Discover at home KIDS
HAMILTON PUBLIC LIBRARY

DANCING RAINBOWS SCIENCE EXPERIMENT

A colourful science experiment that explores surface tension using milk, food colouring and dish soap.

This week's activity: Dancing Rainbows

Dancing Rainbows

Suggested Materials:

- Shallow bowl or plate
- Milk
- Food Colouring
- Dish Soap
- Cotton swab

Directions:

1. Pour milk onto bowl or plate until it covers the bottom.
2. Add a few drops of food colouring to the milk (you can use assorted colours or the same).
3. Soak the end of a cotton swab in dish soap.
4. Gently touch the centre of a spot of the coloured milk with the tip of a swab soaked in dish soap. Hold down the swab for a few seconds to see what happens.
5. Try other colours doing the same and then remove.
6. Watch as the colours dance around like fireworks, even after the cotton swab is removed.

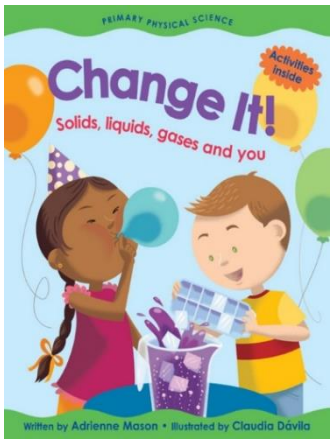
What is happening in this experiment? Here's the science behind it:

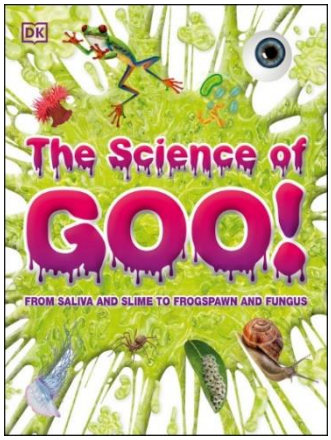
Milk is made up of water, proteins and fats. Soap is a non-polar molecule. When soap is added to milk, soap molecules bond with the non-polar fat molecules. This causes the fat and soap to be carried quickly across the surface of the polar water molecules, creating dancing effects of fast-moving colour. The more fat in the milk, the faster the colours swirl.

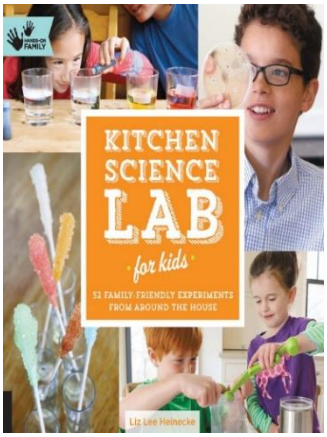
Try experimenting with 1% or whole milk or warm milk versus cold milk. Does this change the speed of the swirling effect?

Links to eResources:

Check out our eBooks on these topics:







Liquids | Science Experiments | Kitchen Science

Watch cool science experiments in action on KanopyKids – *Science Max Season 3*

You can get a library card at hpl.ca/register-online.

If you would like to share one or all your creations, please take a picture and post it to social media using the hashtag, #HPLmakesomething.

Hamilton Public Library
FREEDOM TO DISCOVER
#HPLmakesomething
hpl.ca/kids