-driven plows cultivate the fields. People are working barefoot in the irrigation ditches that run between patches of green plants. With stone hoes, the workers widen ditches to carry water into their fields from the reservoir a mile away. This large-scale irrigation system was developed to provide Ur with food surpluses, which keep the economy thriving. The government officials who direct this public works project ensure its smooth operation. **B**

Life in the City A broad dirt road leads from the fields to the city's wall. Inside, city dwellers go about their daily lives. Most live in windowless, one-story, boxlike houses packed tightly along the street. A few wealthy families live in two-story houses with an inner courtyard.

Down another street, artisans work in their shops. A metalworker makes bronze by mixing molten copper with just the right quantity of tin. Later, he will hammer the bronze to make spearheads—weapons to help Ur's well-organized armies

MAIN IDEA

Analyzing Causes

B How did Ur's agricultural way of life foster the development of civilization there?



The City of Ur

INTERACTIVE

1. **Ziggurat** A massive temple
2. **Court of Nanna** Sacred place of Ur's moon god
3. **Home of the High Priestess** Place where a woman with great religious authority lived
4. **Surrounding Wall** Defense for protecting Ur residents
5. **Temple and Treasury** Administrative centers in Ur
6. **Royal Cemetery** Burial site of the queen and king of Ur

The white lines indicate the shape of the original ziggurat, which once rose as high as 80 feet.

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ce lived in this ancient city.

ologist Leonard Woolley and
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was a flourishing urban civi-
es. Rulers, as well as priests
s profited from foreign trade.
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Ur's advanced culture.

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y families live in two-story

A metalworker makes bronze
of tin. Later, he will hammer
Ur's well-organized armies

massive temple
Inanna Sacred place of Ur's moon god
The High Priestess Place where a woman with
us authority lived
Defensive Wall Defense for protecting Ur residents
Palace Administrative centers in Ur
Royal Cemetery Burial site of the queen and king of Ur

The white lines indicate
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MAIN IDEA

Analyzing Causes

B How did Ur's
agricultural way of
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opment of civiliza-
tion there?

defend the city. As a potter spins his potter's wheel, he expertly shapes the moist clay into a large bowl. These artisans and other craftworkers produce trade goods that help Ur prosper.

Ur's Thriving Trade The narrow streets open into a broad avenue where merchants squat under awnings and trade farmers' crops and artisans' crafts. This is the city's bazaar, or marketplace. Coins are not used to make purchases because money has not yet been invented. But merchants and their customers know roughly how many pots of grain a farmer must give to buy a jug of wine. This way of trading goods and services without money is called **barter**. More complicated trades require a scribe. He carefully forms cuneiform signs on a clay tablet. The signs may show how much barley a farmer owes a merchant for a donkey.

The Temple: Center of City Life Farther down the main avenue stands Ur's tallest and most important building—the temple. Like a city within a city, the temple is surrounded by a heavy wall. Within the temple gate, a massive, tiered structure towers over the city. This pyramid-shaped monument is called a **ziggurat** (ZIHG•uh•RAT), which means “mountain of god.” On the exterior of the ziggurat, a flight of perhaps 100 mud-brick stairs leads to the top. At the peak, priests conduct rituals to worship the city god who looms over Ur. Every day, priests climb these stairs. They often drag a goat or sheep to sacrifice. The temple also houses storage areas for grains, woven fabrics, and gems—offerings to the city's god. Sumerians had elaborate burial rituals and believed in an afterlife.

An early city, such as Ur, represents a model of civilizations that continued to arise throughout history. While the Sumerians were advancing their culture, civilizations were developing in Egypt, China, and elsewhere in Asia.

Connect to Today

Iraq's Ancient Treasures at Risk

The ziggurat at Ur was damaged during the Persian Gulf War of 1991. In that conflict, Iraq parked military planes near the ziggurat, hoping coalition forces would not risk harming the ancient structure. While it was not attacked, bombs caused large craters nearby, and it was hit by stray machine gun fire.

During the 2003 war, the Iraqi National Museum in Baghdad was attacked by looters. Many of the treasures of the area's ancient civilizations were either looted or destroyed.

SECTION 3 ASSESSMENT

TERMS & NAMES 1. For each term or name, write a sentence explaining its significance.

- civilization
- specialization
- artisan
- institution
- scribe
- cuneiform
- Bronze Age
- barter
- ziggurat

USING YOUR NOTES

2. Which characteristic is the most important for development of a civilization? Why?

MAIN IDEAS

3. How did the social structure of village life change as the economy became more complex?

4. What role did irrigation systems

CRITICAL THINKING & WRITING

6. **DRAWING CONCLUSIONS** How did life in Sumer differ from life in a small farming community of the region?

7. **RECOGNIZING EFFECTS** Why was writing a key invention for the Sumerians?

Valley

ns, 3500 B.C.–450 B.C.

Ideas

The earliest civilizations formed on challenges, such as seasonal flooding

the four river valley civilizations?

uch as irrigation systems required organized government. In some empires. In others, military leaders

the map. In which empire and river developed?

ivilizations developed bronze tools, the mathematics. These innovations spread t of peoples.

on was the most isolated? What

INTERNET RESOURCES

classzone.com for:

- Search Links
- Maps
- Internet Activities
- Test Practice
- Primary Sources
- Current Events
- Quiz



Four River Valley Civilizations



China, 3950–1000 B.C.
Mesopotamia, 3500–1600 B.C.
Ancient Egypt, 3000–2000 B.C.
Indus Valley, 2500–1700 B.C.

City-States in Mesopotamia

MAIN IDEA

INTERACTION WITH ENVIRONMENT The earliest civilization in Asia arose in Mesopotamia and organized into city-states.

WHY IT MATTERS NOW

The development of this civilization reflects a settlement pattern that has occurred repeatedly throughout history.

TERMS & NAMES

- Fertile Crescent
- Mesopotamia
- city-state
- dynasty
- cultural diffusion
- polytheism
- empire
- Hammurabi

SETTING THE STAGE Two rivers flow from the mountains of what is now Turkey, down through Syria and Iraq, and finally to the Persian Gulf. Over six thousand years ago, the waters of these rivers provided the lifeblood that allowed the formation of farming settlements. These grew into villages and then cities.

Geography of the Fertile Crescent

A desert climate dominates the landscape between the Persian Gulf and the Mediterranean Sea in Southwest Asia. Yet within this dry region lies an arc of land that provided some of the best farming in Southwest Asia. The region's curved shape and the richness of its land led scholars to call it the **Fertile Crescent**. It includes the lands facing the Mediterranean Sea and a plain that became known as **Mesopotamia** (MEHS•uh•puh•TAY•mee•uh). The word in Greek means “land between the rivers.”

The rivers framing Mesopotamia are the Tigris (TY•grihs) and Euphrates (yoo•FRAY•teez). They flow southeastward to the Persian Gulf. (See the map on page 30.) The Tigris and Euphrates rivers flooded Mesopotamia at least once a year. As the floodwater receded, it left a thick bed of mud called silt. Farmers planted grain in this rich, new soil and irrigated the fields with river water. The results were large quantities of wheat and barley at harvest time. The surpluses from their harvests allowed villages to grow.

Environmental Challenges People first began to settle and farm the flat, swampy lands in southern Mesopotamia before 4500 B.C. Around 3300 B.C., the people called the Sumerians, whom you read about in Chapter 1, arrived on the scene. Good soil was the advantage that attracted these settlers. However, there were three disadvantages to their new environment.

- Unpredictable flooding combined with a period of little or no rain. The land sometimes became almost a desert.

TAKING NOTES

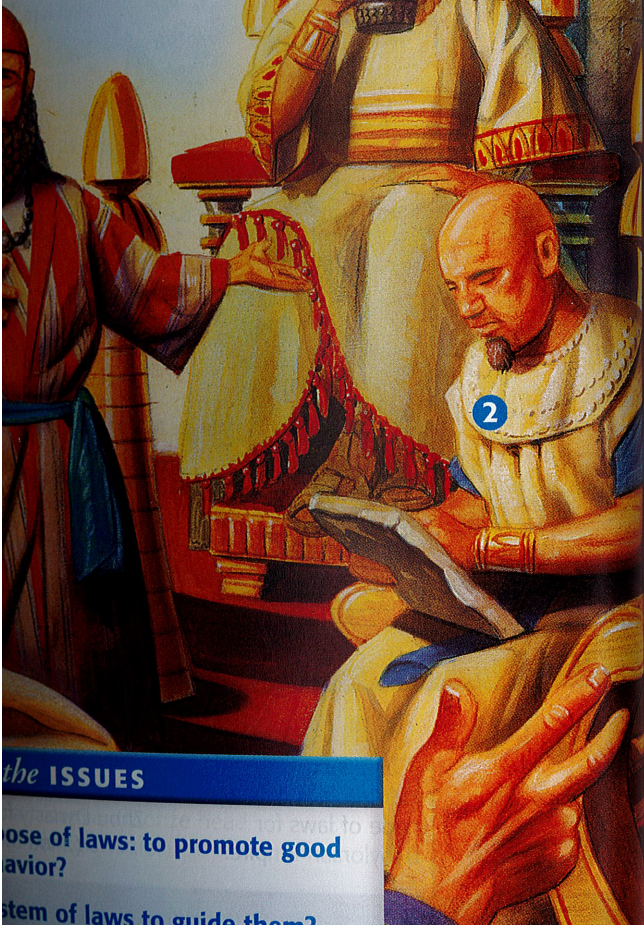
Identifying Problems and Solutions Use a chart to identify Sumer's environmental problems and their solutions.

Problems	Solutions
1.	1.
2.	2.
3.	3.

ers, you have little to eat. There
ected by law. Your cousin
s family. You believe that laws
him not to steal the pig. But he

Hammurabi's Code—holds people
ho steals from the temple must
a. Because your cousin is unable to
ou begin to wonder whether there

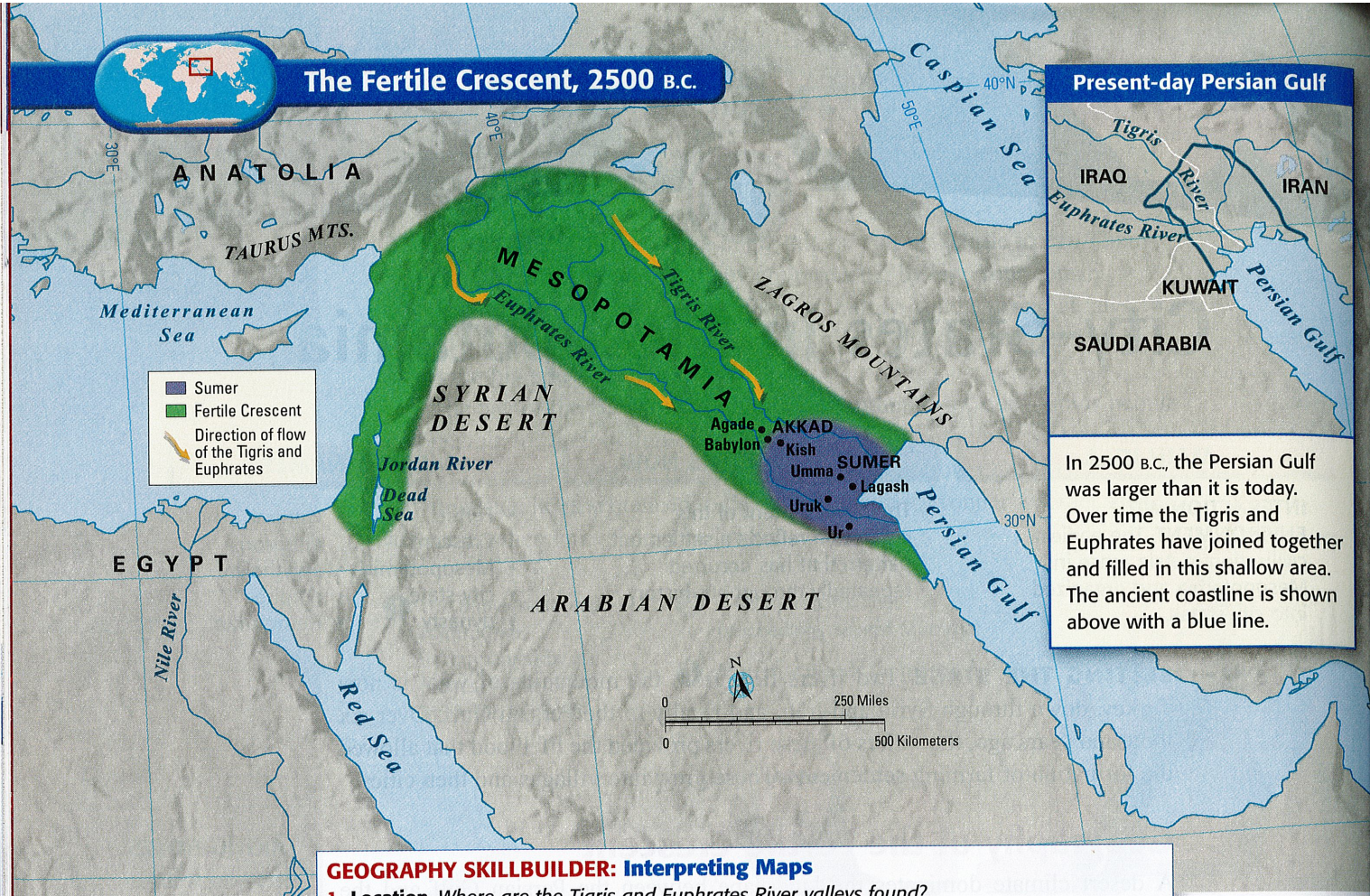
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s against Mummar.
leads for mercy.



the ISSUES

ose of laws: to promote good
avior?

stem of laws to guide them?



GEOGRAPHY SKILLBUILDER: Interpreting Maps

- 1. Location** Where are the Tigris and Euphrates River valleys found?
- 2. Place** What is the most likely cause of the change in the Persian Gulf coastline?

Solving Problems Through Organization Over a long period of time, the people of Sumer created solutions to deal with these problems.

- To provide water, they dug irrigation ditches that carried river water to their fields and allowed them to produce a surplus of crops.
- For defense, they built city walls with mud bricks.
- Sumerians traded their grain, cloth, and crafted tools with the peoples of the mountains and the desert. In exchange, they received raw materials such as stone, wood, and metal.

These activities required organization, cooperation, and leadership. It took many people working together, for example, for the Sumerians to construct their large irrigation systems. Leaders were needed to plan the projects and supervise the digging. These projects also created a need for laws to settle disputes over how land and water would be distributed. These leaders and laws were the beginning of organized government, and eventually of civilization. **A**

MAIN IDEA

Summarizing

A What are three solutions to the environmental challenges of Mesopotamia?



Present-day Persian Gulf



In 2500 B.C., the Persian Gulf was larger than it is today. Over time the Tigris and Euphrates have joined together and filled in this shallow area. The ancient coastline is shown above with a blue line.

MAIN IDEA

Analyzing Causes

B How did military leaders gain power in the city-states?

...eys found?
...e Persian Gulf coastline?

...a long period of time, the people
...blems.
...that carried river water to their
...of crops.
...icks.
...ed tools with the peoples of the
...ceived raw materials such as

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...merians to construct their large
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...to settle disputes over how land
...and laws were the beginning of
...ation. **A**

By 3000 B.C., the Sumerians had built a number of cities, each surrounded by fields of barley and wheat. Although these cities shared the same culture, they developed their own governments, each with its own rulers. Each city and the surrounding land it controlled formed a **city-state**. A city-state functioned much as an independent country does today. Sumerian city-states included Uruk, Kish, Lagash, Umma, and Ur. As in Ur, the center of all Sumerian cities was the walled temple with a ziggurat in the middle. There the priests and rulers appealed to the gods for the well-being of the city-state.

Priests and Rulers Share Control Sumer's earliest governments were controlled by the temple priests. The farmers believed that the success of their crops depended upon the blessings of the gods, and the priests acted as go-betweens with the gods. In addition to being a place of worship, the ziggurat was like a city hall. (See page 22 for a ziggurat.) From the ziggurat the priests managed the irrigation system. Priests demanded a portion of every farmer's crop as taxes.

In time of war, however, the priests did not lead the city. Instead, the men of the city chose a tough fighter who could command the city's soldiers. At first, a commander's power ended as soon as the war was over. After 3000 B.C., wars between cities became more and more frequent. Gradually, Sumerian priests and people gave commanders permanent control of standing armies. **B**

In time, some military leaders became full-time rulers. These rulers usually passed their power on to their sons, who eventually passed it on to their own heirs. Such a series of rulers from a single family is called a **dynasty**. After 2500 B.C., many Sumerian city-states came under the rule of dynasties.

The Spread of Cities Sumer's city-states grew prosperous from the surplus food produced on their farms. These surpluses allowed Sumerians to increase long-distance trade, exchanging the extra food and other goods for items they needed.

By 2500 B.C., new cities were arising all over the Fertile Crescent, in what is now Syria, northern Iraq, and Turkey. Sumerians exchanged products and ideas, such as living in cities, with neighboring cultures. This process in which a new idea or a product spreads from one culture to another is called **cultural diffusion**.

Sumerian Culture

The belief systems, social structure, technology, and arts of the Sumerians reflected their civilization's triumph over its dry and harsh environment.

A Religion of Many Gods Like many peoples in the Fertile Crescent, the Sumerians believed that many different gods controlled the various forces in nature. The belief in more than one god is called **polytheism** (PAI-lē•thee•IH-zuhm). Enlil, the god of

▼ Iku-Shamagen, King of Mari, a city-state in Sumer, offers prayers to the gods.





▲ This gold and lapis ram with a shell fleece was found in a royal burial tomb.

Sumerians built impressive ziggurats for them and offered rich sacrifices of animals, food, and wine.

Sumerians worked hard to earn the gods' protection in this life. Yet they expected little help from the gods after death. The Sumerians believed that the souls of the dead went to the "land of no return," a dismal, gloomy place between the earth's crust and the ancient sea. No joy awaited souls there. A passage in a Sumerian poem describes the fate of dead souls: "Dust is their fare and clay their food."

Some of the richest accounts of Mesopotamian myths and legends appear in a long poem called the *Epic of Gilgamesh*. (See a selection from the Gilgamesh epic on page 83.)

Life in Sumerian Society With civilization came the beginning of what we call social classes. Kings, landholders, and some priests made up the highest level in Sumerian society. Wealthy merchants ranked next. The vast majority of ordinary Sumerian people worked with their hands in fields and workshops. At the lowest level of Sumerian society were the slaves. Some slaves were foreigners who had been captured in war. Others were Sumerians who had been sold into slavery as children to pay the debts of their poor parents. Debt slaves could hope to eventually buy their freedom.

Social class affected the lives of both men and women. Sumerian women could work as merchants, farmers, or artisans. They could hold property in their own names. Women could also join the priesthood. Some upper-class women did learn to read and write, though Sumer's written records mention few female scribes. However, Sumerian women had more rights than women in many later civilizations.

Sumerian Science and Technology Historians believe that Sumerians invented the wheel, the sail, and the plow and that they were among the first to use bronze. Many new ideas and inventions arose from the Sumerians' practical needs.

- **Arithmetic and geometry** In order to erect city walls and buildings, plan irrigation systems, and survey flooded fields, Sumerians needed arithmetic and geometry. They developed a number system in base 60, from which stem the modern units for measuring time (60 seconds = 1 minute) and the 360 degrees of a circle.
- **Architectural innovations** Arches, columns, ramps, and the pyramid shaped the design of the ziggurat and permanently influenced Mesopotamian civilization.

Vocabulary

epic: a long heroic poem that tells the story of a historical or legendary figure

Cuneiform Sumerians created a system of writing. One of the first known

ve ziggurats for them and offered food, and wine.

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Vocabulary
epic: a long heroic poem that tells the story of a historical or legendary figure

MAIN IDEA

Contrasting

How does an empire differ from a city-state?

Sargon of Akkad About 2350 B.C., a conqueror named Sargon defeated the city-states of Sumer. Sargon led his army from Akkad (AK•ad), a city-state north of Sumer. The Akkadians had long before adopted most aspects of Sumerian culture. Sargon's conquests helped to spread that culture even farther, beyond the Tigris-Euphrates Valley.

By taking control of both northern and southern Mesopotamia, Sargon created the world's first **empire**. An empire brings together several peoples, nations, or previously independent states under the control of one ruler. At its height, the Akkadian Empire loosely controlled land from the Mediterranean Coast in the west to present-day Iran in the east. Sargon's dynasty lasted only about 200 years, after which it declined due to internal fighting, invasions, and a famine.

Babylonian Empire In about 2000 B.C., nomadic warriors known as Amorites invaded Mesopotamia. Gradually, the Amorites overwhelmed the Sumerians and established their capital at Babylon, on the Euphrates River. The Babylonian Empire reached its peak during the reign of **Hammurabi**, from 1792 B.C. to 1750 B.C. Hammurabi's most enduring legacy is the code of laws he put together.

Hammurabi's Code Hammurabi recognized that a single, uniform code of laws would help to unify the diverse groups within his empire. He collected existing rules, judgments, and laws into the Code of Hammurabi. Hammurabi had the code engraved in stone, and copies were placed all over his empire.

> Analyzing Primary Sources

Hammurabi's Code of Laws

The image at the right shows the top of a pillar that had Hammurabi's Code engraved on it. Hammurabi's law code prescribed punishments ranging from fines to death. Often the punishments were based on the social class of the victim. Here are some examples of the laws:

PRIMARY SOURCE

- 8. If a man has stolen an ox, a sheep, a pig, or a boat that belonged to a temple or palace, he shall repay thirty times its cost. If it belonged to a private citizen, he shall repay ten times. If the thief cannot pay, he shall be put to death.
- 142. If a woman hates her husband and says to him "You cannot be with me," the authorities in her district will investigate the case. If she has been chaste and without fault, even though her husband has neglected or belittled her, she will be held innocent and may return to her father's house.
- 143. If the woman is at fault, she shall be thrown into the river.
- 196. If a man put out the eye of another man, his eye shall be put out.
- 199. If he cuts off the ear of another man, his ear shall be cut off.

