Reading Comprehension

The basic **scientific method** includes the steps scientists use and follow when trying to solve a problem or prove or disprove a theory. The methods are used by scientists all over the world. This is done so scientists can work together to solve some of the same problems.

There are usually five steps which are a part of the scientific method. The steps can occur in any order, but the first step is usually **observation**. An observation is the use of one or more of the five senses, which include seeing, hearing, feeling, smelling, and tasting. The five senses are used to learn about or identify an event or object the scientist wants to study. For example, while observing a spider a scientist may observe the pattern or size of the spider's web.

The second step of the scientific method is the question being researched, the **hypothesis**. It is the question that is turned into a statement about an event or object the scientist would like to research. A good hypothesis includes three things: The explanation for the observations, it is able to be tested by other scientists, and it will usually predict new outcomes or conclusions. The scientist observing the spider building the web may have a question about the strength of the web. An example of the hypothesis might be: The larger the spider, the stronger the web. This hypothesis includes the explanation for the observation, it can be tested, and new conclusions may be reached.

The third step of the scientific method is the **experiment.** An experiment is a test which will either challenge or support the hypothesis. The hypothesis will then be true or false. Using the spider hypothesis, a scientist may experiment by measuring spider webs in relation to a spider's size. Often, even when a hypothesis is disproved much can still be learned during the experiment. For example, while measuring the strength of spider webs the scientist may discover something new about them.

The final step in the scientific method is the **conclusion**. The conclusion will either clearly support the hypothesis or it will not. If the results support the hypothesis a conclusion can be written. If it does not support the hypothesis, the scientist may choose to change the hypothesis or write a new one based on what was learned during the experiment. In the example, if the scientist proves that larger spiders build stronger webs, then that is the conclusion. If it was not proven, the scientist may change the hypothesis to: The size of a spider does has no bearing on the strength of its web.

The scientific method is used for simple experiments students may do in the classroom or very complex or difficult experiments being done all over the world. The spider experiment may be done by any scientist in the world.

In summary, the **scientific method** includes the steps scientists use to solve a problem or to prove or disprove a theory. There are four basic steps involved with the scientific method. The usual steps include **observation, hypothesis, experiment,** and **conclusion.** The steps may not always be completed in the same order. Following the four steps, the results of the experiment will either support the hypothesis or will not support the hypothesis. Scientists are always free to change or write a new hypothesis and start the four steps all over again. The scientific method is used for simple experiments or for more difficult experiments.

LIVEWORKSHEETS

Reading Comprehension

1) Which of the following is the best definition of the scientific method?
A: A method used by scientists to try and find the answers to questions.
B: Used by scientists only throughout the world.
C: A method to prove the right answer to a question by a scientist.
D: The steps scientists use and follow when trying to solve a problem or to prove or disprove a theory.

2) Which of the steps in the scientific method would a scientist use for seeing, hearing, feeling, smelling, and tasting?
A: Conclusion
B: Observation
C: Experiment
D: Hypothesis

3) Which of the following is the best example of a hypothesis?
A: Do hamsters live longer than birds?
B: Cars and trucks usually use the same amount of gasoline.
C: I think dogs make better pets for everyone.
D: Brand B lightbulb will burn longer in a lamp than Brand X lightbulb.

4) Which statement is true?
A: An experiment is a test which will either challenge or support a hypothesis.
B: An experiment is a test which must always prove the hypothesis.
C: An experiment is only used when trying to prove a hypothesis.
D: An experiment does not have to be part of the scientific method.

5) Fill in the blank with one of the choices. If the results of an experiment support the hypothesis a(n) _____ can be written.
A: Observation
B: New hypothesis
C: Conclusion
D: Experiment

6) The scientific method
A: Can be used for simple experiments or more difficult experiments
B: Can be used only for simple experiments at home or in the classroom
C: Can only be used for experiments carried out by scientists
D: Can only be used for very difficult experiments

1	2	3	4	5	6

LIVEWORKSHEETS

Reading Comprehension

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