

## Core Skills Analysis

### Science

- The student observed the physical properties of liquids while creating the bubble mixture, learning about viscosity and surface tension.
- The student experienced firsthand how mixing different ingredients can create a new substance, developing an understanding of chemical reactions.
- Through playing with bubbles, the student learned about shapes, as bubbles form into spheres due to surface tension.
- The student engaged in inquiry-based learning by experimenting with bubble sizes and patterns, fostering curiosity about cause and effect.

### Math

- The student counted the number of bubbles they created, enhancing one-to-one correspondence skills.
- While playing, the student compared sizes of bubbles, introducing concepts of measurement and comparison.
- The activity encouraged the student to estimate how many bubbles would pop before they reached the ground, promoting predictive reasoning.
- Baseline concepts of geometry were introduced as the student observed the round shapes of bubbles and identified them as spheres.

### Fine Motor Skills

- The student practiced precise hand movements while dipping the wand into the bubble mixture, enhancing dexterity.
- Blowing bubbles required controlled breath and mouth coordination, aiding in speech development.
- The activity involved gripping the wand, which strengthened hand muscles and improved grip strength.
- Popping bubbles required quick reactions, promoting hand-eye coordination and reflex skills.

### Tips

To expand on the concepts learned during this bubble activity, parents or teachers can explore further science experiments, such as creating a homemade lava lamp using water, oil, and food coloring to illustrate density. Introducing discussions about the weather can also lead to an exploration of rain, as it relates to the properties of bubbles. A math extension could include measuring the time it takes for bubbles to pop or using a ruler to measure bubble heights. Additionally, different types of wands could be used to create varying sizes of bubbles, enhancing the fine motor skills aspect further through varied hand movements.

### Book Recommendations

- [Bubble Trouble](#) by Joyce Dunbar: A delightful story about imaginative bubble play that captivates young readers.
- [A Bubble in the Bathtub](#) by Katherine L. Wolff: A fun exploration of bubbles, bath time, and playful imagination.
- [Bubble Bath Pirates](#) by Jarrett Krosoczka: A whimsical tale about pirates who embark on an

adventure in a bubble bath.

### **Learning Standards**

- Next Generation Science Standards (NGSS): K-PS2-1 - Plan and conduct an investigation to determine the effect of placing an object in water.
- Common Core State Standards (CCSS) Math: K.CC.B.4 - Understand the relationship between numbers and quantities; connect counting to cardinality.
- National Association for the Education of Young Children (NAEYC) standards: 3.E.01 - Children use their increasing knowledge and understanding of physical sciences.