

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

## Phenomenon: The Effect of Cold Guided Inquiry Lesson (L3)

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



Rosie puts a compress on a swollen bump and swollen eyes



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



Why does she do that?

**What information do you have?**



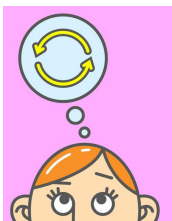
Rosie looked around some more.

"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 a swollen bump. I think that if the balloon gets cold, it will:  
(circle one)

Get bigger

Get smaller

Stay the same size

<p><b>Experiment</b></p> 	<p>I measured a balloon then I put it in a freezer for a while. When I took it out, I measured it again.</p>	
<p><b>I noticed (Data)</b></p> 	<p>Balloon Before</p>	<p>Balloon After</p>
<p><b>I learned that</b></p>  <p><b>(Conclusion)</b></p>	<p>Putting a balloon in the freezer (to make it cold) makes it: <b>(circle one)</b></p> <p>Get Bigger                      Get Smaller                      Stay the same size</p>	
<p><b>Tell Others</b></p> 	<p>I learned that when a balloon gets cold, it gets</p> <p>_____</p>	

**Connection:** Draw what a swollen bump would look like before and after ice is put on it

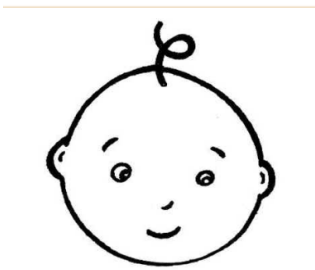
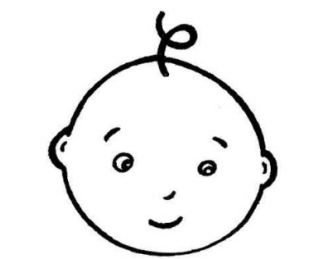
Bump Before Ice is Put on It	Bump After Ice is Put on It
	

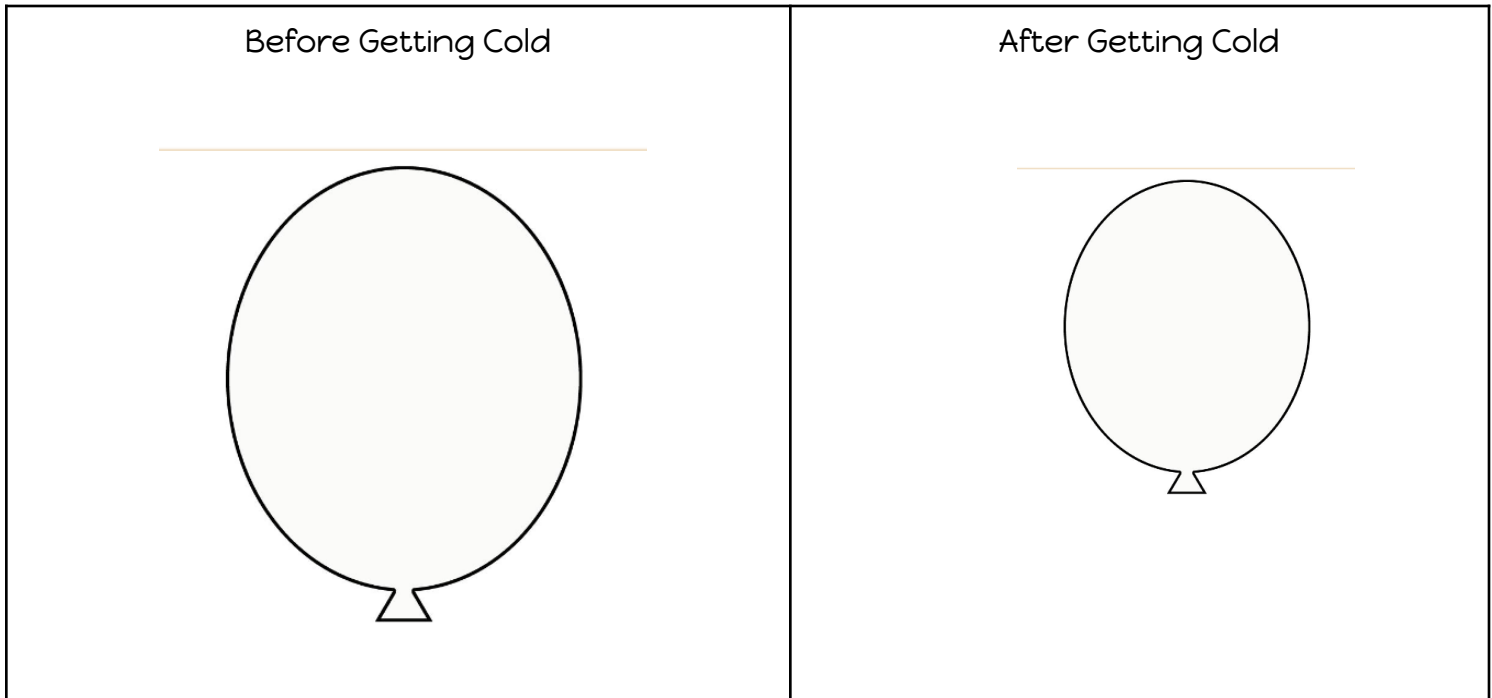
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**Challenge:**

*Why does a balloon get smaller when it gets cold?*

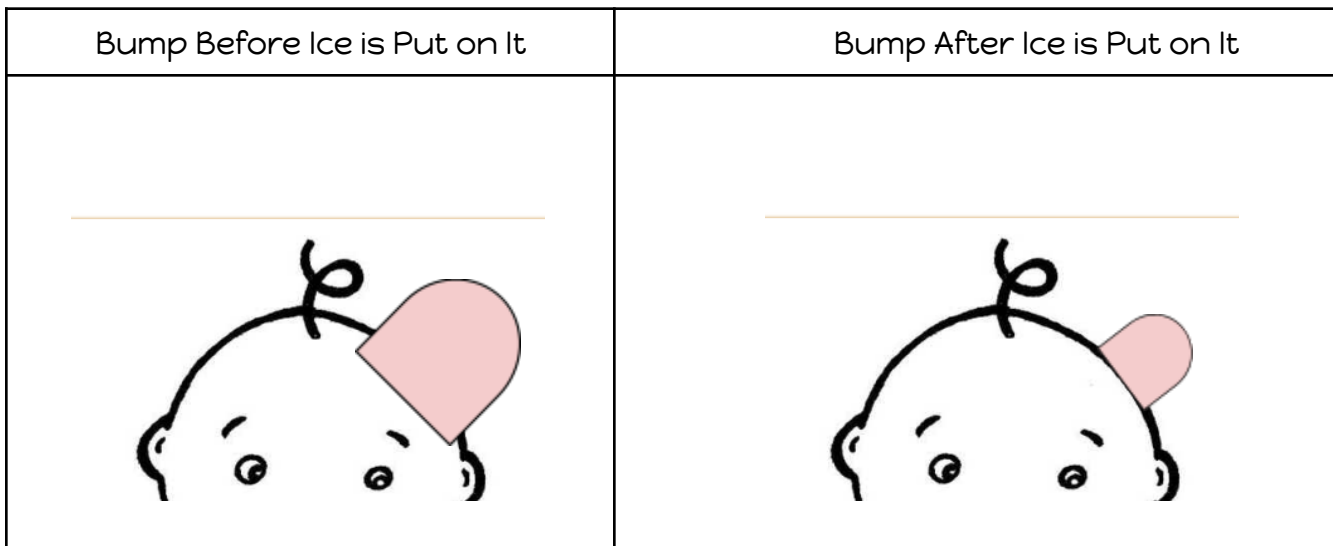
Put 10 dots in the balloon on the left using colored pencils or sticky dots. The dots are like air particles in the balloon. Put 10 dots of the same size in the balloon on the right. What happens to the particles inside the balloon when the balloon gets cold? Does each particle get smaller or do the particles get closer together?



**Challenge:**

*Why does a bump get smaller when ice is put on it?*

Put 5 dots in the head bump on the left using colored pencils or sticky dots. The dots are like particles inside the head bump. Put 5 dots in the bump on the right that shows the size of the bump after ice is put on it. What happens to the particles inside the bump when ice is put on it? What does this do to the size of the bump?



## Answer Key

Why does a balloon get smaller when it gets cold (loses heat)?

Put 10 dots in the balloon on the left using colored pencils or sticky dots. The dots are like air particles in the balloon. Put 10 dots in the balloon on the right. What happens to the distance between the particles inside the balloon when the balloon gets cold?



Why does a head bump get smaller when ice is put on it?

Put 5 dots in the head bump on the left using colored pencils or sticky dots. The dots are like particles that are inside the bump. Put 5 dots in the head bump on the right. How does this show that putting ice on a swollen bump makes the swelling go down?

