3. Possible solutions are listed. These are hypotheses not theories. This is the method of multiple hypotheses.

4. It is determined which of the possibilities:
   (a) agree with all the facts
   (b) are most nearly sufficient to explain the facts
   (c) give the simplest consistent explanation (involving the fewest nonfactual assumptions)
   The hypotheses that survive these tests may be advanced as theories.

5. Additional observations are made in the light of the theories in an effort to find facts:
   (a) inconsistent with the favored theory
   (b) consistent only with it and inconsistent with others
   If one alternative proves to be entirely consistent with the facts and sufficient to explain them, it may be accepted as a proved theory."

Another model of the scientific method may be outlined as follows:

A PROCESS OF INQUIRING

1. Defining the problem. This involves:
   a. becoming aware of a problem
   b. making it meaningful
   c. making it manageable

2. Developing tentative answers (hypothesizing). This involves:
   a. examining and classifying available data
   b. seeking relationships and drawing logical inferences
   c. stating hypotheses

3. Selecting from among tentative answers (reflective thinking).

4. Testing the tentative answer. This involves:
   a. assembling evidence
      (I) identifying the needed evidence
      (2) collecting the needed evidence
      (3) evaluating the needed evidence
   b. arranging evidence
      (1) translating evidence
      (2) interpreting evidence
      (3) classifying evidence
   c. analyzing evidence
      (1) seeking relationships
      (2) noting similarities and differences
      (3) identifying trends, sequences, and regularities

5. Developing a conclusion. This involves:
   a. making meaningful patterns
   b. stating the conclusion