

The scientific method and observation and measurement essay sample

[Science](#)



**ASSIGN
BUSTER**

Please respond to the following: Describe each step of the scientific method. Assess the role of reproducibility, collaboration, and peer review as part of scientific inquiry.

1. Formulating a problem- knowing what you want to investigate, like choosing a certain field to work in
2. Observation and experiment- this is done with great care, facts of nature are like building blocks of science and its results. Making sure things are as accurate and objective data that sets science apart from other modes.
3. Interpreting the data- to account for what has been found on how nature works. A scientific interpretation is usually called hypotheses.
4. Testing the interpretation- this is a part of making new observations to see whether the interpretation is going to correctly predict the results. By further observation and experiment to check it's predictions.

Theories resulting from Scientific and Observation & Measurement done by yourself or one group needs to be validated by further study. Reproducing of the scientific method to test the theory again and again gains confidence that the theory is correct, but still may have flaws because the test conditions may be too narrow validate the theory. Therefore testing by others by collaboration with others can help to add more viewpoints on the theory and others who collaborate may run scientific method at other locations and with other conditions to further confirm and/or refine the theory. Peer review allows for others within the scientific community to consider the theory and find flaws or suggest other testing or refinements

that are necessary. Peer review may also lead to collaboration with scientist who can run additional testing and may have access to more resources for testing (better equipment, more manpower, research funding, etc).

Use the Internet or the Strayer Library to research articles on a recent scientific claim that you believe may or may not stand up to scientific testing. Be prepared to discuss. Watch the video titled “ Launchpad: Methane on Mars” (5 min 40 sec). Be prepared to discuss.

Video Source: NASA e-Clip

(2009, October 21). Launchpad: Methane on Mars [Video file]. Retrieved from [http://www. nasa. gov/audience/foreducators/nasaclips/launchpad/exploration. html](http://www.nasa.gov/audience/foreducators/nasaclips/launchpad/exploration.html).