 Biology 1 Name:

 ***DNA Technology***  Name:

 ***Internet Assignment*** Name:

Hour:

***Extracting DNA***

Go to: <http://learn.genetics.utah.edu/>

Scroll down and click “VIRTUAL LABS”

Click “DNA EXTRACTION”

Continue to click through the process to answer the following questions.

1. What are three reasons for extracting DNA from samples?

2. What are the 4 steps in collecting DNA?

***PCR***

Go to: <http://learn.genetics.utah.edu/>

Scroll down and click “VIRTUAL LABS”

Click “PCR”

Continue to click through the process to answer the following questions.

1. List everything that you add to the “PCR Tube”.
2. Where does the “PCR Tube” get placed?
3. How many copies of the original DNA fragment are produced after 30 cycles?

***DNA FINGERPRINTING (GEL ELETROPHORESIS)***

Go to: <http://learn.genetics.utah.edu/>

Scroll down and click “VIRTUAL LABS”

Click “GEL ELETROPHORESIS”

Continue to click through the process to answer the following questions.

1. Gel electrophoresis allows scientist to separate DNA fragments based on \_\_\_.
2. What is added to push the DNA through the gel filter?
3. Which strands of DNA move the fastest and, therefore, the farthest?
4. What are the 5 steps in gel electrophoresis?

***GENE THERAPY***

Go to: <http://learn.genetics.utah.edu/>

Scroll down and click “GENETIC TECHNOLOGY”

Click “GENE THERAPY”

Click “GENE DELIVERY: THE KEY TO GENE THERAPY”

Scroll and read then answer the following questions.

1. What are 4 hallmarks of successful gene delivery?

Click “TOOLS OF THE TRADE”

2. What is a vector?

1. List the 5 vectors detailed in this section.

***CLONING***

Go to: <http://learn.genetics.utah.edu/>

Scroll down and click “GENETIC TECHNOLOGY”

Click “CLONING”

Click “CLICK AND CLONE”

Continue to click through the process to answer the following questions.

1. List the mice used in this experiment, along with their names, roles and color.
2. List the 6 steps in cloning an organism.

***ANSWERS***

***Extracting DNA***

1.

2.

***PCR***

1.

2.

3.

***DNA FINGERPRINTING (GEL ELETROPHORESIS)***

1.
2.
3.
4.

***GENE THERAPY***

1.

2.

1.

***CLONING***

1.