

Frozen Bubble Bubble Wands



CHALLENGE You and your partner must design and construct 2 bubble wands in 2 distinctly different shapes.

EXPLORATION You have a small bubble wand and some colored bubble solution. Spend about 5 minutes making bubbles with them (3 trials). Roll out a long sheet of paper in your workspace and let the bubbles you blow land on the paper.

TRAIL	QUANTITATIVE OBSERVATION	QUALITATIVE OBSERVATION
1		
2		
3		

1. Look at your data. Do you see any information that may be helpful to you in designing your own bubble wand? Write 3 sentences summarizing what you learned from your exploration.

Frozen Bubble Bubble Wands



2. Think about the different shapes you have learned about in Math class. What shapes do you think would make good bubble wands? Why do you think so?

A large, empty rectangular box with a dotted border, intended for the student to write their answer to question 2.

3. What shape do you think will make the biggest bubble? Why do you think so?

A large, empty rectangular box with a dotted border, intended for the student to write their answer to question 3.

4. What shape do you think will make the longest lasting bubble? Why do you think so?

A large, empty rectangular box with a dotted border, intended for the student to write their answer to question 4.

Now that you have some background information on bubbles and bubble wands, design 2 bubble wands with distinctly different shapes for making bubbles. Sketch those designs below, to scale (make sure to measure). You will place the 3Doodler Doodle Pad over these sketches to trace/create your final wands.

Frozen Bubble Bubble Wands



Once your wands have been created, spend about 5 minutes making bubbles with them. If they do not make “good” bubbles, you will need to quickly redesign!

Roll out a long sheet of paper in your workspace and let the bubbles you blow land on the paper. Observe carefully the results of your wands.

Shape 1: _____

TRAIL	QUANTITATIVE OBSERVATION	QUALITATIVE OBSERVATION
1		
2		
3		

Shape 2: _____

TRAIL	QUANTITATIVE OBSERVATION	QUALITATIVE OBSERVATION
1		
2		
3		

Look back at your hypotheses on page 2. Were your hypotheses correct? Did the shape affect the size or strength of the bubble created?

Frozen Bubble Bubble Wands



What are some factors that may have affected the outcome of your experiment?

What experiment can you do now to test other characteristics of bubbles?

How do you think the process you went through with testing different wands might be similar or different from the process scientists go through to research? Write a paragraph describing what you learned.