Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_Period: \_\_\_\_\_\_

**Biotechnology and Bioethics Questions**

**Stem Cell Research:**

1. What is a stem cell?
2. What is the difference between an embryonic stem cell and an adult stem cell?
3. Why do we study stem cells?
4. What are stem cells used for?
5. What are the 3 types of stem cell transplants. **Briefly describe each one.**
6. Where do stem cells come from?
7. Why is stem cell research controversial?

**Genetic Testing:**

1. What are single gene diseases?
2. What is the main problem with our current technology dealing with genetic testing?
3. Why would someone want to be tested?
4. Aside from the person being tested, who would be interested in the results of a genetic test? Why?
5. What would be the problem with someone being forced to share genetic test results with an employer or insurance company?

**Cloning:**

1. What are the 3 types of cloning technologies? **Briefly describe each one.**
2. What is gene therapy?
3. Define recombinant DNA technology.
4. How can recombinant DNA technology be helpful?
5. How could reproductive cloning be helpful?
6. What is therapeutic cloning used for?
7. What are the benefits of transplanting a cloned organ?
8. What are some problems with cloning?

**Genetically Modified Food:**

1. What is the difference between the terms biotechnology and genetic modification?
2. List a few genetically modified (GM) products currently made.
3. What are the most common GM crops?
4. How are they modifying food (what new traits are they trying to make)?
5. List 2 problems and 2 benefits of genetically modified food.

**Discussion Questions: We will be discussing these on Friday.**

1. Is it ethical to create/design living organisms?
2. Should we have a say in which foods we eat are genetically modified?
3. Do the benefits of stem cells outweigh possible issues with harvesting them?
4. Should insurance companies be allowed to require genetic testing and/or be allowed to refuse coverage to people that have a genetic disease?
5. Should researchers be allowed to clone animals, including humans?

**Extended Response ( Due Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)**

Write a letter to congress explaining your opinion on one bioethics/biotechnology issue and what policies you think should be enacted related to it. You should have at least 3 paragraphs: 1 paragraph supporting your opinion (include 2 reasons WHY you believe your opinion is right), 1 paragraph addressing the other side of the argument (explain the other side’s argument, then say why you still think your opinion is better), and 1 paragraph explaining what you think congress should do about the issue.