

## Methods of Inquiry

**We can categorize inquiries into four basic categories.**

**Scientific Method:** The best-known method of inquiry is the scientific method.

1. Observe.
2. Hypothesize.
3. Experiment.
4. Repeat from step 1.

**Historical/Legal Method:** The historical/legal method is to interview witnesses and integrate their testimony into a coherent account.

**Axiomatic Method:** The axiomatic method is used in the mathematical sciences and is equivalent to asking “What if”

1. Establish initial assumptions (called axioms).
2. Apply deductive logic to reach conclusions (called theorems).

**Divine Revelation:** Every society includes people that seek supernatural insight. The methods employed are too varied to summarize succinctly.

**The axiomatic method is a critical supplement to the other methods.**

**Scientific Method:**

- Mathematics includes the study of patterns and how to find the principle governing a given pattern. This skill is necessary for devising a hypothesis.
- With a hypothesis in hand, the scientist must devise an experiment to test the hypothesis. Deductive reasoning (and thus mathematical thought) is required to predict the results of the hypothesis and to devise conditions under which an alternative hypothesis would generate a different outcome.

**Historical/Legal Method:** The investigator compares each statement with known principles to reach a conclusion. For example, in one court case witness A stated that the defendant entered a certain car through the right rear door, but didn’t see what happened as the car left. Witness B didn’t see who was in the car, but witnessed a gunshot being fired by someone in the right rear seat of the car immediately after it left. Although neither witness can say who fired the shot, their testimony, combined with some logical extrapolation indicates that the defendant fired the shot. More generally, historians and lawyers use forensic science and logical thought processes to find inaccurate testimony and to determine what events are consistent with the remaining testimony.

**Divine Revelation:**

Christians consider Biblical statements to be axiomatic. They can then apply deductive logic to reach specific conclusions. For example, the Bible says nothing specifically about tagging a neighbor’s car, but this is clearly prohibited by the Golden Rule and thus we could consider “Don’t tag your neighbor’s car,” to be a Biblical theorem or corollary