



LESSON PLAN

Season 2/Episode 15

Make a Bouncy Ball Experiment (Investigating 'Bouncing')

Let's Find Out features Captain Zoom and her crew of scientists with exciting experiments, curious kids and a trip to a faraway place. Produced with support from Science Foundation Ireland.

Class Level: Third/Fourth Class
Strand: Materials
Strand Unit: Mixing and Other Changes
Content Objective:
• Investigate how materials may be changing by mixing

Class Level: Fifth/Sixth Class
Strand: Materials
Strand Unit: Materials and Change
Content Objective:
• Explore the effect of heating and cooling on a range of solids, liquids, and gases

Assessment Method(s):

- Teacher observation
- Teacher designed tasks and tests
- Work samples
- Self-assessment
- Conferencing
- Portfolio assessment
- Concept mapping
- Questioning

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Lesson: Make a Bouncy Ball Experiment

WARNING: BE SURE NOT TO SWALLOW BORAX OR GET IT INTO THE EYES. BORAX CAN IRRITATE THE SKIN SO RUBBER/NITRILE GLOVES ARE ALSO RECOMMENDED.

Lesson Introduction

- The teacher will begin the lesson using WALT and WILF.
- Question the children on their prior knowledge of making slime/mixing.
- Click [HERE](https://www.youtube.com/watch?v=78aNPT_Ty7U&list=PLe4jknChuybHYhU-YSs5LW-TuLKz_SQk&index=13) for a whole class demonstration on the experiment.
(https://www.youtube.com/watch?v=78aNPT_Ty7U&list=PLe4jknChuybHYhU-YSs5LW-TuLKz_SQk&index=13)

Lesson Development

- Measure 1 cup of warm water into a cup or glass and add 2 tablespoons of Borax and stir to dissolve the salt. This is the Borax salt solution.
- Add 4 tablespoons of PVA glue and 2 tablespoons cornflour to the other cup.
- Mix the glue and cornflour.
- Add 10 to 12 drops of food colouring to the glue and cornflour mixture and mix.
- Scrape the glue mixture into the Borax salt solution and slowly swirl it around.
- Using a spoon, remove it from the Borax solution and leave it to air dry for a few minutes.
- You will notice that the glue mixture has clumped together and is no longer sticky.
- Shape it into a ball shape using your hands and a spoon.
- Drop it back into the Borax solution, slowly swirl around again.
- Remove from the Borax solution and leave to air dry for a few minutes.
- Shape again if necessary.
- Test your ball by dropping it onto a hard surface. Does it bounce?
- Wash your hands after making your ball.
- You can store your ball in an airtight container. You will notice that it will go a little out of shape. To make it round again, simply roll back into shape with your hands when you want to reuse it.

Lesson Conclusion

- Talk and Discussion
- Discuss children's observations

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Resources	Methodologies	Linkage/Integration
Cornflour PVA glue Food colouring A dropper Borax salt (sodium tetraborate) - can be sourced online. A jug of water A tablespoon measure A spoon or similar for mixing A cup measure Two cups	Talk and Discussion Active Learning Skills through Content Use of the Local Environment Problem Solving	Add in at teacher's discretion

Inclusion and Diversity/Differentiation (Differentiate at teacher's discretion)

Content:

Activities:

Resources:

Product:

Environment:

Teaching Strategies:

Scientific Explanation:

The Borax salt solution turns the glue into a super-stretchy solid that can be squashed and stretched and can easily return to its original shape. It made the glue bouncy! The cornflour helped to thicken the mixture, so the ball retains its shape.

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