

# May Dose of Discovery: Week 3

## Extension Activity: Surface Tension Art

### Learning Points:

- Children will have the opportunity to discover and apply certain properties of water that are involved in creating colorful artwork.
- Children will be able to experience, in a very sensory-rich and creative way, how cohesion results in the force of surface tension in water.

### Materials:

- Cheese grater
- Different colors of chalk and nail polish
- Wide dish full of water
- Toothpicks and plate
- Several pieces of paper (art paper works best)
- Teaspoon of vegetable oil
- Small bowl of water

### Activities:

**Step 1:** Use a cheese grater carefully to grate some different colors of chalk into a wide dish of water. Stir the chalk around with a toothpick to mix the colors a little. Lay some paper on the water for a few seconds then lift it off. Leave it to dry.

The surface of the water holds together like a skin because of surface tension. Chalk dust is light enough to sit on top of this skin, but when you lay paper on top, the chalk sticks to that instead and the pattern transfers to the paper.

**Step 2:** Carefully grate some more chalk onto a plate. Add a teaspoon of vegetable oil to the dust and mix them well. Using a teaspoon, drip the chalky oil onto a wide dish of water. Swirl the chalky oil gently with a toothpick. Lay some paper on the water then lift it off and leave it to dry.

The chalky oil spreads out on the surface of the water – and stays on the surface, even if you swirl it, but when you lay the paper on top, the chalky oil sticks to that instead, transferring the pattern.

**Step 3:** Now try pouring some water into a small bowl and adding some drops of nail polish in different colors, like in this picture. Gently drag a toothpick through the nail polish to make a heart shape. Lay some paper over the top, then lift it off.

The oil drops spread out on the water's surface, pushing away the chalk dust in circles. You can see the oily circles when you transfer the pattern to the paper.

**Step 4:** Use the cheese grater again to carefully grate some chalk over a wide dish of water to make a thin layer of chalk dust. Add some drops of vegetable oil over the chalk and wait for a minute. Lay a sheet of paper on the surface then lift it off and leave it to dry.

