Name: _____ Date: _____

Cell, DNA and Genetic Material: Practice Stencil

1. What is the smallest unit of life that makes up all living organisms? _____

2. Define the following terms:

a) Cytoplasm:

b) Cellular membrane:

c) Nucleus:

d) DNA:

e) Chromosome:

f) Gene:

g) Nitrogen Base:

h) Karyotype:

i) Cell Division:

3. True or false?

a) Within each pair of chromosomes, one comes from the mother, the other from the father. ____

b) The egg is a diploid cell. _____

4. When a new disease appears, genetic diversity becomes even more important. Why? Explain.

5. a) Describe the structure of the DNA molecule.

b) In what part of the cell is DNA found? _____

6. : Draw a double helix.

7. Which Nitrogen bases make up DNA and the genetic code? How are they paired up?

8. Diploid cells contains two sets of chromosomes, one set donated from each parent.

a) Describe which cells in the human body are diploid cell. Give an example:

b) How is a diploid cell represented:

9. A) What type of human cells are haploid? Why?

B) How are they represented?

10. What is the main difference between the 23 pairs of chromosomes in a female and male?

11. What are the two functions of mitosis? Explain each one.

12. Mitosis does not occur in all cells. Give examples of two types of cells where this process does not occur?

13. Certain cells on the human body are replaced every two weeks, whereas other cells, like red blood cells, have a lifetime of 4 months. Why is the mitotic activity of these cells so different?

14. In what phase of mitosis does the mother cell copy the DNA in its nucleus?

15. What is the function of meiosis?

16. What is the name given to the male gametes (sex cells)? _____

17. What is the name given to the female gametes (sex cells)? _____