

Inquiry Approaches

Initial Inquiry

What are some examples of colours that are important in everyday life? Where do you see them?

Green, yellow and red are seen on traffic lights and tell us when to go and when to stop. Stop signs are red. Fire trucks are red. Police cars have blue and red sirens.

What different materials do you use to colour?

Paint, markers, coloured pencils, crayons and chalk are all used to colour.

What are some examples of primary colours? Of secondary colours?

The three primary colours are red, blue and yellow. Secondary colours include green, purple and orange.

Experimental Procedure Inquiry

Which materials in this activity have different textures?

The soap crayons have a very different texture than the puff paint. The crayons are waxy and lumpy, and the puff paint is soft and foamy.

What colour do you think you will get when you mix red and blue food colouring together? Red and yellow? Blue and yellow?

Red and blue make purple, red and yellow make orange, and blue and yellow make green.

Why didn't anything happen when water was added to the milk and food colouring?

Water does not have the same properties as soap and therefore cannot disrupt the surface tension of the milk.

Why did the colours in the markers separate in the coffee filter paper?

Some pure colours are able to travel further up the coffee filter than others, allowing markers made up of pure colours to separate into their colour constituents. For example, orange separated into yellow and red and the yellow was able to travel further than red as the water went up the coffee filter.

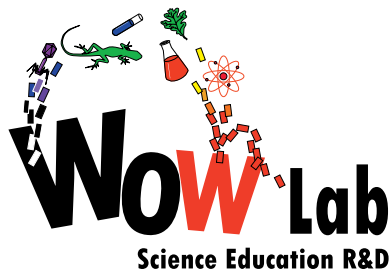
How does the *Puff Paint* stay puffy, even after a long time?

Shaving cream is foamy because it has lots of tiny air bubbles. Normally the bubbles in shaving cream disappear over time and it loses its puffiness. The glue added to the shaving cream dries before all the bubbles have popped, allowing the shaving cream to stay puffy.

In-Depth Inquiry

How do you make secondary colours from primary colours?

The three primary colours are red, blue, and yellow. Secondary colours are made by combining two primary colours. For example, blue and yellow are mixed to make green.



a WOW Lab

BLUEPRINT

Colourific - Inquiry Approaches

How were the properties of the starting materials changed during the activities?

The surface tension of milk was disrupted by the addition of soap. A white, smooth bar of soap was turned into coarse and colourful crayons. Foamy shaving cream and sticky glue were turned into a dry, colourful, puffy mixture. The ice cubes melted to make coloured water, and the markers were separated into their primary colour components.

Was the *Swirly Whirly Milk* activity an example of physical or chemical change?

The disruption of the surface tension of milk is not a chemical change, but a physical change in the organization of the fat molecules in milk.