

Bubble-Mania

Language & Literacy Enhancement Activities

Introduction

This supplement provides information on how to use the Cloverbud’s language and literacy enhancement materials. These activities complement the Cloverbud’s curriculum by extending the original activities with alternatives, extensions, and variations that have a focus on language and literacy development. All of the enhancement activities coordinate with current Cloverbud theme activities and are similar in design and format. These activities have been aligned with Pennsylvania Department of Education Academic Standards. Like the original Cloverbud activities, these activities encourage learning new things and positive attitudes through hands on projects.

Objectives:

Build listening, speaking, reading, vocabulary, and writing skills through Cloverbud theme activities centered on children’s books.

Group Size:

6-8 children per adult volunteer

Time Frame:

Each activity will take about 5–15 minutes to complete and can be integrated into the Cloverbud lesson.

1. Getting Started

ACTIVITY “Bubble Colors”

PDE Academic Standards: 1.4 Types of Writing

B. Write informational pieces using illustrations when relevant

Materials: glass jars, bubble solution, trays, colored pencils, papers, window or stable light source.

Dip the rim of the jar into the bubble solution to get a layer of soap film across the top. Tilt the jar towards a window or bright light. The colors you see are from the light waves bending when they reflect back to your eye by the soap film. This is called **interference**. Draw the pattern of colors that you see. Is there are certain order to the colors?

Suggested Readings:

A Drop of Water: A Book of Science and Wonder by Walter Wick
Bubble Trouble written by Steven Krensky



2. Digging Deeper

ACTIVITY “Make Your Own Bubble Blower” Extension Activity

PDE Academic Standards: 1.8 Research

C. Organize and present the main ideas from research

Materials: paper, colored pencils, pipe cleaners/craft wire, duct tape, scissors, also see the “Make your own bubble blower” materials list for addition variations

Application: Make a pipe cleaner bubble blower with a round loop. Trace the shape of your bubble blower on to the paper with your colored pencil. Blow a bubble with your blower. Notice the shape of the bubble and draw that shape next to the tracing of your bubble blower. Now make a pipe cleaner bubble blower in a different shape – triangle, square, freeform. Trace the shape of your new bubble blower on the paper. Predict what shape the bubble from the bubble blower will be this time and draw that shape. Blow some bubbles and draw the shape that came from that bubble blower next to its tracing. What shape is the bubble from the bubble blower? Did the bubble match your prediction? Why do you think that all the bubbles are round?

Suggested Readings:

The Unbelievable Bubble Book written by John Cassidy and David Stein

The Bubble Factory by Tomie dePaola

ACTIVITY “Bubble Domes” Extension Activity for Which Solution Works Best?

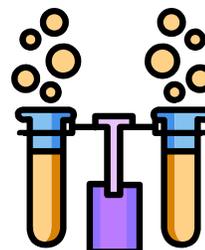
PDE Academic Standards: 1.8 Research

C. Organize and present the main ideas from research

Materials: smooth tabletop or wide flat surface, at least two types of bubble solutions, yardstick, straws, paper, pencils

Application: Pour approximately $\frac{1}{2}$ cup of bubble solution on the tabletop. With your hand draw a large circle on the table approximately 20 inches wide. Dip the straw into bubble solution and place in the middle of the bubble solution on the table and slowly blow to start the bubble. The bubble will form a large dome on the table. Continue blowing until the bubble dome pops. It should leave a ring of droplets in a circle. Use the yardstick to measure the middle (diameter) of the bubble ring. Write down you answer. Repeat the process with the other bubble solutions. Which bubble solution makes the largest bubble?

Variation: Try this experiment again during the next session and write down your results. Compare the current results with the previous session’s results. Are there differences? If there are differences, why do you think they happened?



Suggested Readings:

Experiments with Soap written by Salvatore Tocci
Strega Nona Takes a Vacation by Tomie dePalola



3. Looking Within

ACTIVITY “Bubble Songs” Extension Activity

PDE Academic Standards: 1.6 Speaking and Listening

- A. Listen to others
- E. Participate in small group presentations

Materials: none

Pop! Go the Bubbles (to the tune of Pop! Goes the Weasel)

Around and around the Mulberry bush.
The children chase the bubbles.
The children thought it was all in good fun.
Pop! Go the bubbles.

Suggested Readings:

Bubble Trouble & Other Poems and Stories by Margret Mahy
Bubble Bath Pirates! by Jarrett J. Krosoczka
Bubble Trouble written by Mary Packard

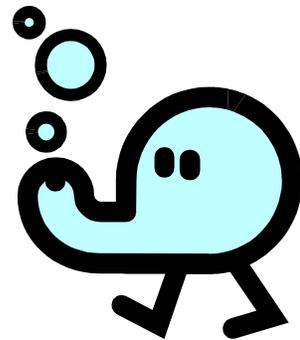
4. Bringing Closure

ACTIVITY “Bubble Sculptures Part 1”

PDE Academic Standards: Speaking and Listening

- E. Participate in small group discussions and presentations

Note to the Volunteer: Collect a variety of materials so children will be able to experiment with a variety of bubble sculptures. Different sculptures can be built over the course of several sessions. A variety of materials will also add to the creative possibilities of the sculptures, but basic sculpture materials are glass jars, cotton string, scissors, wire & pliers or chenille craft wire (pipe cleaners), bubble solution, large trays or pans, pie pans, plastic coffee can lids, scissors, hole punch, straws and bubble blowers.





Suggested Reading for all Bubble Sculptures:

Bubble Festival: Presenting Bubble Activities in a Learning Station Format
written by Lawrence Hall of Science

The Crystal Ball

Materials: glass jars, bubble solution, pie pans, straws or bubble blowers, pin or small nail

Application: Have the children observe the shape of the bubble as it is emerging from the bubble blower. Discuss how it stretches like a drop of water dripping from a facet or a raindrop. When the bubble is released from the bubble blower, the bubble's surface shrinks to form the smallest possible shape. Wet the rim of the jar with the bubble solution. Blow a large bubble above a jar, so when the bubble is released from the blower it sits on the jar; or blow the bubbles and catch one on the rim of the jar and put the jar down slowly. Observe the shape of the bubble resting on top of the jar. Observe the colors shifting on the surface of the bubble. Talk about what you observe.

Experiment: Poke a "crystal ball" bubble with a dry pin. What happens? Blow another "crystal ball" bubble. Wet a pin with the bubble solution. Do you think that the bubble will break? Drop the pin through the bubble into the jar. You should be able to drop the pin into the glass jar without breaking the bubble. Why do you think you can do this? What if the pin is not wet with the bubble solution, what do you think will happen? Can you do this with other small objects? Talk about what you think will happen and what does happen.

Suggested Reading:

The Ultimate Bubble Book written by Shar Levine

Bubbleology: Hands on Science Kit written by Jim Moskowitz and Casey Carle

Framing a Hole

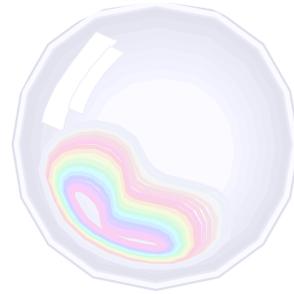
Materials: cotton string, scissors, wire & pliers or chenille craft wire (pipe cleaners), bubble solution, large trays or pans, pie pans, straws and bubble blowers

Application: Use the wire to form a square frame approximately 10 inches wide. Tie the ends of a 13-inch length of cotton string to form a loop approximately 5 inches across. Place the frame in front of you with a corner at the top. Use two lengths of string approximately 3 inches long to tie the string loop to your wire frame. Optional: Tie an extra loop of string in the top corner of your wire frame to act as a handle for dipping and holding your frame. Adjust the measurements to fit the equipment that you have on hand. You want a string circle in the middle of a wire square that will fit completely into a baking sheet.

Dip the frame into the bubble solution in the baking sheet and lift it out slowly. Repeat until you get a soap film across the entire frame surface including the string. The soap film should be in three sections: the top corner, inside the loop, and a bottom section. Now pop the film section inside the loop and observe the shape that appears, because the film's surface will

shrink or contract, the film should pull the loop into a circle. What remains will be a “hole” in the bubble film. Let the children could put their hands in and out of the hole.

Experiment with this: Will it make a difference in the circle shape, if the strings that suspend the loop are loose or tight? If you add more anchor or suspension strings, can you create different shapes – triangles, squares? Can you blow bubbles through the hole? What happens when a bubble gets stuck in the hole? How big a circle can you make inside the wire frame? Talk about the process of creating a hole in the soap film.



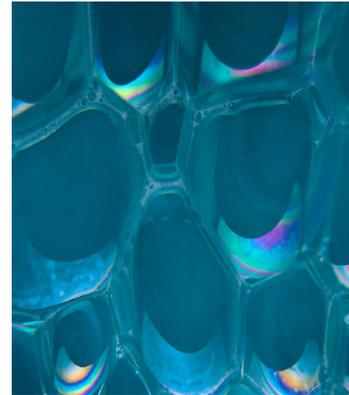
Suggested Reading:

A Drop of Water: A Book of Science and Wonder by Walter Wick
See a photograph of soap bubble film framing a hole

The Stained Glass Window

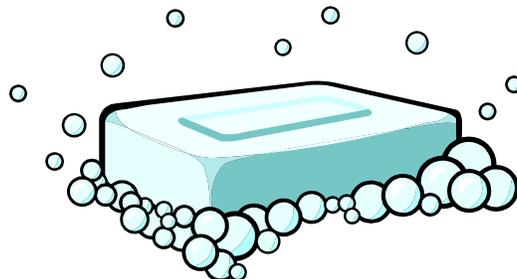
Materials: cotton string, scissors, wire and pliers or chenille craft wire (pipe cleaners),
bubble solution, large trays or pans, pie pans, straws and bubble blowers

Application: Create wire frames with loop handles. Use string to create panels by tying different lengths across the wire frame in patterns of your choice. Dip into the bubble solution and slowly lift. Hold the frame near a window or bright light source and observe the colors in the bubble film. What patterns do you see in the soap film? Can you see the colors moving? Why do you think the colors shift? Talk about the colors you see.



Suggested Reading:

Pop! A Book About Bubbles written by Kimberly Brubaker Bradley



3-D Free Form

Materials: cotton string, scissors, wire & pliers or chenille craft wire (pipe cleaners), bubble solution, large trays or pans, pie pans, straws and bubble blowers

Application: Use the wire to create three-dimensional frames cubes, pyramids, or free form shapes. Encourage the children to predict what the shape will look like before they dip their frames. Dip the frames into the bubble solution and slowly lift out. Repeat on the other sides of the frame. Talk about the process while you are creating your sculptures.

Optional: use a tub or large pot to immerse completely the frames instead of doing one side at a time. Use straws to blow bubbles inside the film covered frames to get smaller bubbles the same shape of the frames. For free form shapes, set the frame into the baking sheet and using a straw blow bubbles to attach to the frame from the inside out or use the bubble blowers to blow bubbles on to the frames popping smaller bubbles to get one continuous. Note: free form shapes work better if you can immerse them in a tub of bubble solution.

Suggested Readings:

Bubbleology: A Hands on Science Kit written by Jim Moskowitz and Casey Carle

The Spiral

Materials: Plastic lid from a coffee can, scissors, hole punch, cotton string, pie pan, bubble solution

Application: Starting from the outside rim, cut the plastic coffee can lid into a spiral. Use the hole punch to place a hole in the center of the lid. Thread a length of string about six – eight inches long through the center hole and tie in a loop for a handle. Hold by the handle, the weight of the outer layers should pull downward to form a spiral. Gently pull down on the end if the spiral needs to separate its edges into a continuous loop. Dip the spiral into the pie pan full of bubble solution. Observe how the soap film creates layers or levels in the spiral form. How does the soap film cling to the spiral frame? Talk about the shape of the soap film.

Suggested Readings:

A Drop of Water: A Book of Science and Wonder by Walter Wick
Experiments with Soap written by Salvatore Tocci



5. Going Beyond

ACTIVITY “Bubble Sculptures Part 2”

PDE Academic Standards: 1.5 Quality of Writing

- A. Write with a sharp focus.
- B. Write using well-developed content, incorporate relevant details.

Materials: Same as Bubble Sculpture Part 1 plus: paper, pencils, camera, tape

Application: This project is an extension of the Bubble Sculptures (Part 1) that spreads the activity over the course of at least two sessions. During the first session, have the children write down descriptions of their bubble sculptures. Take pictures of their bubble sculptures. Before the next session, develop the photographs. Digital cameras are ideal for this project. Have children tape their pictures next to their written descriptions of their bubble sculpture. Encourage children to write captions under their photos. Ask the children to compare the photos to their written descriptions from the previous session. Talk about how they recorded two different types of scientific data, one written, and one visual. How do the written data and the visual data help them remember their science experiments? How is the information they get from the written data different from the photograph data.

Suggested Readings:

Soap Bubble Magic written by Seymour Simon

Bubbles written by Kimberly Robinson

