

TARWATER ELEMENTARY SCHOOL STEM LAB

Activity ID: Q-5

Activity Name: Liquid Rainbow

MATERIALS:

Materials Provided in Bin:

Item:	Quantity:	Notes:
Lesson Plan		
Jars		
Food Coloring		
Straws		
Cups		
Salt		

Materials In STEM Lab or Classroom (Common Items):

Item:	Quantity:	Notes:
Colored Pencils, crayons, or markers		
Water		

TEACHER PREP:

In quart jars or other containers, prepare the liquid densities ahead of time. Add clear water and food coloring to each of the jars. Add a different amount of salt to each one. Keep

track of how much you added to each, but do not tell students the ratios. The most one quart jar can hold before it is super saturated is 3 quarters of a cup of salt. Work your way down from there: $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, and no salt in the fifth container. Stir well after each addition of salt. (Do not make the one without salt the clear sample, as it is too obvious.)

WHAT ARE WE DOING?

Making a liquid rainbow

SCIENCE TERMS:

Density, Capillary action

STEPS:

Each group gets 6 cups(five to hold different liquids and one to be used as a waste cup

Select 2 solutions randomly

Draw a small portion of the first solution into a straw. While holding the solution in the straw by keeping your thumb over the other end, lower the end of the straw into the second solution.(This is called capillary action.) Draw a sample of the second solution into the straw. Wait for a

few seconds to see which color will end up on the top of the other. Record your observation. Put the solution in the straw in the waste cup. Take another straw and do the same experiment with another two solutions until you have done all the possible combinations. Whichever solution rose to the top was less dense than the other solution.

QUESTIONS TO ASK STUDENTS:

What would happen if they were the same density.

You might want to try with different liquids such as apple juice, oil, milk, etc.

CLEAN-UP:

Into the Bin = Lesson, cups, salt, straws, jars, and food coloring.

Back to Lab/Classroom = Colored Pencils, crayons, or markers

Trash/Recycle = Colored solutions, used cups and straws

**IF RUNNING OUT OF A SUPPLY IN THE BIN, PLEASE
CONTACT LAURIE JONES IN THE OFFICE (X4307)
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