

Educators Guide - Bubble Art (STEM To-Go)

<u>Grade(s)</u> : PreSchool - Kindergarten	<u>Time needed</u> : 30 minutes
<u>Frame(s)</u> : DLMB – Demonstrating Literacy and Mathematics Behaviours PSI – Problem Solving and Innovating	<u>Lesson Topic</u> : Bubble Art
<u>Learning Goal(s)</u> : By the end of the activity, students will be able to: <ul style="list-style-type: none"> - Follow a procedure - Measure quantities of the materials needed - Make predictions 	

<p>Overall Expectation(s) <i>Take this directly from Ontario Ministry of Education documents from the Kindergarten Program (2016).</i></p> <p>14. demonstrate an awareness of the natural built environment through hands-on investigations, observations, questions, and representations of their findings</p> <p>15. demonstrate an understanding of numbers, using concrete materials to explore and investigate counting, quantity, and number relationships</p> <p>16. measure, using non-standard units of the same size, and compare objects, materials, and spaces in terms of their length, mass, capacity, area, and temperature, and explore ways of measuring the passage of time, through inquiry and play-based learning</p>	<p>Related Specific Expectation(s)</p> <p>14.1. ask questions about and describe some natural occurrences, using their own observations and representations</p> <p>15.2. investigate some concepts of quantity and equality through identifying and comparing sets with more, fewer, or the same number of objects</p> <p>15.10. investigate addition and subtraction in everyday experiences and routines through the use of modelling strategies and manipulatives</p> <p>16.1. select an attribute to measure (e.g., capacity), determine an appropriate non-standard unit of measure (e.g., a small margarine container), and measure and compare two or more objects (e.g., determine which of two other containers holds the most water)</p>
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Safety
Students may need extra assistance.
Remember not to drink the mixture! Grown-ups, make sure your child is blowing and not sucking on the straw.

<p>Instructions For the Activity</p> <ol style="list-style-type: none"> 1. Mix together a spoonful of soap and half a cup of water. 2. Mix in most of the paint. 3. Using a straw, blow bubbles into the water. The bubbles should reach the top of the cup. 4. Place the cardstock on the cup and lift it off after 1-2 seconds. 5. Let the paper dry. <p><u>Tip</u>: If the bubbles pop too quickly, add some sugar to the mixture.</p>	<p>Materials</p> <ul style="list-style-type: none"> ● Paint ● Straw ● Cardstock ● Water ● Cup ● Spoon ● Soap (ex. dish soap, shampoo, body wash) <p>Appendix A STEM To-Go Activity Sheet - Bubble Art</p>
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The Science Behind It All
Use Appendix A as a handout. There are provided illustrations to help further explain the content.



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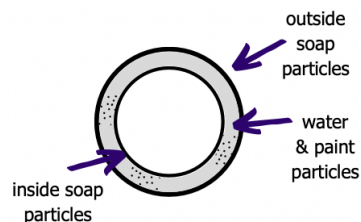
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All matter, including soap, water, and paint is made of tiny particles. A bubble is made of a layer of water particles that sits between two layers of soap particles. The particles work together to hold air inside. When the bubbles pop on the cardstock, the paint particles stick to the cardstock.



Extensions

The following extensions can be done using Appendix A: STEM To-Go Activity Sheet - Bubble Art. The extension sections have a drawing and observation section for students to fill in.

Extension #1

Grade(s): PreSchool - Kindergarten

Frame: BC - Belonging and Contributing, SRWB - Self-Regulation and Well-Being, DLMB – Demonstrating Literacy and Mathematics Behaviours, PSI – Problem Solving and Innovating

<p>Overall Expectation(s) 22. communicate their thoughts and feelings, and their theories and ideas, through various art forms</p>	<p>Related Specific Expectation(s) 22.1 communicate their ideas about something (e.g., a book, the meaning of a word, an event or an experience, a mathematical pattern, a motion or movement) through music, drama, dance, and/or the visual arts</p>
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- Students can learn about lines, shapes, colours, textures, and patterns through this activity. After the bubbles dry on your paper, try looking for patterns or pictures. Draw them with a pen or marker.

Extension #2

Grade(s): PreSchool - Kindergarten

Frame: DLMB – Demonstrating Literacy and Mathematics Behaviours, PSI – Problem Solving and Innovating

<p>Overall Expectation(s) 14. demonstrate an awareness of the natural and built environment through hands-on investigations, observations, questions, and representations of their findings</p>	<p>Related Specific Expectation(s) 14.1 ask questions about and describe some natural occurrences, using their own observations and representations (e.g., drawings, writing)</p>
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- Try using the straw and blow bubbles directly onto another paper. The paper can be flat on the table, or taped to the wall.

Resources

Bubble Painting Tutorial: <https://www.happinessishomemade.net/bubble-painting/>

Bubble Painting for Kids: <https://littlebinsforlittlehands.com/bubble-painting/>

Appendix A: STEM To-Go Activity Sheet - Bubble Art

Activity sheet includes materials, instructions, tips and the science behind this activity.

Bubble Art Activity - Blog Post: <https://www.stemovation.org/post/bubble-art>

Bubble Art Activity Sheet - Student Copy:

https://www.stemovation.org/files/ugd/8444cc_534970a724b3431ab1a7a47c673cce56.pdf



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STEM TO-GO ACTIVITY: GREAT FOR AGES 2-5

BUBBLE ART

MATERIALS

- Paint
 - Straw
 - Cardstock
- Find at Home**
- Water
 - Cup
 - Spoon
 - Soap (ex. dish soap, shampoo, body wash)



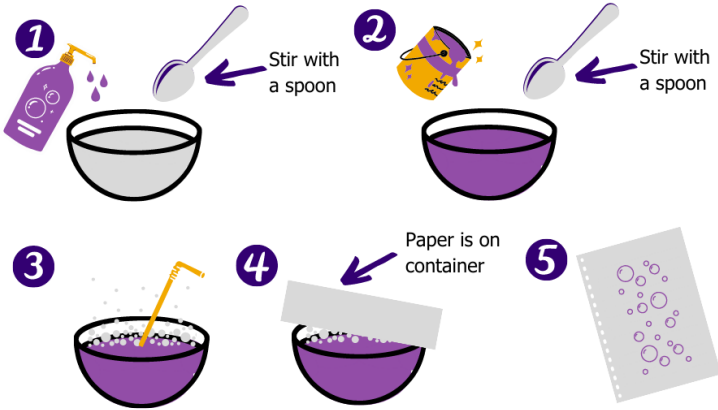
Remember not to drink the mixture!
Grown ups, make sure your child is blowing and not sucking on the straw.

INSTRUCTIONS

1. Mix together a spoonful of soap and half a cup of water.
2. Mix in most of the paint.
3. Using a straw, blow bubbles into the water. The bubbles should reach the top of the cup.
4. Place the cardstock on the cup and lift it off after a 1-2 seconds.
5. Let the paper dry.

TIP!

If the bubbles pop too quickly, add some sugar to the mixture.

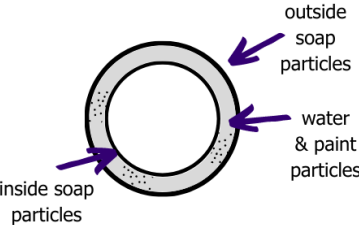


EXTENSION #1

After the bubbles dry on your paper, try looking for patterns or pictures. Draw them with a pen or marker.

THE SCIENCE BEHIND IT ALL

All matter, including soap, water, and paint is made of tiny particles. A bubble is made of a layer of water particles that sits between two layers of soap particles. The particles work together to hold air inside. When the bubbles pop on the cardstock, the paint particles stick to the cardstock.



EXTENSION #2

Try using the straw and blow bubbles directly onto another paper. The paper can be flat on the table, or taped to the wall.