VBS 2020 Science Experiments

Day 5 - Make a Walking Water Rainbow

https://www.youtube.com/watch?time_continue=334&v=_EZH4o-_c-E&feature=emb_logo

You will need: 7 wide mouth jars or drinking glasses, food coloring (the 3 primary colors red, yellow, and blue), water, scissors, and paper towel (the thicker the better!

Step 1: The Jars

Arrange the 7 jars in a line. Tip: it works best if the jars are the same height.

Step 2: The Water

Fill every other jar starting with the first about 3/4 of the way up with water.

Step 3: The Color

Add the food coloring. If you have the 7 jars arranged in a line, add a healthy squirt of red to the first and the last jar, yellow to the third jar, and blue to the fifth jar. Only the jars with water get the food coloring. So: red, skip a jar, yellow, skip a jar, blue, skip a jar, then red again.

Step 4: Fold the Paper Towels

Fold 6 paper towels in half and then in half again so you have long, thin paper towels. Really crease those folds! Next, fold one of the long paper towels in half length-wise so it's half the size. Depending on how tall your jars or glasses are, you'll want to cut a good inch or inch and a half off the end with scissors. You don't want the paper towels to stick up in the air too much. Repeat that step 5 more times with each of the remaining paper towels.

Step 5: Place Paper Towels in the Jars

Put one end of a folded paper towel in the first jar and the other end in the second jar. Take another and put one end in the second jar and the other end in the third jar. Repeat until you have a zigzag of paper towels going from the first jar to the last.

Step 6: Watch the Magic Happen!

The colored water is traveling up the narrow paper towel against gravity, using a process called capillary action. The water is pulled up through tiny gaps between the fibers in the paper towel, wicking each color up out of one jar and down into the next. The once empty jars are now filling up with the 2 colors from the jars on each side and mixing!

Science Involved

A rainbow is caused by reflection, refraction and dispersion of light in water droplets resulting in a spectrum of light appearing in the sky. It takes the form of a multicolored circular arc. Rainbows caused by sunlight always appear in the section of sky directly opposite the sun.

Bible Connection

In Genesis 9:13, God promised that He would never flood the earth again. He put the rainbow in the sky so that every time we see it we would remember that promise. He did that because He loves us that much!