

Welcome! Please complete  
the warmup in your Google  
classroom!

Aug 29-7:38 AM

WWK

1. qualitative data- data or observations  
that cannot be quantified (counted)  
\* anything related to the 5 senses \*
2. quantitative data- data or observation  
that can be counted or measured  
\* height, weight, volume ... \*
3. control- a standard of environment  
that is not changed from one experimental  
run to the next.


Aug 29-9:17 AM

# TOC 25-26 Scientific Method

Observation
Hypothesis
Design Experiment
Conduct Experiment
Results & Data
Conclusion

Aug 29-9:18 AM

# TOC 25-26 Scientific Method

<p>• What do you want to know?</p> <p>&gt; How much bleach will make my whites the brightest? </p>	<p>2 types of observations</p> <ul style="list-style-type: none"> <li>&gt; Qualitative           <ul style="list-style-type: none"> <li>* cannot be counted</li> </ul> </li> <li>&gt; Quantitative           <ul style="list-style-type: none"> <li>* measurable</li> </ul> </li> </ul>
<p>A prediction to the question (problem) posed.</p> <p>"100mL of bleach will make the whites brightest!"</p>	<ul style="list-style-type: none"> <li>• must be testable.</li> <li>• must only test one thing</li> <li>• must be able to be rejected or accepted</li> </ul>
<p>• Control the environment</p> <ul style="list-style-type: none"> <li>• water cycle</li> <li>• brand</li> <li>• type of clothing</li> <li>• WM</li> </ul>	<ul style="list-style-type: none"> <li>• only test one variable</li> <li>• pre determine test process</li> <li>• determine how to record results</li> </ul>

Aug 29-9:18 AM

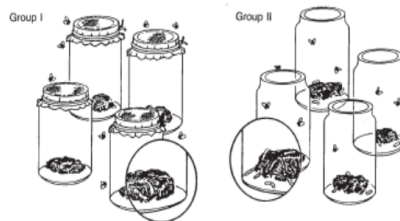
# TOC 25-26 Scientific Method

<p><u>Controls</u></p> <p>wash cycle brand t-shirts</p>	<p><u>independent variable</u> the variable we change *bleach volume*</p> <p><u>dependent variable</u> the variable we observe *brightness*</p>
<p>• <u>Quantitative</u> - amount of bleach</p> <p>• <u>Qualitative data</u> brightness of clothes</p>	<p>• How will we analyze the results? • graph/chart?</p>
<p>• <u>Accept/Reject</u> the hypothesis</p>	<p>• further research • discuss possible errors</p>

Aug 29-9:18 AM

## Scientific Method

Long ago, many people believed that living things could come from nonliving things. They thought that worms came from wood and that maggots came from decaying meat. This idea was called spontaneous generation. In 1668, an Italian biologist, Francesco Redi, did experiments to prove that maggots did not come from meat. One of his



experiments is shown below.

Redi placed pieces of meat in several jars. He divided the jars into two groups. He covered the first group of jars with fine cloth. He left the second group of jars uncovered. Redi observed the jars for several days. He saw flies on the cloth of the covered jars, and he saw flies laying eggs on the meat in the uncovered jars. Maggots appeared only on the meat in the group of jars left uncovered.

Aug 29-9:27 AM

1. Scientists use a series of organized steps called scientific method to solve problems. List the steps that are often used. \_\_\_\_\_

\_\_\_\_\_

2. What was the problem in Redi's experiment? \_\_\_\_\_

3. What do you think his hypothesis was? \_\_\_\_\_

\_\_\_\_\_

4. How did he test his hypothesis? \_\_\_\_\_

\_\_\_\_\_

5. What was the variable in his experiment? \_\_\_\_\_

6. What was the control in his experiment? \_\_\_\_\_

7. What do you think Redi's conclusion was.? \_\_\_\_\_

Aug 29-9:28 AM