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  |
|  |  | ABCD | ABCD |
|  |  | ABCD | ABCD |
|  |  | ABCD | ABCD |
|  |  | ABCD | ABCD |
|  |  | ABCD | AABCD |

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

Draw your conclusion