

BUBBLE COLORS

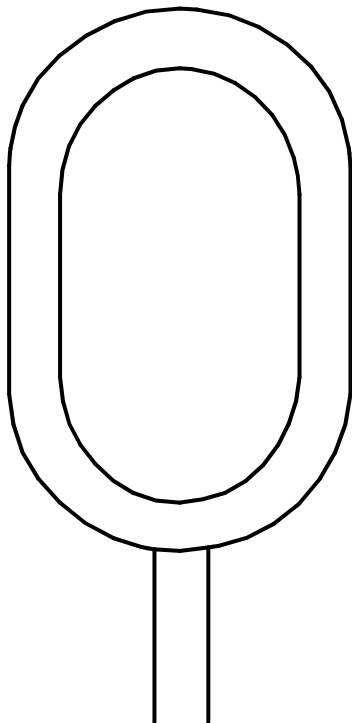
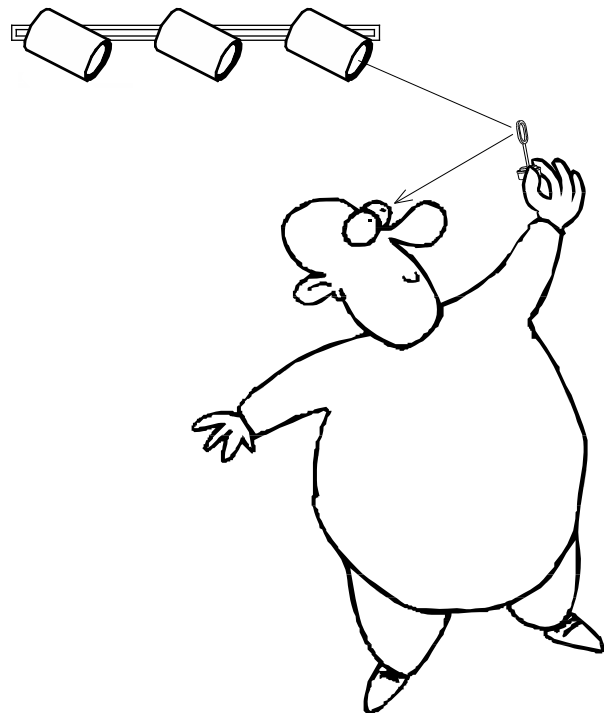
Where do the colors in soap bubbles come from? Let's see!

What You Need: Soap bubble solution and the wand that's in the bottle, as well as a lamp or mounted wall light. You will also want to get some colored pencils or crayons.

What To Do:

With your back to the light, dip the wand in the bubble solution.

Reflect the lamp light in the bubble wand so you can clearly see colors in the soap film. Observe the pattern of colors that forms.



OBSERVATIONS:

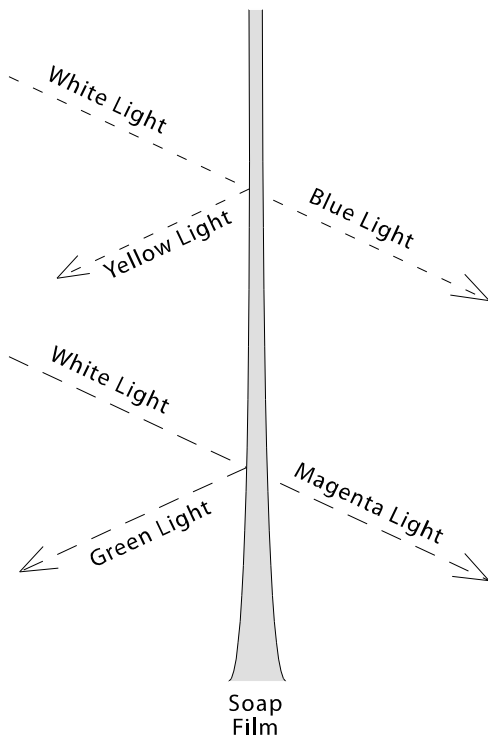
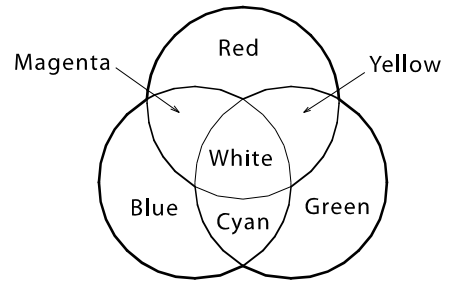
What does the pattern look like?
Sketch it into the wand picture at left.

Use colored pencils or crayons to
indicate the colors you saw.

Back to the colors in soap films in a moment. First a word about

The Color Wheel

White light can break into many colors.
If blue is taken out of white light, you get yellow.
If green is taken out of white light, you get magenta.
These are **complementary colors**, and are on opposite sides of the color wheel.



Where do the color patterns in soap films come from?

When white light strikes a thin film, such as a soap bubble, blue may pass through, while all the other colors reflect off. These other colors form blue's complementary color, which is yellow.

Which colors will pass through the film? That depends on how thick the film is in that spot. Soap film gets thicker near the bottom of the wand.

Ever notice the colors on an oily puddle? The oil film on the puddle works the same as the soap film here. Different colors mean different oil thicknesses.

Check Question: Suppose only red light passes through a soap bubble. What color would be reflected?

BUBBLE WATCHING:

Go outside and blow some bubbles. Watch the colors that appear in the bubbles.

What happens to the color in the top of the bubble just before it pops?

