Tour of the Basics
Web Quest

Log on to: http://gslc.genetics.utah.edu/units/basics/tour/. Explore this activity to find the answers to the questions below.

1. What is DNA?

2. What does “DNA” stand for?

3. What is the four-letter DNA alphabet and what are the special rules by which the alphabet pieces bond together?

4. What is a gene?

5. What are genes made of?

6. How many genes do humans have?

7. For what molecule do genes contain the instructions for building?

8. What is a chromosome?

9. How many chromosomes does a human cell hold?

10. How are the human sex chromosomes labeled?

11. How many different kinds of proteins does one cell contain?
12. Why do scientists use computer programs to model protein structure and function?

13. What provides the “blueprint” for making a protein?

14. What is heredity?

15. Why aren’t children identical to either one of their parents?

16. In humans, how many chromosomes does each parent pass on to their offspring?

17. Does the second baby in the What is Heredity? animation inherit the exact same chromosomes as the first? Do both babies have a complete set?

18. What is a trait?

19. List the types of traits that exist.

20. Give an example of how an environmental factor can influence a trait.
Log on to http://gslc.genetics.utah.edu/units/basics/. Explore this module to find the answers to the questions below.

1. What are the base-pairing rules for DNA?

2. How is DNA replicated?

3. The two-step process by which cells read a gene and produce a string of amino acids that will eventually become a protein is called:
   _________________ and _________________

4. Transcribe and Translate a Gene.
   How is mRNA different from DNA? (Hint read the side-bar on this page for help)
   What is the correct starting position for translation?
   Write the amino acids used to assemble your protein in order below.
   Where does translation take place?

5. Once assembled, what is the key to a protein’s unique function?