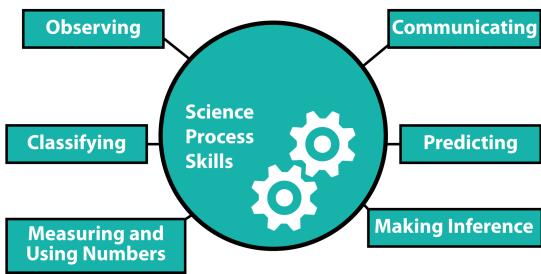


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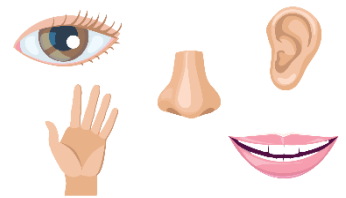
Basic Science Process Skills



Basic science process skills include: _____

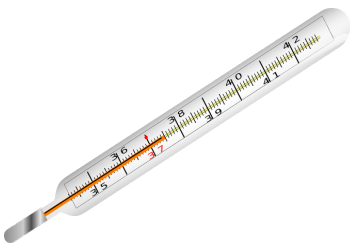
Observing

_____ is the use of one or more senses or measuring instruments to gather information. These descriptions of the qualities you observe make up the _____.



Measuring

_____ is the act of determining the exact amount or dimension of something. Measurements should include magnitude and unit. For example, the thermometer is measuring temperature. The magnitude is 37.5 and the unit is degrees Celsius.



The measurement is 37°C. Tools like rulers, graduated cylinders, and scales can be used to measure. You can also compare the number of the object to another object. Using standard measures or estimations to describe specific dimensions of an object or event is considered _____.

Standard units of measure used in science are in the metric system. Length is measured in meters (m), volume in liters (L), and mass in grams (g).

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Inferring

_____ is formulating assumptions or possible explanations based upon observations. Put together the information gathered and infer or assume what something is or what might happen.



Classifying

_____ means to arrange a group of things in classes or categories according to shared qualities or characteristics. Classifying helps make predictions about its _____ and _____.



For instance, if a new butterfly species is discovered, scientists can classify it based on its similarities and differences to other butterfly species. This may help tell the scientist information about what kind of predators the butterfly has, whether or not it migrates, or what types of plants it likes.

Predicting

_____ is guessing the most likely outcome of a future event based upon a pattern of evidence.



Communicating



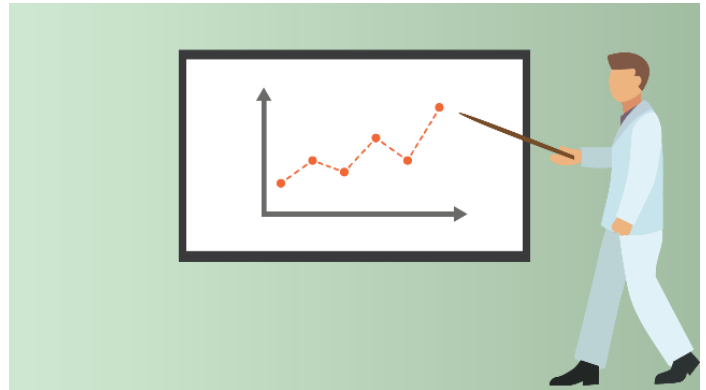
The final basic science process skill is communicating, or using _____
_____. It is important for scientists to share what they have learned with the community such as their results from an experiment to gather feedback. Sharing information could prevent unnecessarily _____.

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Integrated Science Process Skills

Integrated Science Process Skills Include:

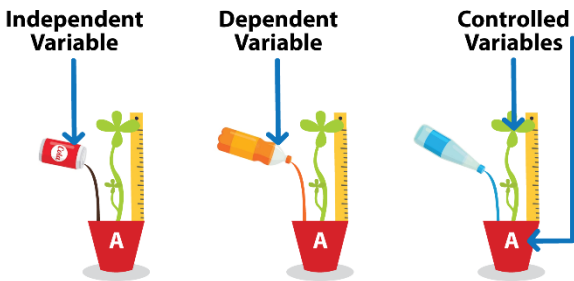
- _____
- _____
- _____
- _____
- _____
- _____



Integrated science process skills apply _____ and analyzing to expand on the basic science process skills.

Variables

_____ means to state the changeable factors that can affect an experiment. It is important to change only the variable being tested and keep the rest constant.



The one being manipulated is the _____; the one being measured to determine its response is the _____; and all variables that do not change are _____.

Formulating Hypotheses

A _____ is stating the proposed solutions or expected outcomes for experiments. These proposed solutions to a problem must be testable and measurable.

The hypothesis should propose how you think the independent variable will affect the dependent variable.

Both _____ should be included in your written hypothesis.

HYPOTHESES FOLLOW QUESTIONS

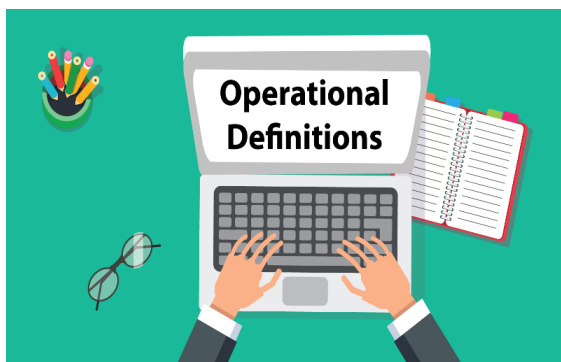
- It is testable.
- It is clear.
- It can be measured.
- It is straight to the point.



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Defining Operationally

_____ means explaining how a variable is to be recognized or measured in an experiment. Explain relationships between variables in an experiment such as between the independent and dependent variables.



Incorporate the design of the experiment by identifying materials and describing appropriate steps in a procedure to test a hypothesis.

The operational definition is important to the scientific process because it provides a set of rules or _____ for carrying out the test or manipulating the variables. It is key to be clear and _____ when defining operationally.

Experimenting

_____ is carrying out an experiment by carefully following directions and procedures so the results can be verified by repeating the procedures several times.

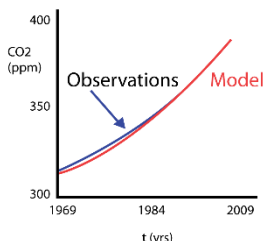
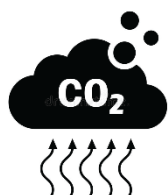
The _____ is run to see if the hypothesis is correct or null (rejected). Data is recorded when running the test so that the results can be analyzed.

DO AN EXPERIMENT



Formulating Models

Global Pollution Carbon Dioxide



_____ is recognizing patterns in data and making comparisons to familiar objects or ideas. making data tables and _____ for data collected.

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Interpreting Data

After collecting qualitative and quantitative data as observations and measurements it is important to interpret the data.

Interpreting data includes analyzing the _____ statistically, identifying human mistakes and experimental _____, evaluating the hypothesis, formulating _____, and recommending further _____ where necessary.



of Correct Answers

