

Name: \_\_\_\_\_

**Phenomenon: The Effect of Cold**  
**Guided Inquiry Lesson (Pupil Page)**

**What do you notice?**  
**(Observation)**



Rosie puts a cold compress on a swollen bump and swollen eyes



**What do you wonder?**  
**(Question)**



Why does she do that?

**What information do you have?**



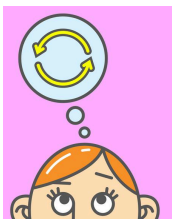
Rosie looked around some more.

"What's this hat for?"

"It's called a compress," Mom explained.

"If you put ice inside, it can help bring down swelling..."

**What do you think?**  
**(Hypothesis)**



I can pretend that a balloon is like a bump, different widths of straws are like different sizes of blood tubes, and water is like the liquid that makes bumps swollen. Pouring water through a straw and into the balloon, is like how a bump gets swollen. If I want the least amount of water to get into the balloon in a certain time, I should use the (circle one)

Narrow straw

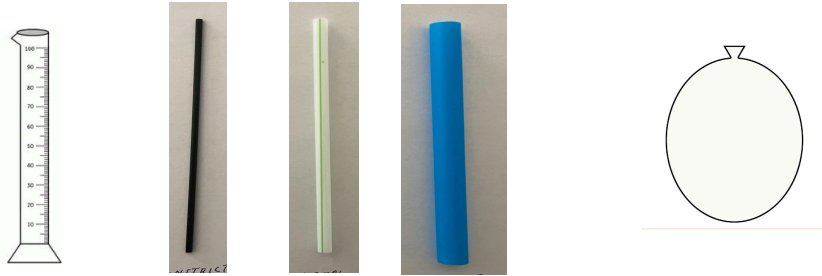
Regular straw

Wide Straw

## Experiment



I timed how long it took to pour 30 mL of water into a balloon through straws of 3 different diameters.



## I noticed (Data)



Straw Diameter	Time it Takes to Pour 30 mL of water through the straw and into the balloon
Wide (10 mm)	10 seconds
Medium (5 mm)	20 seconds
Narrow (2 mm)	More than 3 minutes

## I learned that



## (Conclusion)

I learned that a narrow straw lets the least amount of water get into a balloon. If the balloon is like a bump, a straw is like a blood tube, and water is like the liquid that makes a bump get swollen, then a narrow straw (blood tube) slows down swelling.

Connection: If, when ice is put in a compress, it helps bring down swelling, then ice must make blood tubes get more narrow.

## Tell Others



A thin straw prevents water from getting into a balloon easily. Ice in a compress helps bring down swelling. If a straw is like a blood tube, the balloon is a bump, and water is like the fluid that makes a bump swell, then ice must make blood tubes get thin.