Chesapeake AWWA
American Water Works Association

Water Tower Activity

This activity explores how engineers work to solve the challenges of a society, such as delivering safe drinking water. You'll use your engineering skills to design a structurally sound water tower.

Materials to Gather

- 12 jumbo craft sticks or 24 small craft sticks
- 10 straws
- 1 pair of scissors
- 2 cups
- 16-inch piece of string
- Tape
- Newspaper or large paper bag
- Rag or Sponge to clean up any spills

Activity

Goal- You are an engineer and it is your job to build a water tower that is structurally sound and provides water to the community.

Design Steps

**Because there may be spillage, cover your work area with newspaper or cut open a large paper bag.

1. Gather all of your materials
2. Looking at your materials, take a few minutes to think about your materials, and how the water needs to flow to reach the community. Design a structurally sound water tower that safely delivers water to the community.

Build – Using your materials, build your water tower.

1. The tower must be at least 16-inches away from the base of the tower.
2. The tower must support a flow of water.
3. The tower should have no leaks.

Test

1. Using a 3rd cup, slowly fill your water tower with enough water to flow to the community. ***Have a rag or towel available to clean up any leaks.**
   *You may need a second set of hands so ask a family member to help.

2. Now watch. As the water flows from the water tower to the community, think about the following:

- Is the speed of the water traveling slow or fast?
- Do you see any water leaking? If so, where?

Record Results

1. Observations – What is the speed of the water traveling to the community? Do you see any water leaking? If so, where?

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2. What parts of your design worked well?

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3. Did any part of your design failed, not work the way you expected it to?

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4. What would you do differently if you could rebuild your water tower?

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