Making Observations

Observation: An observation is an active acquisition of information from a primary source. Making observations requires using the senses. Observation can also be recording data during an experiment.

Sight: You can obviously use your eyes to make observations. You can see a reaction take place and know that it was a chemical reaction because there was a color change or maybe the substance now has a different look. Maybe even light was produced during the reaction.

If you make observations with your eyes don't forget to write them down.

Taste: Making observations using a sense of taste is not usually used in a lab setting but can be used if you are doing a science experiment that involves food or drink.

If something tastes spicy, sweet or bitter this can tell you some of the characteristics of the food.

Touch: You can use your sense of touch to describe different textures, densities, or other physical properties of an object. For example, if you were trying to make a hypothesis about which pillow would best break the fall of an egg from the top of the building you could feel the pillows to see which one was the thickest and softest before making your inferences and hypothesis.

Hearing: Making observations using your hearing or even devices that can detect sound can be very valuable especially if you are trying to determine which materials are good at reflecting or absorbing sound. Our ears are also good at determining pitch and frequency and recognizing what sounds are coming from.

Smell: Sometimes odor can tell you if there is a chemical change taking place. Many chemical reactions produce an odor that let us know something has changed. Some chemicals such as sulfur produce a rotten eggs smell that lets you know what chemicals are being produced.

Conclusion

The senses that we have are very valuable and can tell us a lot. Make sure you always write down what you see, taste, smell or touch. This can help you in science with your conclusions during science experiments.

Most people think OBSERVING is using your eyes to SEE something. But when you touch an ice cube you OBSERVE that it is cold. You did not need your eyes. You used your sense of touch. In fact you have five senses to observe the world around you: sight, smell, taste, touch, and hearing. So an OBSERVATION is information you gather using any of your senses.

In looking at an object, you might observe that it is red, rounded, and has a stem. You do this automatically, almost without thinking. Your brain will then process this information. Using these observations, you may decide that the object is an apple and good to eat. This is an **INFERENCE** – a conclusion based on the observations you have made.

Of course, if you bite down and get a mouth full of wax, you know that your inference was wrong. An additional observation, taste, has given you new information. Your mind works out a new inference – fake fruit! You are doing science without knowing it. Observing, experimenting, and concluding.

If your original observations had been better, you may have avoided chewing on wax. So remember—the more observations you have and the better they are, the better your inferences are going to be.

Qualitative Observations- are made when you use your senses to observe the results. (Sight, smell, touch, taste, and hearing)

Making Observations Guided Notes - Teacher Edition **Physical Science**

Quantitative Observations: Are made with instruments such as rulers, balances, graduated cylinders, beakers, and thermometers. These results are measurable.

Write a qualitative example: This soup tastes like a spicy curry.

Write a quantitative example: This inch worm is six inches long.

What type of observation do you think is more scientific and why?

Quantitative observations are more scientific because they are more **objective** and less **subjective.**