SLIME TIME

ELEMENTARY SCHOOL LEVEL 1

Oozing, gooey, fun for all. Homemade slime is a winner with kids. Put down some wax paper to make cleanup quick and easy.

EDUCATIONAL STANDARDS:

NGSS CONNECTION:
5-PS1-4. Conduct an investigation to determine whether the mixing of two or more substances results in new substances.

5-PS1-2. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.

COMMON CORE CONNECTION:
ELA/Literacy
W.5.7 Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.

W.5.8 Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.

W.5.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.

Mathematics
MP.2 Reason abstractly and quantitatively.

MP.4 Model with mathematics.

MP.5 Use appropriate tools strategically.

5.MD.A.1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real-world problems.

DOK:
Level 2: Concept
Level 3: Strategic Thinking

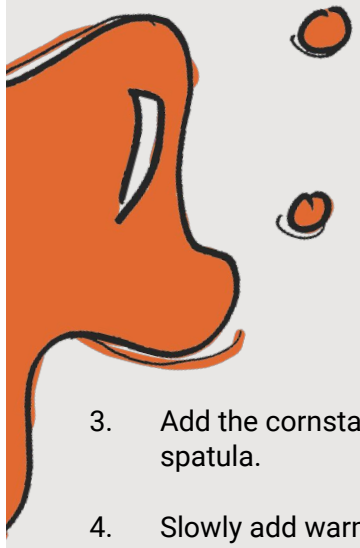
MATERIALS NEEDED:

- ❑ Food coloring
- ❑ Wax paper
- ❑ Spatula
- ❑ Clear tape
- ❑ Airtight container
- ❑ ½ cup of shampoo
- ❑ Warm water
- ❑ 4 cups of cornstarch
- ❑ Mixing bowl

DIRECTIONS:

1. Pour the food coloring into the mixing bowl.

2. Pour the shampoo into the mixing bowl and mix it with the coloring.



3. Add the cornstarch and mix it in with the spatula.
4. Slowly add warm water into the bowl. eep mixing to make the substance a slimy texture.
5. Continue mixing until you get a thick paste.
6. Pick it up with your hands and mix like dough, kneading on the table.
7. Your slime is ready, squish, squeeze, and play away!

OBJECTIVE:

Students will be able to investigate what occurs when substances are mixed.

ESSENTIAL QUESTION:

- What happens when substances are mixed?
- What happens when there isn't enough of the shampoo or cornstarch?

FUN FACTS

A. Mattel Inc., a toy manufacturing company invented slime in the late 1970's.

B. Slime is a non-newtonian fluid, meaning it behaves like both a solid and a liquid at the same time.

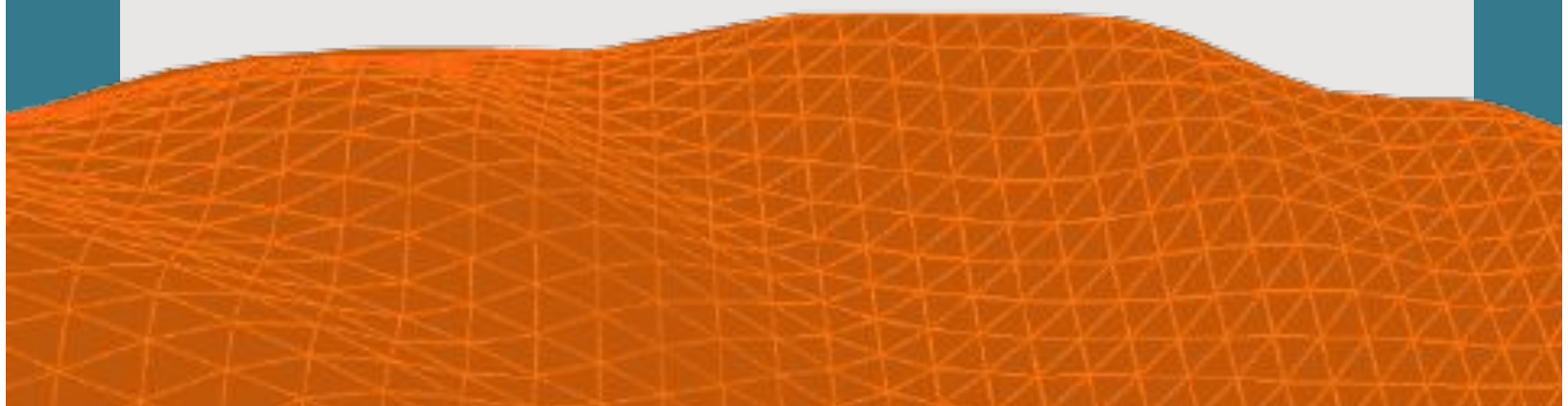
C. Mayonnaise will remove slime that gets stuck in hair.

ENGAGE / EXPLORE:

1. Students will act as chemist for a local circus:
    a. Their job is to test mixing a variety of chemicals to discover a new substance that can be used as a toy for visitors.
    b. Teacher can prepare a variety of safe chemicals for students to mix:
        i. Salt, sugar, warm water, cold water, cornstarch, shampoo, food coloring
        ii. It will be messy—that's the fun!
        iii. Don't forget safety glasses, gloves, and aprons
2. Have students design an experiment to systematically test a variety of mixtures of the chemicals
    a. Students should discover a interesting consistency with cornstarch and shampoo
    b. Teacher monitor students' progress and encourage efficient use of materials but no direction!
        i. Ask students if they are losing, gaining, or maintaining material? It is is important for the circus to know
        ii. Students should investigate if they are maintaining, gaining or losing material (matter) as they mix.
            1. Students can measure mass as a means to determine the answer.
3. Evaluate
    a. Team work
    b. Problem solving
    c. Experimental design

EXPLAIN / ELABORATE:

1. Students report out on their findings
2. Discuss with students the occurence of different results upon mixing substances
3. Teacher could ask if there is a proper mixture of shampoo and cornstarch for a good consistency
    a. Students work to find an optimal ratio (1/4 cup shampoo:4 cups cornstarch)
    b. Students create a table to keep track of measurements
4. Ask students if their new substance creates or loses any material or if it stays the same?
5. Students may keep the slime as souvenir for their hard work
6. Evaluate
    a. Conclusion and reasoning from their experiment
    b. Experimental process and organizing of data




SHAMPOO
CORN STARCH