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

Teacher: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Lab: \_\_\_\_\_\_\_\_\_

**Controlled Experiments**

**Do Now**: Write down these definitions.

Controlled Experiment:

Independent Variable:

Dependent Variable:

Control Variable:

|  |  |
| --- | --- |
| **Experimental Question:** | Does soap or hand sanitizer kill more germs? |
| **Hypothesis**:  Choose which one you agree with | **If** a person uses hand sanitizer, **then** they will have fewer germs on their hands **than** when they use hand soap.  **If** a person uses hand soap, **then** they will have fewer germs on their hands **than** when they use hand sanitizer. |
| **Reasoning** | I think \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ will kill more germs because  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Experimental Design**  **Independent variable**:  What am I purposefully changing?  **Dependent Variable:**  What will I look for in my result?  **Control Variables:** What might cause something to change in my experiment that is not the independent variable? | Independent Variable:  Dependent Variable:  Control Variables: |

Procedure: Describe what happened in the experiment. (Class will type up. Print it out and attach.

Collect data: Every day in workshop come and collect data, or look at the pictures online.

|  |  |  |  |
| --- | --- | --- | --- |
| Day | Drawing | Qualitative Observations | Quantitative Observations  # of Bacteria Colonies |
|  |  | A  B  C  D | A  B  C  D |
|  |  | A  B  C  D | A  B  C  D |
|  |  | A  B  C  D | A  B  C  D |
|  |  | A  B  C  D | A  B  C  D |
|  |  | A  B  C  D | AA  B  C  D |

Analyze the data: Graph the quantitative results and summarize the qualitative results.

Draw your conclusion