



## Lesson Logistics

### Frozen Bubbles

#### Learning Outcomes

| Kindergarten - Grade 3              | Grades 4-6                          |
|-------------------------------------|-------------------------------------|
| Exploring the world with our senses | Properties and changes of materials |
| Materials and our senses            |                                     |
| Liquids and solids                  |                                     |
| Air and water in the environment    |                                     |
| Initiating and planning             |                                     |

#### Class Organization

Divide the students into groups of two or three.

Ensure that each group has bubble mixture and a bubble wand.

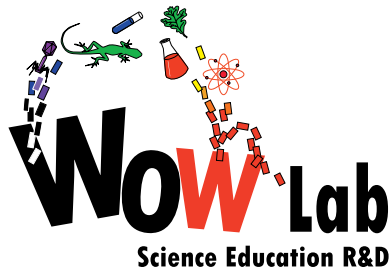
#### Notes

A non-windy day is best and the temperature outside should be at least -10 °C.

Outdoor access is required for about 20-30 minutes, although the amount of time spent on the activity may vary depending on how cold it is.

#### Further Exploration

Try freezing the coloured bubbles to see if the colours can be seen or if they look the same as the non-coloured bubbles.



## Shape Bubbles

### Learning Outcomes

| Kindergarten - Grade 3              | Grades 4-6                          |
|-------------------------------------|-------------------------------------|
| Exploring the world with our senses | Properties and changes of materials |
| Materials and our senses            |                                     |
| Liquids and solids                  |                                     |
| Air and water in the environment    |                                     |
| Initiating and planning             |                                     |

### Class Organization

Divide the students into groups of two or three.

Ensure that each group has bubble mixture, a pipe cleaner bubble shape and a plastic drinking straw.

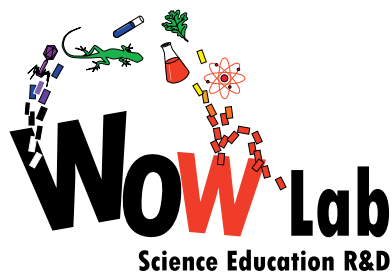
### Notes

Cover a water tub station or table with newspaper or a drop cloth to ensure the floor does not become slippery. Alternatively, the activity could be performed outdoors to minimize mess.

Students may need help blowing the shape bubbles with the straw, so a demonstration in front of the class before starting the activity may be helpful.

### Further Exploration

Ask students to use the pipe cleaner shapes as bubble wands. Observe the shape of the bubbles that are made.



a WOW Lab

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Bubbles - Lesson Logistics

## Coloured Bubble Art

### Learning Outcomes

| Kindergarten - Grade 3              | Grades 4-6                          |
|-------------------------------------|-------------------------------------|
| Exploring the world with our senses | Properties and changes of materials |
| Materials and our senses            |                                     |
| Liquids and solids                  |                                     |
| Air and water in the environment    |                                     |
| Initiating and planning             |                                     |

### Class Organization

This activity can be performed individually, in groups of two or three, or as an entire class.

Ensure each student or group has coloured bubble mixture and a bubble wand.

### Notes

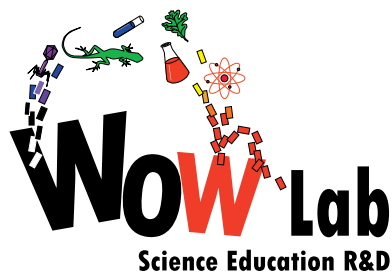
This activity should be done indoors to make it easier for students to make their bubble art.

Smocks and a drop cloth may be used to minimize mess.

An alternative to white craft paper would be to use pieces of card paper on a cardboard base.

### Further Exploration

Measure the diameter of the prints left by the popped bubbles in order to determine who made the largest bubble.



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## Bouncing Bubbles

### Learning Outcomes

| Kindergarten - Grade 3              | Grades 4-6                          |
|-------------------------------------|-------------------------------------|
| Exploring the world with our senses | Properties and changes of materials |
| Materials and our senses            |                                     |
| Liquids and solids                  |                                     |
| Air and water in the environment    |                                     |
| Initiating and planning             |                                     |

### Class Organization

Divide the class into groups of two or three.

Ensure each group has glycerin bubble mixture, a bubble wand, a glove and a bubble bouncer.

### Notes

Students in each group can take turns using the glove and the bubble bouncer. Bubbles should be bounced from the bottom; a bubble is more likely to pop if hit from the top. Students should be advised that only a gentle tap is needed to bounce the bubbles and that bubbles which are hit too hard will pop.

If the bubbles do not bounce well, let the bubble solution sit overnight. This results in more resistant bubbles.

Cover a water tub station or table with newspaper or a drop cloth to prevent slippery floors.

### Further Exploration

Play a bubble baseball game. One student pitches by blowing a bubble to the batter, who has to bounce the bubble to the next base. If the bubble pops before they reach the base, that player is out.