**2. Mixing two things to make new things.**

When chemicals dissolve, they particles that they are made of separate. Adding another dissolved chemical means different combinations of particles can be made – and sometimes they are different colours, or they don’t dissolve.

**Instructions:**

1. The squeezy plastic droppers have markings on the side – each mark measures half a mL of liquid. Use one to draw up 2mL of one of the chemical solutions from Group A, and squeeze the liquid into an empty well in the plastic reaction tray.
2. Use another dropper to put 2mL of a solution from Group B in the same well – any changes?
3. You have five more wells to use for different combinations, but you will only see a reaction if you mix one from Group A with one from Group B (and maybe not even then)
4. How many reactions can you make?
5. When you have used all the wells, tip the liquid chemicals into the waste bucket, and put the used tray in the bin.

**What is happening?**

When a particle from one dissolved chemical reacts with a particle from another dissolved chemical to make something which does not dissolve (and so a solid is formed), this new solid is called a precipitate. The unused particles stay dissolved (or they might form a different solid precipitate mixed with the first).

Sometimes the new substance formed has a different colour, too, and so you see a coloured precipitate.

Troubleshooting:

Use a separate dropper for each chemical – otherwise the reaction might happen inside the dropper, or even in the storage bottle!