The liquid-solid mixture mystery

What happens when you mix something solid with something liquid? Think about these different examples before following the recipe for a mixture that's surprisingly weird...

BAKING Flour (solid) + Water (liquid)

= Dough (solid)

MAKING A DRINK Milk (liquid)

+ Cocoa powder (solid) = Hot chocolate (liquid)

PAINTING Paint block (solid)

+ Water (liquid) = Paint (liquid, then dries solid)

Could something be liquid then solid again and again?



Weird mixture recipe

Pour a cup of cornflour into a bowl.

Slowly add half a cup of water.

Using your fingers, mix the two together until you CAN'T see any dry lumps.

If it feels VERY runny, add more cornflour.

Put your mixture to the test

Tip the bowl slowly from side to side.

How does the mixture move? Hit the top with the back of a spoon.

Does the spoon sink in or bounce off?

Squeeze some mixture in one hand. Does it feel firm?

Roll some mixture between your hands into a ball. Drop it back into the bowl...



What happens if I open my hand?



Explaining the mystery

Cornflour is a solid made up of lots of tiny particles. They spread out in water, BUT they don't fully DISSOLVE.



When you squeeze, hit or roll the mixture, the cornflour particles clump together. That's why it seems SOLID.



If you move the mixture gently or leave it to rest, the particles slide over each other. This makes it look and feel like a LIQUID.















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