1. Which of the following statements is true?
   a. A hypothesis always leads to the formulation of a law.
   b. The scientific method is a rigid sequence of steps in solving problems.
   c. A law summarizes a series of experimental observations; a theory provides an explanation for the observations.

2. Classify the following as qualitative or quantitative statements, giving you reasons.
   a. The sun is approximately 93 million mi from Earth.
   b. Leonardo da Vinci was a better painter than Michelangelo.
   c. Ice is less dense than water.
   d. Butter tastes better than margarine.
   e. A stitch in time saves nine.

3. Give one qualitative and one quantitative statement about each of the following:
   a. Water
   b. Carbon
   c. Iron
   d. Hydrogen gas
   e. Sucrose (cane sugar)
   f. Table salt (sodium chloride)
   g. Mercury
   h. Gold
   i. Air

4. Classify each of the following statements as a hypothesis, a law, or a theory.
   a. Beethoven’s contribution to music would have been much greater if he had married.
   b. An autumn leaf gravitates toward the ground because there is an attractive force between the leaf and Earth.
   c. All matter is composed of very small particles called atoms.

*Similar problems: 2 and 3*