

# 5<sup>th</sup> Grade Worksheets

Follow along with your VSVS team using these sheets and info!

**Intensity of Sunlight: VSVS Data Collection Sheet**

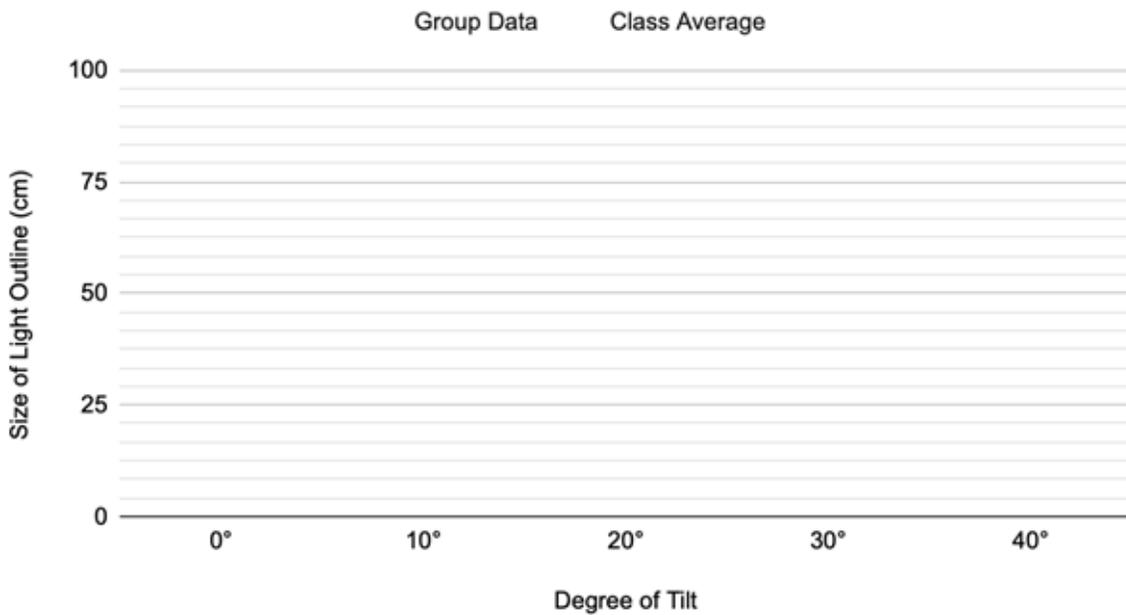
<b>Group #</b>	<b>Measurement</b>				
	<b>0°</b>	<b>10°</b>	<b>20°</b>	<b>30°</b>	
<b>1</b>					
<b>2</b>					
<b>3</b>					
<b>4</b>					
<b>5</b>					
<b>6</b>					
<b>7</b>					
<b>8</b>					
<b>9</b>					
<b>10</b>					

## Intensity of Sunlight: Observation Sheet

<b>Group #:</b>	<b>Measurer:</b>
	<b>Checker:</b>
	<b>Tracker:</b>

Measurements		
Tilt	Group Data	Class Average
0°		
10°		
20°		
30°		
40°		

### Group Data and Class Average



## OBSERVATION SHEET – Cryogenics

Name \_\_\_\_\_

Demonstration #1 – Liquid Nitrogen – The VSVS team adds liquid nitrogen to a clear cup.

Draw a cup like the one being used and write down everything you see happening in and around the cup.

Are the following physical or chemical changes? Circle your response.

Boiling liquid nitrogen:	Chemical	Physical
Formation of fog:	Chemical	Physical
Condensation:	Chemical	Physical
Freezing and thawing of banana:	Chemical	Physical
Cooling and warming rubber tubing	Chemical	Physical
Shrinking and inflating balloon:	Chemical	Physical
Making ice cream:	Chemical	Physical

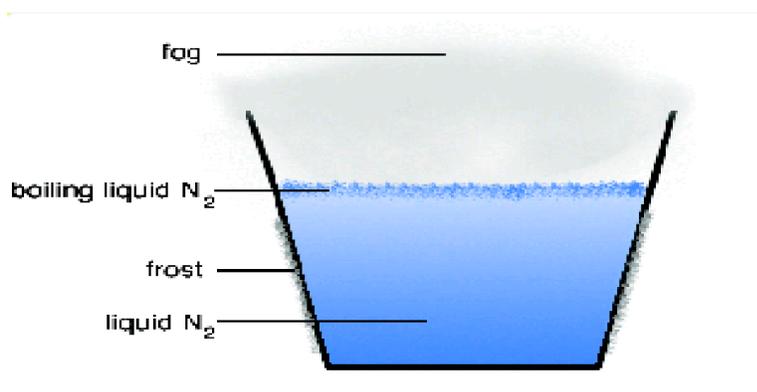
## ANSWER SHEET

### OBSERVATION SHEET – Cryogenics

Name \_\_\_\_\_

Demonstration #1 – Liquid Nitrogen – The VSVS team adds liquid nitrogen to a clear cup.

Draw a cup like the one being used and write down everything you see happening in and around the cup. (List of possible observations and labeled cup given on page 5 of lesson.)



Are the following physical or chemical changes? Circle your response.

Boiling liquid nitrogen:

Chemical      Physical

Formation of fog:

Chemical      Physical

Condensation:

Chemical      Physical

Freezing and thawing of banana:

Chemical or Physical

(You may get both responses here. Since the banana skin turns brown, this would indicate a chemical change. However, the banana still tastes like a banana, although the part that was frozen is mushy.)

Cooling and warming rubber tubing

Chemical      Physical

Shrinking and inflating balloon:

Chemical      Physical

Making ice cream:

Chemical      Physical

(The ice cream mix contains flavor and sugar; mixing and freezing this with milk is a physical change.)

## Fossils Observation Sheet

Name \_\_\_\_\_

1. What parts of an organism can turn into a fossil?
  
2. Observe the sediments as you add them to the water. Are the following statements true or false?
  - a. Sediments settle and form in horizontal layers
  - b. Fossils are the same age as the rock it is found in
  - c. The oldest layer is at the bottom
  - d. The youngest layer is at the bottom
  
3. Look at your placemat. What are the oldest fossils?
  
4. Look at your placemat. What fossils are now extinct?
  
5. Which fossils on your timeline can be used as index fossils?  
 \_\_\_ *Trilobites and Ammonites* How old is the earth?

Eon:	Hadean Eon	Archean Eon	Proterozoic Eon	Phanerozoic Eon
Years:	4.6-3.8 billion years ago	3.8-2.5 billion years ago	2.5 billion years ago - 540 million years ago	540 million years ago - now
Major Events:	Oldest earth rocks form	Single-cell organisms evolve	Multi-cell organisms evolve	Advanced organisms like plants, mammals, and fish

Era:	Paleozoic Era	Mesozoic Era	Cenozoic Era
Dominant Organisms:	Invertebrates (trilobites, crinoids, ammonites, brachiopods)	Dinosaurs, birds	Mammals

**Fossils Observation Sheet - Answers**

6. What parts of an organism can turn into a fossil?

*Hard parts like teeth, bones, shell, skeletons*

7. Observe the sediments as you add them to the water. Are the following statements true or false?

- a. Sediments settle and form in horizontal layers                      True
- b. Fossils are the same age as the rock it is found in                      True
- c. The oldest layer is at the bottom    True
- d. The youngest layer is at the bottom    False

8. Look at your placemat. What are the oldest fossils? *Trilobites*

9. Look at your placemat. What fossils are now extinct? *Trilobites and Ammonites.*

10. Which fossils on your timeline can be used as index fossils?

   *Trilobites and Ammonites* How old is the earth?

Eon:	<b>Hadean Eon</b>	<b>Archean Eon</b>	<b>Proterozoic Eon</b>	<b>Phanerozoic Eon</b>
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Dominant Organisms:	Invertebrates (trilobites, crinoids, ammonites, brachiopods)	Dinosaurs, birds	Mammals