<table>
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<th>Grade: 7-8</th>
<th>Duration: 1.5 hours</th>
<th>Lesson: 1 of 2</th>
<th>Topic: Water resources and scarcity in the Middle East</th>
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**Objectives:**
- Students will be able to explain the importance of water in the Middle East.
- SWBAT describe the importance of water to ancient civilizations in the Middle East and North Africa.
- SWBAT compare and contrast natural boundaries and man-made boundaries.

**Lesson context:**
- This is the first lesson in a unit about water resources and scarcity in the Middle East. It is suitable for a social studies, reading, or earth science class. This lesson will introduce the importance of water, in general, to the development of ancient civilizations in the Middle East and North Africa. It has two parts: a Fertile Crescent Reading activity, to emphasize the importance of water and rivers to agriculture and food; and an optional borders/boundaries writing activity, to emphasize the importance rivers and water play in the formation of boundaries between an among regions.

**Resources/Materials Needed:**
- Crayons/Colored pencils; pens; dictionaries/internet; notebooks; writing instruments
- All items listed in bold in lesson are in appendices following lesson.

**Main activity (1 hour):**
- Pass out **Fertile Crescent Activity Map and Text**, or display materials on projector or board.
- Read the text aloud or as a class.
- As a class, or individually, complete the **Fertile Crescent Activity Sheet**. You may want to do this as you read the passage, to increase understanding.
- Pass out optional **Borders Fact Sheet**. This activity can also be offered as homework, or as a short introduction to the second lesson. Ask students to write a short essay on the following prompt: What are the borders of your town, city, and/or state? Would you describe them as natural or human-made, or as a combination of both? What advantages are there to having a natural border, like a river, large body of water, or mountain range?
Appendix: Fertile Crescent Activity Map and Text
Humans lived as nomads for tens of thousands of years before slowly settling down in various parts of the world. Nomads are people who have no permanent home and travel in search of food and safety. A typical nomadic group might include an extended family of about ten adults and their children. The nomads would temporarily camp in an area for a few weeks or months. They occasionally hunted animals and gathered fruit, grains, seeds, and nuts for food. When the nomads exhausted the land they moved to a new area.

Civilization developed slowly in different parts of the world. People began to settle in areas with abundant natural resources. For thousands of years, people have been attracted to a part of the world archaeologists later called the Fertile Crescent. The Fertile Crescent is a boomerang-shaped region that extends from the eastern shore of the Mediterranean Sea to the Persian Gulf. The Fertile Crescent is a rich food-growing area in a part of the world where most of the land is too dry for farming.

Some of the best farmland of the Fertile Crescent is on a narrow strip of land between the Tigris and the Euphrates Rivers. The two rivers travel near one another for thousands of miles before they combine to drain into the Persian Gulf. The Greeks called this area Mesopotamia, which means "between the rivers." Very little rain falls in Mesopotamia, but water and nutrients from the river soak into the land, creating an environment filled with plants and the animals that feed on the vegetation.

Many different civilizations flourished in this small region. The Sumerians slowly developed one of the first civilizations in the southeastern section of Mesopotamia as early as 7,500 years ago. The Sumerian civilization lasted more than three thousand years, but in time the Sumerians lost their influence. The Babylonians formed a centralized government under King Hammurabi. The Babylonian culture lasted from about 1770 B.C.E. to about 1595 B.C.E. Various other cultures dominated part or all of the Fertile Crescent including Amorites, the Kassites, (c. 1531-1155 B.C.E.) the Hittites (c. 1370 – 1205 B.C.E.) and the Assyrians (c.890-600 B.C.E.). The land known as Mesopotamia was later controlled by the Persians, the Greeks under Alexander the Great, the Romans, and the Ottoman Turks. The land between the Tigris and Euphrates has been part of the present-day nation of Iraq since 1932.

Source:
Fertile Crescent Activity Sheet

Directions: As you read the text for the Fertile Crescent Activity, write the definitions of the highlighted words in the spaces provided. Use the internet, the text around the word, or a dictionary for help.

1. Define:
   a. Nomad:
      ____________________________________________________________________________
      ____________________________________________________________________________
   b. Temporarily:
      ____________________________________________________________________________
      ____________________________________________________________________________
   c. Abundant:
      ____________________________________________________________________________
      ____________________________________________________________________________
   d. Archaeologist:
      ____________________________________________________________________________
      ____________________________________________________________________________
   e. Flourish:
      ____________________________________________________________________________
      ____________________________________________________________________________
   f. Centralized government:
      ____________________________________________________________________________
      ____________________________________________________________________________
   g. Dominated:
      ____________________________________________________________________________
      ____________________________________________________________________________
   h. B.C.E.:
      ____________________________________________________________________________
      ____________________________________________________________________________
2. Timeline: Label the timeline with the ancient civilizations that flourished near the Fertile Crescent (the Sumerians, the Babylonians, the Kassites, the Hittites, and the Assyrians), and with present-day Iraq.

![Timeline Image]

2. Short Answer:

a. What made the Fertile Crescent different from other areas in the Middle East Region?

b. Why would people of ancient civilizations choose to settle in an area between two rivers? Do you think those reasons are still important today?

c. How did Mesopotamia get its name?
Borders Fact Sheet

Water is also important in forming political boundaries between and within countries. Borders are boundaries that can be physical, political, or both. Physical borders are borders between places that exist because of differences in terrain. Political borders are borders between nations, states, cities, towns, and other political areas.

The Tigris and Euphrates are natural boundaries that were formed by nature instead of being drawn by people. Examples of natural boundaries include rivers, mountain ranges, or deserts.

Straight lines on a map usually signify human-made political boundaries, while natural borders can follow many different paths. This is easy to demonstrate on a map of the United States of America. Most of the boundaries of the western states are straight lines; Colorado and Wyoming are almost perfect rectangles. Many eastern states have jagged shapes because rivers form their borders.
Essay Writing Practice: Borders

What are the borders of your town, city, and/or state? Would you describe them as natural or human-made, or as a combination of both? What advantages are there to having a natural border, like a river, large body of water, or mountain range?

______________________________________________________________________________

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**Objectives:**
- Students will be able to explain the importance of water in the Middle East.
- SWBAT describe water resources and scarcity in Iraq.
- SWBAT define water-related vocabulary, as well as other unfamiliar words from a non-governmental organization special report.

**Lesson context:**
- This is the second lesson in a unit about water resources and scarcity in the Middle East. It is suitable for a social studies, reading, or earth science class. This lesson will draw on the first lesson, a general overview of water use in the historical and contemporary Middle East, to focus more specifically on a present-day situation of water scarcity in Iraq.

**Resources/Materials Needed:**
- Crayons/Colored pencils; pens; dictionaries/internet
- All items listed in **bold** in lesson are in appendices following lesson

**Main activity:**
- Pass out **Blank Middle East Cultural Map** to students (one per student). Let them know they will be working in groups/tables to complete their first task, but will each complete a map.
- Write the following instructions on the board (if none is available, print and pass out to each group/table):
  - Label the countries in the blank white areas of your map.
  - Label the major cities in the blank white areas of your map.
  - Draw or color in (with blue) and label the following bodies of water on the map:
    - Persian Gulf
    - Red Sea
    - Gulf of Aden
    - Mediterranean Sea
    - Caspian Sea
    - Dead Sea
    - Gulf of Aqaba
    - Tigris (Dijlah) River
    - Euphrates (Al Furat) River
    - Jordan River
    - Nile River
    - Sea of Galilee
• Gulf of Suez
• Pass out Student Worksheet: Water Scarcity in Iraq to students (one per student). Ask students to complete in groups or individually.

Wrap-Up Activity:
• As homework, individually, or in class, assign the Water Words Match-Up Assignment. Not all words in the assignment have been defined in previous activities, but students should be able to use what they have learned to complete the activity. Refer them back to readings if they have specific questions.
• Game option:
Student Worksheet: Water Scarcity in Iraq

Directions: As you read the following excerpt from the *IOM-Iraq Special Report: Water Scarcity*, write the definitions of the highlighted words in the spaces provided on the following page. Use the internet or a dictionary for help. Then, use the information in the background to help you answer the TRUE/FALSE statements.

IOM-Iraq Special Report: Water Scarcity | Background

A combination of armed conflict, sanctions and neglect of infrastructure, in addition to a lack of environmental awareness and education, have been undermining Iraq’s water resource management system for a considerable period of time. 20% of households in Iraq currently use an unsafe drinking water source and a further 16% have reported having supply problems. The situation is much worse in rural areas where only 43% of households have access to safe drinking water and where water for agriculture is often scarce and of poor quality. There is a widespread lack of information and training in advanced irrigation and water treatment techniques, particularly in rural areas. Indeed, of the 290 locations assessed in Iraq where agriculture is the community’s primary source of income, 54% rely on traditional flood irrigation, a method that wastes a great deal of water, severely damages soil and increases already high salinity levels. The resulting reduction in cropland coverage, devastating to the agricultural community, has dramatically increased rural-urban migration, putting even more pressure on urban water supplies that are already insufficient for a rapidly increasing population.

Source:

1. Define
   a. Sanctions:
      ________________________________________________________________
      ________________________________________________________________
   b. Infrastructure:
      ________________________________________________________________
      ________________________________________________________________
   c. Undermining:
      ________________________________________________________________
      ________________________________________________________________
   d. Rural:
      ________________________________________________________________
      ________________________________________________________________
   e. Agriculture:
      ________________________________________________________________
      ________________________________________________________________
   f. Scarce:
      ________________________________________________________________
      ________________________________________________________________
   g. Irrigation:
      ________________________________________________________________
      ________________________________________________________________
   h. Water treatment:
      ________________________________________________________________
      ________________________________________________________________
   i. Primary:
      ________________________________________________________________
      ________________________________________________________________
   j. Income:
k. Flood irrigation:


l. Salinity:


m. Migration:


n. Urban:


o. Insufficient:


2. True/False (circle the correct answer):

   a. Everyone in Iraq has enough water.  TRUE    FALSE

   b. Lack of environmental awareness is not one of the problems leading to water crisis in Iraq.  TRUE    FALSE

   c. Some of the water available to farmers in Iraq is too salty.  TRUE    FALSE

   d. Because of water scarcity, most people are moving from cities to the countryside.  TRUE    FALSE
**Water Words Match-Up Assignment**

Water, water, every where,
And all the boards did shrink;
Water, water, every where,
Nor any drop to drink.

- Samuel Taylor Coleridge
  “The Rime of the Ancient Mariner”

**DIRECTIONS:**
Color each word with a different color. Then, color in the definition of each word with the same color.

**OR**
Label each word and its definition with the same number or letter.

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<td>the natural features of land</td>
</tr>
<tr>
<td>border</td>
<td>farming and/or raising livestock</td>
</tr>
<tr>
<td>aquifer</td>
<td>of the countryside</td>
</tr>
<tr>
<td>terrain</td>
<td>any geological formation containing or conducting ground water</td>
</tr>
<tr>
<td>pollution</td>
<td>the promotion and preservation of health</td>
</tr>
<tr>
<td>accessible</td>
<td>the application of measures for the sake of cleanliness</td>
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<tr>
<td>rural</td>
<td>fit or suitable for drinking</td>
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<tr>
<td>agriculture</td>
<td>to make unsuitable by contact or mixture with something unclean</td>
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<tr>
<td>resource</td>
<td>extreme illness</td>
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<tr>
<td>sanitation</td>
<td>a source of supply, support, or aid</td>
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<tr>
<td>contaminate</td>
<td>a boundary that indicates bounds or limits between political areas</td>
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<td>well</td>
<td>easy to approach, reach, enter, or use</td>
</tr>
<tr>
<td>hygiene</td>
<td>one of the main landmasses of the globe</td>
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<tr>
<td>disease</td>
<td>natural environment being contaminated with harmful substances</td>
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<tr>
<td>continent</td>
<td>a hole drilled or bored into the earth to obtain water</td>
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**Water Words Match-Up Assignment KEY**

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