Nature of Science, Lesson 1

1. \_\_Science\_\_\_\_\_\_\_\_\_ is the investigation and exploration of natural events and of the new information that results from those investigations.
2. The three most common branches of science are\_\_Physical science\_\_\_\_, \_Earth science\_, and \_\_\_\_\_life science\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. An \_\_\_inference\_\_\_is a logical explanation of an observation that is drawn from prior knowledge.
4. A\_\_\_\_hypothesis\_\_ is a possible explanation for an observation that can be tested by scientific investigations.
5. A statement of what will happen next in a sequence of events is a \_\_\_prediction\_\_.
6. To test your predictions and hypothesis, you design an \_\_experiement\_\_\_\_.
7. If a prediction is confirmed, then the test supports the\_\_hypothesis\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
8. A conclusion is a \_\_summary\_\_ of the information gained from testing a hypothesis.
9. A\_\_\_\_\_scientific theory\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is an explanation of observations or events that is based on knowledge gained from many observations or events that is based on knowledge gained from many observations and investigations.
10. A rule describes a repeatable pattern in nature is a \_\_\_scientific law\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
11. Comparing what you already know with the information you are given in order to decide whether you agree with it is \_\_critical thinking\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Nature of Science, Lesson 2

1. A spoken or written summary of observations is called a \_\_\_\_\_\_description\_\_\_\_\_\_\_.
2. An\_\_\_\_\_\_\_explanation\_\_\_\_\_\_\_\_ is an interpretation of observations.
3. The internationally accepted system of measurement is the \_International System of Units\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. The different SI Base Units are\_\_\_\_\_length\_\_\_\_\_\_\_\_\_, \_Mass\_\_\_\_\_\_\_\_\_, \_\_\_\_time\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_electric current\_\_\_\_\_, \_\_\_temperature\_\_\_, \_\_\_Substance amount\_\_\_\_\_\_\_, and light intensity.
5. The different SI unit prefixes are\_\_mega\_\_\_\_\_\_\_\_\_\_, \_\_\_kilo\_\_\_\_, \_\_hecto\_\_\_\_\_\_\_\_, \_\_\_\_deka\_\_, \_\_\_\_deci\_\_\_\_\_\_\_\_\_, centi, milli, and\_\_\_micro\_\_\_\_\_\_\_\_\_\_.
6. To convert from one SI unit to another you either \_\_\_multiply\_\_\_\_\_\_\_\_\_ or divide by a factor of ten.
7. A method of writing or displaying very small or very large values in a short form is \_\_scientific notation\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
8. Percent error is the \_\_\_\_\_expression\_\_\_\_\_ of error as a percentage of the accepted value.

Nature of Science, Lesson 3

1. A \_\_\_\_\_\_Variable\_\_\_\_\_\_\_\_\_\_\_\_ is any factor that can have more than one value.
2. The independent variable is the \_\_\_factor\_\_\_\_\_\_\_\_\_ that you want to test. It is changed by the investigator to observe how it affects a dependent variable.
3. The dependent variable is factor you \_\_observe\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or measure during an experiment.
4. Constants are factors in an \_\_\_\_experiement\_\_\_\_\_\_\_ that do not \_change\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. An \_\_\_Experimental group\_\_\_\_\_\_\_\_\_\_ is used to study how a change in the independent variable changes the dependent \_\_variable\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
6. The control group contains the same \_\_Factors\_\_\_\_\_\_\_\_\_\_\_\_\_ as the experimental group, but the \_\_\_\_\_independent variable\_\_\_\_\_\_\_\_\_\_\_is not changed.
7. \_\_\_\_\_\_\_\_\_\_\_\_Qualitative Datea\_\_\_\_\_\_\_\_ uses words to describe what is observed.
8. \_\_\_\_\_\_\_\_\_\_\_Quantitative data\_\_\_\_\_\_\_\_\_ uses numbers to describe what is observed.