Floating Letters!

By Marilyn Duerst

Introduction:

Have you ever wondered how the letters on small, round, colored candies got there? Are they safe to eat? Instead of eating those candies, let's try some experiments with them! Find an adult to help you with the warm water and clean-up. Be careful!

Materials:

- **Bag of M&M's and/or Skittles**
- **Several small plastic bowls**
- **Very warm water**
- **Stir sticks or plastic spoons for stirring**

Procedure:

1. Put about 1 cup of very warm water into each of three small bowls.
2. Add 3 red M&M's to one bowl, 3 blue M&M's to another and 3 yellow ones to a third. You can also choose any other colors of Skittles or M&M's, except for brown.
3. After about a minute, what has happened to the 'm' or 's' letters? What other observations can you make about the water in each bowl?
4. Using a spoon, take a spoonful of water from one bowl and put it into a clean bowl. Add in a spoonful of water from one of the other bowls and stir. What do you observe about the water?
5. Using a spoon, make other mixtures and record the results.

SAFETY SUGGESTIONS:

All of Milli's Safety Tips – Safety First

Where's the chemistry?

The letters on the M&M or Skittles candy do not dissolve in water and are adhered to the candy with an edible glue that dissolves in warm water. Since the letters are less dense than water, the letters peel off and float as the rest of the candy shell dissolves.

The colored dyes of the candies will color the water. Objects that are red absorb most of the colors of visible light EXCEPT red, which is reflected to our eyes. Objects that are blue absorb most of the red and yellow colors of light, and reflect blue light to our eyes. If you mix the two, only violet light is reflected to our eyes and the water looks purple.

Yellow objects absorb violet light, and blue objects absorb red and orange light, so the mixture of yellow water and blue water looks green, the only color in the visible light spectrum that bounces back to our eyes.