BSC 1005: Life Science

Activity 1: Chapter 1 *Name(s)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

Complete the following problems. Use your class notes to help find the answers.

1. Define ***science*** and the ***scientific method***
2. Define ***Hypothesis***
3. Determine which of the following are good hypotheses, and briefly explain:
   1. Caffeine makes people more alert
   2. Ghosts exist in haunted houses
   3. Carbon dioxide causes global warming
4. How is scientific theory different than scientific hypothesis?
   1. It is based on weaker evidence
   2. It has not been proven true
   3. It is not falsifiable
   4. It can explain a large number of observations
5. Design an experiment to determine the effectiveness of using hand sanitizers, like Purell, at preventing colds among college students.
   1. What is your hypothesis?
   2. What are your experimental and control groups?
   3. What sample size would you use?
6. Why should you be cautious with news from the internet? What are characteristics of good quality scientific and health related news reports?
7. Explain why correlation does not mean causation. Use stress and colds as an example.
8. A relationship between two factors, for instance between the temperature outside and the number of people with active colds in a population, is known as a(n) \_\_\_\_\_\_\_\_\_\_\_.
   1. Significant result
   2. Correlation
   3. Hypothesis
   4. Experimental Test