Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Reproductive Technologies

**Mouse Cloning Lab**

***Directions:***

-Go to the website: <http://learn.genetics.utah.edu/content/tech/cloning/clickandclone/>

-Follow the “Click and Clone” directions to clone Mimi the mouse

-Answer the questions as you complete the assignment

1. Step #1:

1a-Which mouse provides the somatic cell?

1b- Which mouse provides the egg cell?

1. Step #2:
2. Step #3

3a: The nucleus from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_cell is transferred to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Step #4:

4a- What was the purpose of waiting before beginning step #5?

4b- What is the name of the “ball” or 16 cells that is now in the petri dish?

1. Step #5:
2. Step #6:
3. Who is genetically the mother and father of the newly cloned mouse pup?

Directions: Go to the websites listed below and answer the questions below.

**Estrous Synchronization**- http://beef.osu.edu/library/estrusny.html

1- What percentage of beef cattle are bred using A.I. in the United States? Why are there so few?

2- List two of the Advantages of Successful Estrous Synchronization.

3- List the requirements for Estrus Synchronization.

4- Based on what you've read and learned in class what are some of the advantages and disadvantages of Estrus Synchronization?

**Artificial Insemination**- http://extension.missouri.edu/publications/DisplayPub.aspx?P=G2312

1- Based on this article and what you've learned in class what are some of the advantages and disadvantages of Artificial Insemination in swine?

2- Why is A.I. easier and less time consuming in Swine than any other species?

**Embryo Transfer**- http://www.reprospecialty.com/information.html

1- What are the two groups that candidates for Embryo Transfer fall into?

2-Describe the process of collecting embryos from a donor female.

3- What does the Embryologist evaluate the collected embryos for?