Marble Painting

Best for Ages	Workspace	Is electricity required?
4+	Anywhere!	No

Description

Did you know you can paint without a paint brush? Marble Painting is an exciting way to explore art and science with materials you have around the house.

Materials

- **Rolling material:** marbles, ping-pong balls, golf balls, small rocks, golf ball
- **Container to hold painting**: baking pans, cardboard box, plastic container, shoe box
- **Paper:** copy paper, cardboard, construction paper, paper towels, napkins
- **Painting mediums:** paint, ketchup, shampoo, conditioner, honey, ranch dressing

Concept Explored

- Viscosity

What to Do

1. Place your paper in the container (baking pan or shoe box/tray).
2. Set out different types of painting mediums. Try to have 3-4 so you can compare and contrast the patterns that are made by different mediums. If you are only using paint, you can dilute with varying levels of water to change the viscosity.
3. Submerge the rolling material in the painting medium and drop it into the tray.
4. Pick up the tray and rotate it or shake it to make your rolling material move over your paper. What patterns can you make?
5. Try other painting mediums and see how the different weights of the rolling materials affect your mark making.
6. What's the thickest line you can make? Can you make shapes with your rolling material without touching it?

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Troubleshooting Tips

- Use a tub of water to clean the marbles and a cloth to dry them before using them for more painting.
- Spilled paint? No worries, science is messy! Keep damp rags on hand for easy clean up.

How does the marble roll in different paint materials?

Does the type of rolling material you use make a difference in your design?

What happens if you add warm water to some of the paints?

What is Happening?

- **Viscosity** is a liquid's resistance to movement. The thicker the liquid, the greater the viscosity. Liquids such as honey are very viscous. They drip slowly and thickly. Substances like water and juice have a low viscosity. They flow quickly and thinly.
- By using different rolling materials, you are testing out how the viscosity of the paint material interacts with the rolling material. DId you notice how some paint materials allowed the ball to roll quickly and easily while others make the ball move slowly? What does that tell us about the viscosity of that liquid? Does the weight of the ball make a difference in how it rolls through the liquid?

Taking it Forward

- **Connecting this activity to the real world:**

What other viscous materials do you have around your home? Is there anything that is thick and runs slowly?

- If you like this activity, try our activity Mosaics, another fun activity where art and science collide!
- **Learn more about this activity at your local library:**

How Science Works by Judith Hann

Mandy Mixes it up with States of Matter: Solids, Liquids, and Gases (Science Alliance) by Gallopade