

The Scientific Method



What You'll Need:

- Masking tape
- 1 Marker
- 3 bowls
- 3 five ounce bottles of clear school glue
- Liquid starch
- Your favorite essential Oil



What You'll Do:

1. For this experiment you will be using the scientific method (the steps followed by scientists to make discoveries) to answer the following question: how much liquid starch needs to be added to school glue in order to make **slime**? The first step in the scientific method is to ask a question, which you already have. The next step is background research to see what people have already learned about making slime. This has already been done for you in choosing the ingredients you need to make the slime. Now it's up to you to do the rest.
2. Before beginning the experiment, take a moment to write down your guess or prediction (in other words, your hypothesis). This is question 1 on the "What You Discovered" worksheet.
3. Using the masking tape and marker, label each bowl with a number 1, 2, or 3 to help you keep track of how many tablespoons of liquid starch you add to each bowl throughout the experiment.
4. Next, pour 1 container of glue into the first bowl.
5. Stir in 1 tablespoon of liquid starch into this first bowl.
6. Once it's combined, play with the slime for a bit in order to determine its texture. Describe the texture on your worksheet under question 2.
7. Repeat steps 4 through 6 for the second bowl, adding 2 tablespoons of liquid starch instead of 1. Describe the texture and how this bowl differed from the first under question 3.
8. Finally, repeat steps 4 through 6 for the third bowl, adding 3 tablespoons of liquid starch this time. Describe the texture under question 4 and take time to answer question 5, comparing all three bowls.
9. Complete your worksheet, answering questions 6-8 to write your conclusion (where you look through your results and decide whether or not they are the same as your hypothesis).



What Does It Mean?

Adjusting one variable in an experiment allows you to see changes and link those changes to one cause. By changing the amount of liquid starch in the slime, you will notice significant changes in slime texture, allowing you to determine exactly how much liquid starch to include in order to create the best slime.

Manipulating one variable is key to the scientific method. The scientific method allows you to find answers to a wide range of questions. The scientific method is an important part of learning and discovery as people continue to investigate the world around them.



What to Do Next:

- If you have more glue you can adjust the experiment and do a fourth bowl with 4 tablespoons of liquid starch. You can also do a bowl with half a tablespoon of liquid starch.
- Try adding your favorite essential oil for a fun aromatic experience as you play with the slime. Repeat the experiment and see if adding essential oil to the slime impacts the amount of liquid starch needed to create the perfect texture.

Note: *You can also try adding other items to the slime, such as food coloring or glitter, to see how the texture of the slime changes.*

- With the help and permission of your parents, post a picture of your slime on Facebook or Instagram and make sure to tag @doterrascience or use the hashtags #doterrascience and #doterrascienceforkids.



What You Discovered:

Fill out the questions below as you work on your scientific method experiment.

1. How much liquid starch, in tablespoons, will you need to add to school glue to get the right texture for slime? (To simplify things, choose between either 1, 2, or 3 tablespoons.)

Note: *The “right texture” may vary depending on the kind of slime you like to play with. As you write your hypothesis (prediction) make sure to note the texture you want. Do you want it firm or gooey? Mostly solid or mostly liquid?*

2. What is the texture of the mixture when it has only 1 tablespoon? Is it mostly liquid or mostly solid? Is it firm or gooey?

3. What is the texture of the mixture when it has 2 tablespoons? How does it differ from the first bowl?

4. What is the texture of the mixture when it has 3 tablespoons? How does it differ from the second bowl?

5. Compare all three bowls. How are the same? How are they different?

6. Which bowl of slime had the best texture?

7. Was your prediction correct?

8. What did you learn from following the scientific method?