

Monday, March 23, 2020 Calvary Cloud Connection

Traveling Water Experiment

Challenge: Pour water from one measuring cup to another without having the first cup directly over the second. First, Try it and fail. Then try again like this:

What you need

- 2 cups
- a long string (be sure to use cotton twine or strings that can absorb water. (Polyester strings won't do)
- food coloring (optional)
- water

Steps

1. Tape or hold one end of the string to the inside bottom of a cup.
2. Fill the other cup with water (and food coloring if you want) and put the free end of the string in the water.
3. Lift the cup with water up over the other, but not directly over it. Hold it far enough that the string is taut. Be careful not to pull the string out of either cup.
4. Slowly pour the water out of the top cup onto the string. Remember to keep it taut at all times. Observe what happens.
5. Now, soak the entire string in water and try again. You should be able to pour the water straight from the top cup to the bottom cup through the string.

Older children will want to know why this can happen.

This traveling water experiment has demonstrated two important properties of water.

Cohesion: Water molecules are attracted to one another and so they tend to stick together.

Adhesion: Water molecules are also attracted to molecules of other objects and so they tend to stick to objects such as a string.

When you first poured the water, although water molecules were attracted to the string, adhesion wasn't as strong as gravity pulling the water down.

But when you tried again after soaking the string in water, water molecules were not only attracted to the string, but they were also attracted to the water molecules in the string.

Adhesion and cohesion together prevented the water from dripping straight down. Instead, the water flowed along the string down to the bottom cup.

Now that you know about cohesion and adhesion, repeat this experiment using other liquids such as milk, juice, soda and see how cohesion and adhesion vary in each material. Use different types of strings to explore more.

Talk about the experiment. How good are you at following? Is it hard to follow the rules at home? At school? Can we get where we want to go without rules? Rules are good to help us get along with each other. Talk about the current rules about social distancing and about why they are so hard to follow.

Bible exploration: Following the rules

Luke 6:31 New Revised Standard Version (NRSV) known as the “Golden Rule”.
Do to others as you would have them do to you.

Matthew 22:36-40 (NRSV)

⁶“Teacher, which commandment in the law is the greatest?” ³⁷ He said to him, “‘You shall love the Lord your God with all your heart, and with all your soul, and with all your mind.’ ³⁸ This is the greatest and first commandment. ³⁹ And a second is like it: ‘You shall love your neighbor as yourself.’ ⁴⁰ On these two commandments hang all the law and the prophets.”

Older children will be able to discuss how these rules apply today in our current situations. They may want to use www.biblegateway.com to compare the various translations of the Bible for these verses.

Pray: God, sometimes it’s so hard to be strong. It’s so hard to follow the rules, to obey them. But we want to do what you want us to. We want to follow you. Help us to stick close to you. And help us to stick together as family today. Amen.

Sing: Peace Like a River. Make up some hand motions to go with it. Or use www.handspeak.com to find the American Sign Language signs for these words. Use the song as the “handwashing song” instead of Happy Birthday. (No splashing the walls during “joy like a fountain”!!)

I’ve got peace like a river, I’ve got peace like a river,
I’ve got peace like a river in my soul.
I’ve got peace like a river, I’ve got peace like a river,
I’ve got peace like a river in my soul.

Verse 2: I’ve got love like an ocean

Verse 3: I’ve got joy like a fountain

Additional learning:

Learn the definitions and spelling for:

Taut

Adhesion

Cohesion

Demonstration

Choose easier words for young children: water, string, cup

Learn the first four books of the New Testament in order: Matthew, Mark, Luke, John. Keep committing to memory an additional book each day.