

OBSERVATIONS VS INFERENCES



NAME _____

DATE _____

CLASS _____

Observations and inferences are two important concepts in the realm of science, research and critical thinking.

They are closely related, but serve different purposes and involve distinct processes.

Observations

Raw data we gather through our _____.

Are _____ and _____ pieces of information about the world around us.

Direct and _____

Describe what we can directly _____ or _____.

The _____ upon which we build our understanding about the world.

Examples of Observations

1. _____: The T° outside is 15 ° C, and the sky is cloudy.
2. _____: When mixed, Substance A and Substance B formed a green solution.
3. _____: The plant's leaves are turning yellow, and it's height has increased by 2 inches over the past week.
4. _____: The moon is currently in its crescent phase and is visible in the western sky.

Inferences

- _____ drawn from _____.
- Involve _____, _____, and sometimes even _____ based on the available data.
- Go _____ what is immediately apparent and involve _____ to make educated guesses or _____ about the underlying causes or implications of the _____.

Examples of Inferences

1. Since the sky is cloudy and the temperature has dropped, it might rain later today.
2. _____: The green color of the solution suggests the presence of a copper compound.
3. _____: The yellowing of the plant's leaves could be due to a nutrient deficiency.
4. _____: The crescent moon's shape indicates that its currently in a waxing phase and it's moving towards a full moon.

In each of these examples, the _____ is the factual information
you can directly gather from your _____ or _____.

The _____ on the other hand, involves _____
_____ or making an _____ based
on that
_____.

It's important to note that while _____ are often based on observations,
they can sometimes lead to _____ if not based on
_____ or sufficient data.

In summary, observations are the concrete data collected through our senses or instruments, while inferences are conclusions drawn from those observations, involving interpretation and analysis to provide deeper understanding or meaning. Both observations and inferences are critical components of scientific reasoning and critical thinking.