

Potions



My four year-old son loves filling our bathroom sink with water and adding drops of food colouring. This often extends to toothpaste, shampoo, or whatever else he feels like adding to the mix. At first, we just randomly added things, mixed it together with a giant spoon and observed the effects of our strange brews.

After we were done playing this game one day, I took out a sheet of paper and four markers to match the colours of food colouring Jesse was using (red, blue, yellow and green). I started listing different two-colour combinations and asked Jesse for ideas on what these may look like. I did have to ban a couple of his more graphic suggestions, but he had great fun with this. At first, I made no attempt to choose the colours in a systemic way, but soon he was having trouble finding combinations we haven't already used. So we then discovered that maybe working in this way had a purpose.

We asked ourselves the following questions:

- Which combinations have we used? I noted we had already used red with blue, red with green, red with yellow - then I let Jesse take it from there.
- Which combinations were left? At this point, I noticed we have only two combinations that started with blue.
- I asked Jesse whether mixing red and yellow had the same results as mixing yellow and red. He believes the results would be different.
- Would combining red with red be any different than just having plain red? Jesse thought it would be different.

As Jesse worked all this out, I encouraged him to stick with two-colour combinations for the time being. I'm curious to see what strategies he'll use to find all the colour combinations the next time we try this game. We also look forward to introducing new colours to the mix.