**Lesson 4.1: The Genetic Code**

1. What does DNA stand for?
2. What are the sides of a DNA molecule made of?
3. What are the four nitrogen bases found in DNA? How do they pair up?
   1. 2)
   2. 4)

4) What has to happen to DNA before it can replicate and how does the new strand compare to the old strand?

**Lesson 4.2: How Cells Make Proteins**

1) What are the building blocks of proteins called?

1. Where does the code for your proteins ultimately come from?
2. Where does protein synthesis take place and at what structure?

4) What are the differences between DNA and RNA?

**Lesson 4.3: Mutations**

1. What type of cell can be passed onto offspring?

Body cell or Sex Cell

1. Lost the 4 types of mutations that can occur.
2. How could a mutation be helpful to an organism? How could it be harmful?
3. What are 3 ways to treat cancer?

**Lesson 5.1: Human Inheritance**

1) Which chromosomes carry the genes that determine the gender of a person? What do a female’s chromosomes look like? What about male?

1. What are genes that are found on the X & Y chromosome called?
2. I have the gene for colorblindness but I do not show the trait. What do we call this?

**Lesson 5.2: Human Genetic Disorders**

1) Define genetic disorder.

2) How are pedigrees useful in tracing genetic disorders? How are karyotypes useful in diagnosing genetic disorders?

**Lesson 5.3: Advances in Genetics**

1) What is the difference between INBREEDING and HYBRIDIZATION?

2) Define cloning and explain how the offspring compare to the parent plant.

3) Explain how you could use a karyotype to determine the gender of a person.