Rainbow Milk

Last week you learnt about dishwashing liquid and how it can break something called surface tension. You found out that it mainly contains two parts: one part that is attracted to water and one part that isn't.

For this week's activity, we thought it would be great if you explored dish washing liquid a little more. This time around, you are going to be creating your own colourful pieces of art in just a few simple steps.

ADULT SUPERVISION REQUIRED – Before collecting any materials you must get adult permission, particularly as some dangerous cleaning substances could be near the materials you need. Additionally, you must check you are not allergic to any of the resources listed below. Food colouring can stain surfaces in the kitchen!

Suggested instructions:

Equipment and resources

- Plastic bowl or round container.
- ½ a cup of milk.
- Dishwashing liquid (Check with an adult).
- Cotton buds.
- A few different colours of food colouring.

Steps:

1. Pour some milk into your bowl. Be careful to keep the milk as still as possible.

2. Put one drop of each of your colours in different places in the milk (Don't mix the colours).

3. Dip a cotton bud onto some dishwashing soap.

4. Touch the cotton bud onto one of the colours and watch what happens.

5. Repeat with the other colours using a different cotton bud.

6. What's happening? What do you see? Why do you think this is happening?

Thinking time:

- Dishwashing soap breaks up fats. Milk contains lots of fat and when you put food colouring onto it, the colouring just sits on the top. When you introduced the dishwashing soap, the fats in the milk started to break up and move. This is what caused your colours to move in the bow.

Follow up:

- Why not explore the effects of temperature and types of milk. For example, does warm milk have a slightly different result than cold? Does whole fat milk have a different result to skimmed?
- Try recreating the milk rainbow using 2Paint a Picture.