Magic milk-

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<u>How does this Science Experiment work</u>? The soap breaks the surface tension of the milk causing the colours to move.

Explanation of surface tension-

let's first understand the "concept" behind surface tension ourselves. Water molecules (or any liquid for that matter) attract each other. That is why liquids don't just fly off like gases.

But the poor surface molecules don't have others to cling to, like the rest of them on the inside. So, they are attracted even more strongly to the ones nearest to them (directly below them).

Because they are trying so hard to stick with the rest of the liquid, the surface molecules create a "barrier" that doesn't allow things to penetrate and fall inside the liquid. This phenomenon is what scientists call "surface tension."

To show what we mean by surface tension, you can float a paper clip on water or you can sprinkle pepper powder on some water and then touch it with a soapy finger! The pepper will move!

Dancing raisins-

Dancing Raisins Science Experiment for Kids

How does this Science Experiment work?

When you first drop the raisins in the soda they sink to the bottom of the glass because they are more dense than the soda. But the carbonated soda releases carbon dioxide bubbles and these bubbles love to attach to the rough surface of the raisins. They act like tiny floatation devices that lift the raisin to the surface of the water. This is due to an increase in buoyancy.

Once the carbon dioxide bubbles reach the surface of the soda they pop and the gas is released into the air. This makes the raisin lose buoyancy and fall back down to the bottom of the glass.

This continues until all of the carbon dioxide has escaped and the soda is flat.

Walking rainbow-

Bing Videos up to 31 seconds.

How does this Science Experiment work?

The paper absorbs the coloured water and the colours mix. There is lots of scope for the children to explain this to you as it is an easier concept for them to grasp.

Baking soda balloon-

Bing Videos 6 minutes but you can speed through!

How does this Science Experiment work?

This is all to do with states of matter- solid, liquid and gases- I think the video explains it well.

Rainbow rain-

Bing Videos

How does this Science Experiment work?

This is linked to concept of density-

Hypothesis/Question: Do oil and water based colours mix? What happens with the oil mixture if you pour it in water? What will happen to the colouring drops?

Explanation: Water/water based colours and oil don't mix. Water is denser than oil so the oil will float. The molecules of water attract each other and oil molecules stick together too. When the mixture sits on top of the water the colour droplets start to drop down in the water because they are heavier than oil. These will mix with the water eventually and the clear oil will float on top.

Applicability and everyday examples of density: oil spills in the ocean, a cork fishing float

Skittles and milk-

Skittles Experiment: Cool Science for Kids (and Why It Works!)

How does this Science Experiment work?

This experiment explores the chemistry concept known as the *concentration gradient* – that is, that chemicals move from areas of higher concentration to areas of lower concentration in an attempt to equalise the concentration.

As the Skittles start to dissolve in the water, they send the coloured sugar outwards in an attempt to equalise the concentration of sugar in the water. The colours do not mix however as the same amount of sugar has dissolved from each Skittle – the concentration of sugar is already equal.

Invisible ink-

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How does this Science Experiment work?

The lemon juice weakens the paper fibres and turns brown when heated due to oxidation. (this might be worth trying first to see how good the results are!)

Oobleck- magic cornstarch slime

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How does this Science Experiment work?

Oobleck is a non-Newtonian fluid which means it's viscosity changes under pressure.

Viscosity is- the state of being thick, sticky, and semi-fluid in consistency, due to internal friction

Best done outside in a tuff spot on a table with the children wearing aprons- if you add food colouring be careful with red!! Then it's easy to wash it down a drain and leave outside to dry. If the children get it on them, it will brush off if left to dry too.