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

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

The Scientific Method

**Observation, Hypothesis and Inference: What’s the Difference?**

After this lesson you should be familiar with the differences between an observation, inference, and hypothesis.

**Basic Steps of the Scientific Method**



|  |  |  |  |
| --- | --- | --- | --- |
|  | **Observation** | **Inference**  | **Hypothesis**  |
| **Definition** | An observation is a  | An inference is a  | A hypothesis is  |
| **Examples** | June eats a lot of chocolate and has a lot of pimples.  | June eats has a lot of pimples *because* she eats a lot of chocolate.  | If June increases the amount she eats chocolate, then the amount of pimples on her face will increase.  |

\*\*\*An observation must be UNBIASED in science.

**Qualitative** vs. **Quantitative** Observations

Qualitative observations are observations that are made with your five senses.

Example: 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Quantitative observations are observations made as measurements and quantities.

Example: 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_