Studying water scarcity in the world

In this case cracker, you will crack the case on water scarcity. By the end of the activity, you will understand how water scarcity impacts the domestic use of water (e.g. drinking water) in Australia and Africa.

Water scarcity in North Africa

Water is an important resource that is used throughout the world for agricultural, industrial and domestic use. However, water becomes scarce when the demand for clean water exceeds the available supply of clean water. Water is a fundamental human need, and without access to clean drinking water, people can suffer greatly. Approximately 1.8 million people die every year of diseases such as cholera as a result of drinking unclean water, and tens of millions of others get sick from a range of other water-related illnesses.

As shown in Source 7, water scarcity is a problem that has impacted North Africa. The most common solution to water scarcity in African villages is digging a well to reach groundwater. Having access to clean water from a well lessens the risk of people catching water-borne diseases.

Global access to clean water and sanitation is one of the United Nations' sustainable development goals.

Part A

1. Fill in the blanks to determine some of the causes of water scarcity.

   low variety infrastructure fast-growing

   Some of the causes of this water scarcity can be attributed to:

   a. a large and __________________________ population
   b. large areas with __________________________ and variable rainfall
   c. poor water __________________________
   d. lack of water __________________________, such as pipelines.

2. Name three major uses of water in the world.

3. Using the map in Source 7, identify two countries in Africa that experience water scarcity.

Part B

5. Using the toolbar at the top of the map, enlarge the full map and zoom into Western Australia and North Africa to answer the following questions.

   a. Circle the best description for Western Australia:
      - Mostly at risk of desertification
      - Mostly subtropical desert
      - Mostly cold winter desert

   b. What does this indicate about Western Australia’s surface water quantity?

   c. Circle the best description for North Africa:
      - Mostly at risk of desertification
      - Mostly subtropical desert
      - Mostly cold winter desert

   d. Briefly explain how you chose the answer to question 5c:

   e. What – if any – similarities do the landscapes of Western Australia and North Africa share?

   f. Compare Interactive 2A and Source 7. Why do you think North Africa experiences water scarcity, while Australia does not?

Part C

These are the five main methods that can be used to overcome water scarcity:

- Desalination
- Interregional water transfer
- Recycling
- Stormwater harvesting and reuse
- Reducing water consumption

6. Working with a partner, select one of the ways to overcome water scarcity shown in Source 8.

   a. One of you will research how one method is implemented in Western Australia, and the other will research how another method is implemented in a country in North Africa.

   b. Go to your obook assess and download Worksheet 2B (T-chart). Use this to share your answers.