LESSON 8: ABSORPTION ART

SUPPLIES

FOLDER
- Printer paper (15)

MAIN BIN
- Cups (8)

LESSON KIT
- White Felt Squares (15)
- White Cotton Squares (15)
- Water Color Paper (3 sheets, cut into 6 squares each)
- Q-tips (~200)
- Water color paint (3 pallettes)

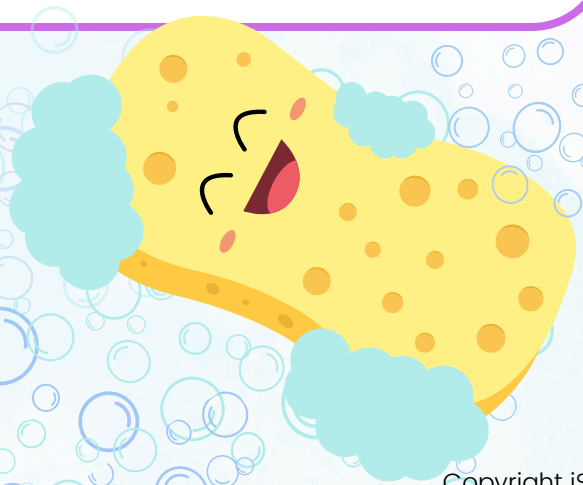
OBJECTIVES
- [x] Understand the property of absorption
- [x] Use the science of aborption & knowledge of different materials to create art!

HOOK
2-3 min

Ask the students: What would you do if you spilled water at home? How would you clean it up? Would you use something like a sponge, a paper towel, or a cloth towel?

Why would you use those materials? Because they are great at "sucking up" liquids!

Today, we are going to learn how these same ideas are used to create art.



INTRODUCTION
2-3 min

Absorption is when something soaks up or takes in something else. Think about a sponge. When you spill water on the table and use a sponge to clean it up, the sponge absorbs the water, or, it soaks it in! The water goes into the sponge, which is why adding water to a dry sponge makes it bigger.

Our bodies absorb things too! When we eat food, our stomach and intestines absorb the nutrients, like vitamins and mineral, from the food we eat so we can grow and stay healthy. Plants also use absorption. Their roots absorb water from the soil to help them grow. So, absorption is like a big "drink up!" moment, whether it's a sponge, a plant, or even you!

COLOR FACTOR
This experiment shows the difference in materials and their ability to absorb colorful liquids.
- Just like water is absorbed into a towel, paint (and therefore color!) can be absorbed into the paper or canvas it is applied to it.
- Absorption can affect how bright a color is, the texture of a painting, or how colors blend together.
  - This is just one way that scientific concepts are important to artists!

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DISCUSSION

2-3 min

Discuss with children the following:

- What is a scientific word for 'soak up'?
  - Answer: Absorb
- What is absorption? Have the class work together to come up with the definition.
  - Answer: an object's ability to “soak up,” or take in, other substances.
- Brainstorm some materials that might absorb liquids (such as towels, sponges) and some materials that might repel liquids (ex. plastic, raincoats, metal)

Explain that today, we will do an experiment to see which material absorbs watercolors the best. We will use our findings to create artwork.

Show students the materials. Discuss as a group which material you think will be most absorbent. What do you think this will mean for our colors? Poll the room, asking who thinks the following materials will be the most absorbant: **Felt, Cotton, Watercolor Paper, Printer Paper**

ACTIVITY

30 min

1. Break students into 3 groups/tables. To each table, pass out one water color palette and a few cups of water.

2. Explain to students that they will be creating abstract paintings out of dots.
   - We will be using dots because it will be easiest to see how the color is absorbed that way.
   - We will apply the dots by dipping q-tips in water, then dipping them in the paint and dotting our material.

3. Choose a material to start with (felt, cotton, water color paper, printer paper) and give each student a square of that material plus 5-10 q-tips. Instruct them to write their name in pencil or pen/marker on the back.

4. For each material, give students about 5 minutes to create their abstract art piece. Remind them not to use too much paint, or the effects will not be as clear.

5. Once they have finished their artwork on one material, move it to a drying station. Pass out the next material, and give them another 5 minutes to create a piece. Do this for all four materials!

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TEACHER TIP

Results from the experiment may vary, depending on the brands you have chosen.

- The felt should be the most absorbent (darkest colors, all liquid absorbed)
- The white paper was the least absorbent (lightest colors, some standing water).

The colored dots should expand as they're absorbed. When two colors are put next to each other, they should bleed and create a new color. How much they bleed depends on the material.

ART CONNECTION

Explain that absorption is very important to artists. Ask students if they can think of the difference between acrylic ("normal") paint and water color. Why might an artist choose one over the other?

Most paint sits on top of the canvas, but water color paint is absorbed into the canvas.

Artists choose their materials based on what they want the final piece to look like. Understanding the science of absorption can help you to make art!

OBSERVE & EXPLAIN

5 min

Ask children to record/discuss:

- What happened to the material when you added liquid?
- What happened to the colors when they were absorbed?
- How bright or dull are the colors?
- How much paint was absorbed and how much sat on the surface of the material?

Ask children to share their findings:

- What material absorbed the most water/color? Which material absorbed the least water/color?
- What happened on different materials? Did the colors mix?
- Why do you think some materials absorb more than others?

These materials are all made of **fibers**. The fibers have molecules made of cellulose, which water molecules like to cling to. As the dots are added to the paper, the water (and color) molecules cling to the cellulose and are soaked up, or absorbed, by the material.

Different materials have different structures of their cellulose fibers. More absorbent materials have cellulose fibers which contain empty spaces, or small air bubbles between them.

As the water (and color) are added to the material, they cling to the cellulose fibers and fill the empty spaces between them. This Is what we see when the color expands or is soaked into a material!

Exit Ticket

Ask each student the following questions as they walk out the door.

- Q: What does the word **absorption** mean?
  - A. absorption is an object's ability to "soak up," or take in, other substances.
- Q: which was more absorbant between the felt and the printer paper?
  - A: the felt
- Q: What materials are best when it comes to cleaning up messes?