

Chapter 1 – The Nature of Science and Scientific Inquiry

- **Online resources:** www.science.nelson.com/bcscienceprobe9/centre.html
- **Remember** to ask your teacher whether your classroom has the lab equipment necessary to perform the **TRY THIS** activities and **Investigation** activities found in this chapter, and whether or not you have to do them.

1. What are the key ideas in this chapter?

Section 1.1–The Nature of Science

1. What exactly is Science?

2. What is the main goal of Science? What is the main product?

3. What are the four basic assumptions Scientists make about Science and the natural world?

4. The characteristics of science are explained starting on p.5 under the four blue headings. Write out each heading, and condense the explanation that follows into a few key points.

5. What are the five misunderstandings about Science?

5. Correlation _____ indicate the degree of _____ between two sets of data. They range from +1 to _____. A _____ correlation indicates a _____ relationship, which means an increase in one variable corresponds to an _____ another. A _____ correlation means an _____ in one variable corresponds to a _____ in another. A correlation of _____ means that the data is _____ distributed on the graph.
6. Knowing that two _____ are _____ means you can predict one variable based on your knowledge of the other. The closer the _____ to +1 or -1, the more _____ it is that your prediction is _____.
7. Correlational studies require _____ sample numbers and many _____ to increase the validity of the _____. But even if those conditions are met, it is hard to establish _____ and effect.
8. Observational studies involve observing a _____ or phenomenon in a _____ manner, that is, in a way that doesn't _____ or _____ the subject of phenomenon.
9. Name three sciences that rely heavily on observational studies.
10. Often times the _____ explanation or _____ in an observational study isn't posed at the beginning, but only after considerable _____ has been gathered. Observational studies are done when an _____ cannot control the _____.
11. Starting on p.22, read and follow the ten steps scientists use to conduct a controlled experiment. They are summarized in Figure 10 on p.23. You will need to know the ten steps for the test!