Water Works

Skill: Language Arts

Objectives

Students will:

- Understand that water is an essential element of our lives.
- Understand that it takes water to manufacture goods, to produce agricultural products, and to provide just about any other kind of service.
- Understand that the products we use or consume are available because other water users had the water that enabled them to provide those products.
- Appreciate the importance of a water source to a water user.
- Relate our present quality of life to the availability of water.

Background

Water works for people in many ways. Some ways are more obvious than others. For example, water is used for growing crops and raising livestock, for drinking, for washing dishes, and for bathing. Some uses are not so obvious: manufacturing automobiles and textiles, shipping grain down our country's waterways, and building homes.

Use the following "did you know" examples to make your students aware of the large amount of water used in the production of goods that people use and enjoy.

Did you know that it takes:

- about 1,800 gallons of water to produce the cotton in a pair of jeans and 400 gallons of water for the cotton in a shirt.
- 4,000 gallons of water to grow one bushel of corn.
- 11,000 gallons of water to grow one bushel of wheat.
- 135,000 gallons of water to grow one ton of alfalfa.
- four times more water to produce food and fiber than for all other uses of water combined.
- 1,000 gallons of water to grow the wheat and make a two pound loaf of bread.
- 4,000 gallons of water to produce a pound of beef, so it takes 1,000 gallons for a quarter pound hamburger.
- 16.5 gallons of water to manufacture a 12-ounce can of soft drink.
- 32,000 gallons of water to manufacture one ton of finished steel (the amount of steel in a typical car).

Water is an important ingredient in most manufacturing processes. The availability of water is often one of the chief limiting factors when a new industry is looking for a place to establish its manufacturing plant. A city that does not have a good water supply has little chance of luring new industries.

Vocabulary

- obvious
- livestock
- manufacture
- textile
- ingredient
- process
- lure
- industry
- consume
- agriculture

Materials

- Ball of string
- Scissor
- Marking pens
- Poster paper for identification labels
- Tape

Water Works

P.A.S.S.
4th Grade
- Read 1.1, 3.1b
- Oral 1.1,2, 2.1, 3.1

5th Grade
- Read 1.1a, 3.1b
- Oral 1.2, 2.1, 3.2

6th Grade
- Read 1.1a, 3.1b
- Oral 1.2, 2.3

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Read and Discuss Backround and Vocabulary

Procedure

- Ask your students to clear an area in the center of your classroom. Leave one desk or chair in the middle of the cleared area and tape a sign to it that says "Water."
- Ask your students to think of several different kinds of water users (a farmer, baker, a rancher). Have each student write what type of water user they are on a piece of poster paper and tape it to their body. You may want to write the different types of water uses on the blackboard.
- One at a time, have each student tie a string from himself or herself to the water chair and then move back five to ten feet. The string represents the water user's need for water. Continue this process until all of your students are connected to the water chair. See illustration No. 1 on the next page.
- Ask the person who started the activity to mention a few ways he or she uses water and what types of products or goods, if any, he or she grows or manufactures. For example: "I am a farmer. I use water to grow crops that are sold to mills. The mill grinds the grain into flour that is sold to bakeries that bake bread." Ask the other members of the circle to raise their hands if they use the products that a farmer produces. Connect another string from the water user (farmer) to the students who raised their hands. The teacher or teacher's aid should help connect the string to the students. Have all the members of the circle repeat the above process.
- Your students will now be connected to one another by many strings. This is when you can explain that water plays an important role in our society and that most of the goods and services available to us today use water in the production process.

Follow-Through

End this activity by asking the student with the most strings attached to gently pull on them. The tugging effect that is felt by the person on the other end of the string represents that person's reliance on both water and the product.

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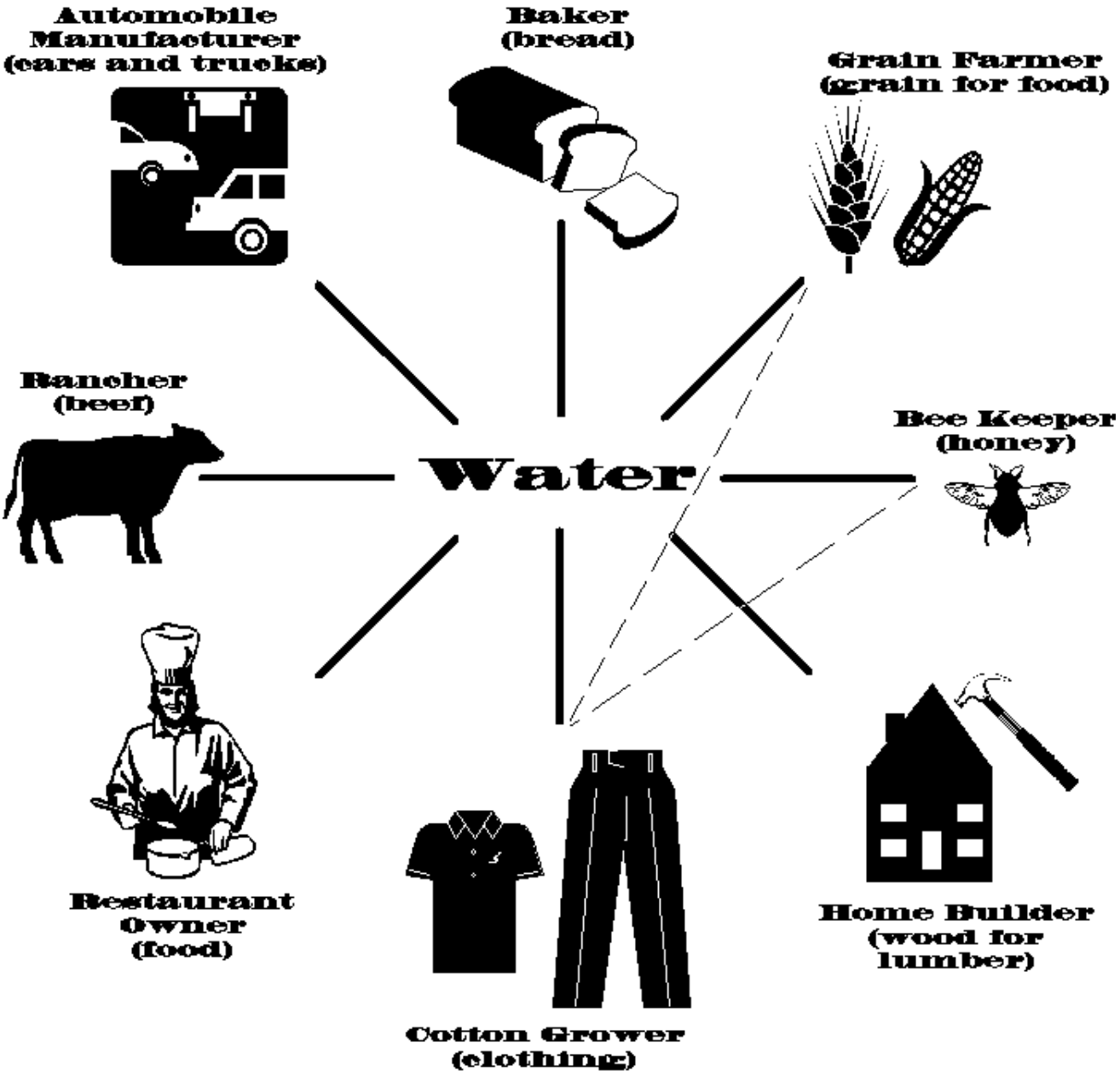

No. 1 Water web