Borax Bouncy Balls

Sections

Joey Scouts | Cub Scouts | Scouts | Venturer Scouts | Rover Scouts

Scouts VICTORIA

Last updated: Oct. 25, 2023, 9:12 p.m.

Challenge Areas

COMMUNITY | CREATIVE | OUTDOOR | PERSONAL GROWTH

Scout Method Elements

COMMUNITY INVOLVEMENT | LEARNING BY DOING | NATURE AND THE OUTDOORS | PROMISE AND LAW | PERSONAL PROGRESSION | PATROL SYSTEM

SYMBOLIC FRAMEWORK | YOUTH LEADING, ADULTS SUPPORTING

SPICES Growth Areas

CHARACTER | EMOTIONAL | INTELLECTUAL | PHYSICAL | SOCIAL | SPIRITUAL

The Adventure

Change up a classic recipe for borax slime by making some small changes to create borax bouncy balls and learn a bit about the chemical reactions that create turn glue into a bouncy ball.

Plan

1. Decide what colour bouncy ball you want to make. You will want to consider how the colour of the glue will impact the colour of the ball and what colour food colouring you may need to mix to get your desired colour.
2. Investigate the components and key properties of the key ingredients: borax (sodium tetraborate), cornstarch, and Elmer's glue - which is a type of PVA (polyvinyl alcohol) glue.
3. In this activity, you will be making polymers. Investigate what polymers are and some of their uses in the world today. This is a good introductory explanation.
4. Read the safety information and discuss with your leaders or another appropriate adult what safety equipment, precautions, and supervision may be required. Ensure that you have these safety measures in place before starting the 'Do' section.
5. How much equipment and chemicals will you need so that everyone can make bouncy balls? Will everyone be making their own or will you be sharing? Be prepared for a lot of mess to clean up too.
6. Gather the equipment and ingredients that you will need to make your bouncy balls. You will need the following: a measuring cup, a tablespoon, warm water, paper cup, cornflour, borax, Elmer's glue, food colouring, a paddlepop stick.

Do

1. Make sure everyone knows the safety requirements and are wearing correct protective equipment. As you will be handling chemicals, it is very important that you wear gloves.
2. Mix half a cup of warm water with 1 tablespoon of borax. If you are doing this activity as a Joey or Cub, make sure to get an adult to do this step for you.
3. In a separate cup, mix 1 tablespoon of cornflour, 2 tablespoons of Elmer's glue, and food colouring to reach your desired colour. Make sure that you have reached the colour you want your bouncy ball to be before proceeding to the next step as you will not be able to change it once the borax liquid is added.
4. Mix the borax mixture and the glue mixture together, stirring until the mixture goes hard.
5. Scoop the mixture out the cup. You may find it useful to use a folk to get the mixture out. If it is still sticky, try squishing it in your hands and returning it to the borax liquid for a little bit.
6. When the mixture is no longer sticky, roll the mixture with your hands into a ball, making sure to be wearing gloves. The more you handle the mixture, the harder it will become. Keep rolling until it is at your desired consistency.
7. In a fresh bucket of water, rinse your bouncy ball to remove any excess borax. After this, your bouncy ball will be safe to play with.
8. Try some of the variations below, recording what you do, and how it effects your bouncy balls.
9. What can you do with the bouncy ball? Have a competition to see who's can bounce highest.

Review

1. Did your bouncy ball behave the way you expected? Why or why not?
2. What did you enjoy the most about making the bouncy ball? What did you learn?
3. If you were to do this activity again, what would you do the same? What would you do differently?

Safety

- Just because you can buy something off the shelf at your local supermarket doesn't automatically mean it is safe. Always pay attention to the warnings on the product. Borax (sodium tetraborate) is a Category 1B hazardous substance and therefore safety precaution should be taken, including wearing gloves when handling your bouncy balls before they are washed. Make sure an adult helps you and that you and/or the adult have read the Safety Data Sheet for this chemical and consider the appropriate safety precautions for its use.
- Some people might have allergies or sensitivities to different chemicals. Check before you start whether anyone has known allergies you need to be aware of. Make sure there is an adult prepared to provide First Aid if anyone does have an unexpected reaction.
- One hazard to consider is that small children or animals might accidentally eat bouncy ball. If you are letting people take slime home, provide them with a safe storage option and warn them about the hazards of leaving slime lying around.
- This activity contains the use of food colouring and water. As such, it can often be quite messy. It is advisable to wear gloves and protect surfaces with a plastic sheet to make clean-up easier.
- The borax mixture may also set and stick quite strongly to the table and can be removed with boiling water. Make sure that a responsible adult handles this.

Variations

- Try experimenting by changing the amounts that you use of different ingredients. How does changing or adding one ingredient affect the properties of your bouncy ball?
- How creative can you be with the appearance of your bouncy ball? Try adding colour, glitter, powders, sequins etc. to individualise your bouncy ball. Can you make a swirl pattern in your bouncy ball?
- Whilst bouncy balls (and similar reactions) can be done with any PVA-based glue, Elmer's glue achieves the best bounce due to some differences in the formulation.