

# water

**Activity Plans**

**Month: January 2020**

# Science

## Activity Title: Water Transportation

by Charmaine Attard Malta

**Aim:** Identifying materials that absorb water while making it travel from one cup to another.

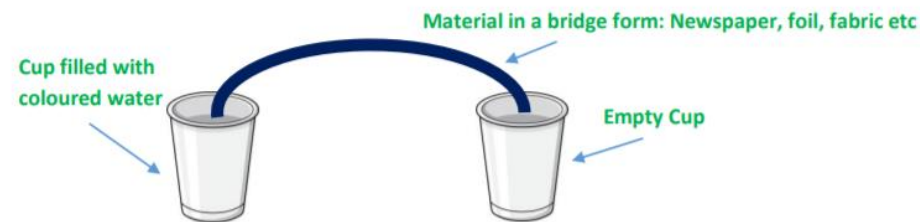
**Resources/Materials needed:** x8 cups (all same size), measuring jug, food colouring, newspaper, kitchen roll, fabric, plastic bag, foil, Chart, glue, marker.

### **Activity:**

**Step 1:** Introduction: introduce the activity by making reference to the objects in front of you. Ask children which items are in liquid form and which ones are solid forms. Let them predict by looks, touching and exploring. Ask children how you can make water travel from one place to another using the materials you have on display.

**Step 2:** Day 1: Give each groups 2 cups, a measuring jug, water, food colouring, newspaper, kitchen roll, foil, fabric, plastic bag. Through trial and error let students (preferably in groups) to try out their predications. Ask children about their predications and discuss

**Step 3:** Next at this point you introduce children to your experiment and explain how wet materials can help in transporting water. Allow students to get back in their groups and set up their experiments with all cups and materials. Experiment should look like the picture below .



**Step 4:** When finished with setting up, give children a piece of newspaper, foil, plastic bag, fabric, kitchen roll and ask students to stick on the prediction chart which materials they think would be good for transportation. Let them write their names (group name) under the materials they stick. Cup filled with coloured water Empty Cup Material in a bridge form: Newspaper, foil, fabric etc

**Step 5:** Day 2: Leave experiment over-night and the following day look again at the set ups without touching anything and discuss what they see. Record the work on the chart again in the section of 1 day and see if any predications have changed. Day 3: Repeat this step for another day.

**Step 6:** Day 4: Conclude the chart by evaluating the predictions from Day 1 up till Day 4 and discuss the results found during testing

# Science

## Activity Title: Will it Float or will it sink?

by Voudouri Georgia from Greece

**Aim:** Make a simple experiment, observe, take results collaborate record the results and make the conclusion of what materials float or sink.

**Resources/Materials needed:** Big bowls with water, various materials like cups, leaves, and pencils etc

### Activity:

- 1) The students in pairs choose 3 random and different objects from the classroom or the school yard.
- 2) They talk about materials and wonder if everything can float or sink.
- 3) The students say their opinion about different materials and their predictions about that.
- 4) They observe the three different objects made from different materials if they float or sink.
- 5) They take notes.
- 6) They announce the results of their investigation and they gather the results of all pairs.
- 7) They make two different panels and group their results .
- 8) They make conclusions about the initial question.

**Links:** [https://www.youtube.com/watch?v=eQuW8G2QV\\_Q](https://www.youtube.com/watch?v=eQuW8G2QV_Q)

OBJECT	MATERIAL	SINK?	FLOAT?
	WOOD		✓
	METAL	✓	
	PLASTIC		✓
	METAL	✓	

# Technology

## Activity Title: COMPARE WATERS

by Ayfer Ekiz from Turkey

**Aim:** To realize that the water evaporates and decreases. Take a picture for this.

**Resources/Materials needed:** computer, Interactive Board or Tablet, Cameras/video cameras for recording, Glass, Water.

### **Activity:**

**Step 1:** watch the video

<https://www.youtube.com/watch?v=s0bS-SBAgJI>

<https://www.youtube.com/watch?v=ncORPosDrjI>

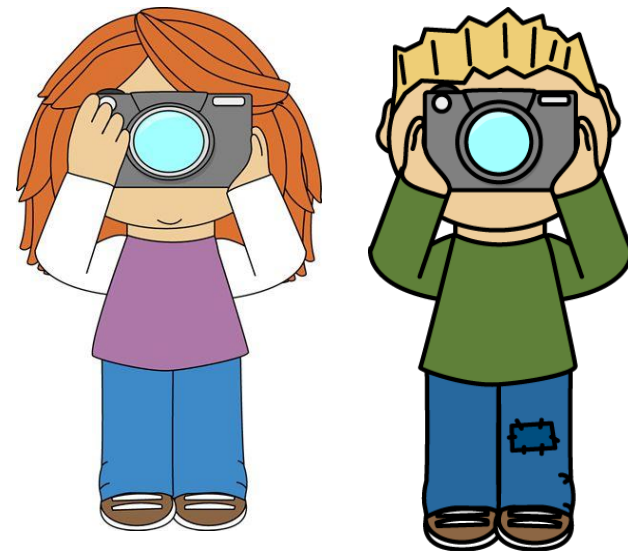
**step 2 :** Talk to the children about the videos watched. Provide insights into the importance of water and how the formation of water is happening.

**Step 3:** Give the children the glasses. Put some water in it. Take a photo.

**Step 4:** Put the glasses on the heater.

**Step 5:** After 3 hours check how much water has evaporated, ie reduced. Take a photo.  
watch the video <https://www.youtube.com/watch?v=VHW9GspGnYE>

**Step6 :** Compare the photos taken. How low is the water? Compare.



# Engineering

## Activity Title: Archimedes Screw

by Margarida Barbieri from Portugal

**Aim:** Design and make an Archimedes Screw

**Resources/Materials needed:** PVC pipe • Clear vinyl tubing • Duct tape • Containers for water • Food coloring • Scissors

### Activity:

**Introduction:** Who was Archimedes? Discussion with children about his inventions! Water normally falls downwards due to gravity. If you want water to go in another direction you have to apply pressure to it. Water from rivers and lakes is pumped under pressure to our homes. An Archimedes' screw is a simple machine (a type of pump) which lifts water up when it is turned. It has been used since ancient times. It is used mainly for lifting water from a lower to higher level, such as rivers or lakes, to irrigate fields, and also for draining water out of mines. Its name is from the person who is said to have invented it, Archimedes (287-212 BC). Archimedes was a scientist/engineer/mathematician from Sicily, who studied in Alexandria, Egypt. He is famous for many inventions and discoveries (including Archimedes' Principle – well-known in second level science classes!).

### How to do it:

1. Tape one end of the tube to the pipe
2. Tightly wrap the tube in a spiral
3. Cut off the extra tubing
4. Fill the lower container with colored water
5. Rotate the screw and watch the water travels up the tube
6. Measure the water in the upper container

### Links:

<https://www.youtube.com/watch?v=3h5oBb9O-dw>

<https://www.youtube.com/watch?v=PszGCm1PqSo>



# Arts

## Activity Title: Let's Make a Liquid Rainbow

by Nurten Ozel from Turkey

**Aim:** To understand that different colored waters will not mix with each other due to the difference in density.

**Resources/Materials needed:** 6 cups , 1 liter of water, Food color (red, orange, blue, purple, green and yellow), Syringe (needle of syringe will not be used), A thin & long glass container, Dessert Spoon, Wooden stick

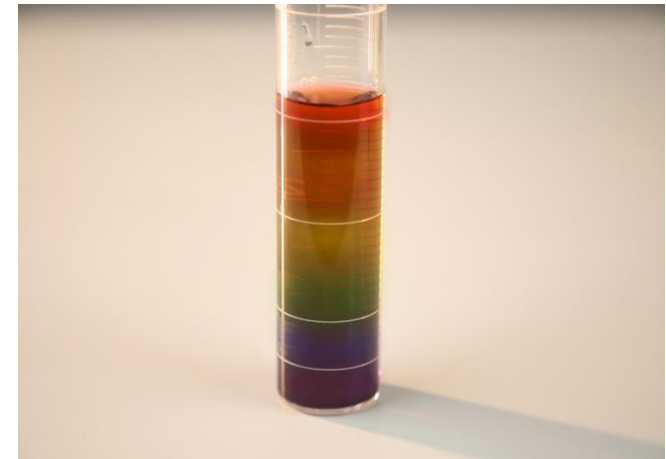
### **Activity:**

We put an equal amount of water in all glasses. We add a different color of food color to the water in each container. Then we add different amounts of sugar to the cups. Thus, we obtain water mixtures of different densities. We distinguish sugary water mixtures of different densities by coloring them with food colors of different colors. (the density of food dyes is approximately the same).

Since the amounts of water in the cups are equal, the concentration of the sugary water mixture in the cup to which we add the most sugar is highest and the concentration of red water without sugar is lowest. Other densities of sugary water mixtures increase with the amount of sugar in them. In this activity, we put different densities that we prepared in the colors that make up the rainbow into the same container. The highest density color was at the bottom. Sugary water mixtures of other colors are ordered from bottom to top having a higher density than the following. So we have a rainbow of liquids of different colors.

### **Links:**

<https://www.youtube.com/watch?v=pkD1siJ1F7c>



# Maths

## Activity Title: Exploring Volume

by Barbara Trivelli from Italy

**Aim:** Learning about the concept of volume, size, and capacity, comparing various containers in a practical way. This simple measurement and maths activity is a fun way to introduce volume to pupils and it also includes great fine motor skills practice..

**Resources/Materials needed:** ● Plastic 1 or 2 Cup Measuring Container ● Plastic Pitcher of Water ● Funnel ● Food Coloring ● Variety of Containers in Different Sizes and Shapes ● Tray and Paper Towels (To Catch Spills)

### **Activity:**

**Step 1.** Fill a plastic pitcher with enough water the pupils can manage pouring. Add food coloring, it helps kids to better see the volume of water in each container. Place a variety of containers (bottles, food storage containers, cups,...) on a tray or table. You can also set out a funnel to use with the water bottles.

**Step 2.** You can try out the activity two ways: 1st: ● Pour water from the pitcher into the measuring cup. ● Pour the cup of water into the water bottle with the help of a funnel. ● Pour that water bottle into the next smaller water bottle. ● Continue with all containers. 2nd: ● Pour one cup at a time from the pitcher into each container

**Step 3** Kids can easily compare and contrast the results and discuss what they see in regards to the volume of each container.

**Step 4.** If you have used some larger containers, you can extend the activity by asking the kids to see how many more cups will fit into each of the containers. Even if a container overflows, it is a great opportunity to show what happens when the volume of water is greater than the volume of the container!

**Step 5.** What Is Volume? Young kids learn by exploring, observing, and figuring out the way things work by doing. Kids will learn that volume is the space a substance or object takes up or that can be enclosed in a container. Kids will be able to observe the differences and similarities among the containers when they pour the water and compare the results.

### **Links:**

<https://www.ashleigh-educationjourney.com/monday-math-stations/>

<https://i.pinimg.com/originals/0d/57/4d/0d574d8e413fb112e7dbda814d8c69f7.jpg>

<https://littlebinsforlittlehands.com/volume-science-experiment-stem-activity/>

