

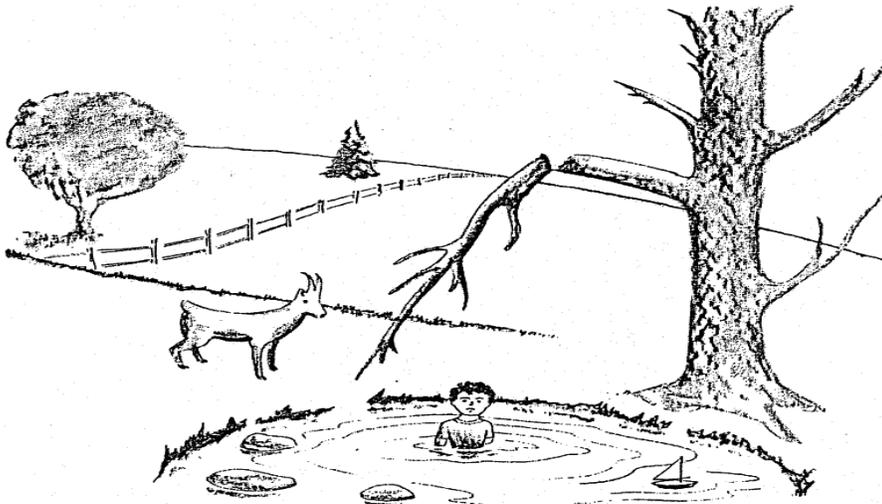
Observations and Inferences

Activity I - What's the difference?

Use the picture of the goat by the water to determine if the following statements are observations, or if the statements are inferences. Place an “**Inf**” in the blank for inference and an “**Obs**” in the blank for observation.

Observation: 1 - information obtained through the senses.
 2 - The data measured, collected, perceived or noticed, especially during an experiment

Inference: 1 - A conclusion one can draw from the presented details.
 2 - The ‘story’ or ‘guess’ about what happened or will happen



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| _____ 1. The kid is in the water. | _____ 9. The goat is standing by the pond. |
| _____ 2. The weather is cold. | _____ 10. The branch will fall on the kid's head. |
| _____ 3. The tree branch is broken. | _____ 11. The kid fell off the rocks. |
| _____ 4. If the kid crawled out of the water, the goat would push him/her. | _____ 12. There is a sailboat in the water. |
| _____ 5. The kid fell off the branch. | _____ 13. The sailboat belongs to the kid. |
| _____ 6. The tree by the pond has no leaves. | _____ 14. The goat will soon leave the pond |
| _____ 7. There are three rocks in the pond. | _____ 15. If it rains, leaves will grow on the tree. |
| _____ 8. The tree by the pond is dead. | _____ 16. The goat pushed the kid into the pond. |

Activity 2 - Types of Observations

A **qualitative observation** is data in the form of recorded descriptions rather than numerical measurements (it smelled good, it was green, etc.). Another type of observation is **quantitative**, data that is in numbers (30 grams, 18 books, etc.)

OBSERVATIONS: Identify the following statements as **QUANTITATIVE** or **QUALITATIVE**.

1. _____ The cup had is dirty.
2. _____ The temperature outside is 45 degrees Celsius.
3. _____ The liquid is 50 mL.
4. _____ The tree is tall.
5. _____ The building has 25 stories.
6. _____ The building is taller than the tree.
7. _____ The sidewalk is long.
8. _____ The sidewalk is 100 meters long.
9. _____ The race was over quickly.
10. _____ The race was over in 10 minutes.
11. _____ The candle went out in 3 seconds.
12. _____ The candle flame flickered

Study the lab notes from a student's M&M EXPERIMENT:

In the M & M experiment, I used 50 mL of water and nail polish remover with a blue M&M. Both liquids were at room temperature (28 deg. Celsius.) The M&M in the water lost its color the fastest. Both liquids turned blue and made these complicated patterns. I got the same results when I repeated my experiment. I was surprised by water dissolving the M&M faster because vinegar is an acidic substance. I thought that vinegar would corrode the M&M faster. I guess water has a higher tendency of dissolving things than nail polish remover. Water is considered a universal solvent meanwhile nail polish remover is very specific.

List all quantitative observations from the students notes	List all qualitative observations from the students notes	List all inferences from the students notes