



AFNR Biotechnology Unit

Historical Development of Biotech (Lesson plan developed and supplied by the United Soybean Board/soy checkoff.)

The purpose of this activity is for you to identify the important milestones in the development of biotechnology. People generally think of biotechnology as being a new phenomenon; however, the use of this technology to alter living things for the benefit of humans is almost as old as the human race itself.

Materials:

Computers with Internet access and printer
Construction paper
Scissors
Glue
Tape

Possible topics for the timeline:

Group 1

- Fermentation
- Antibiotics
- Genetics
- DNA molecule

Group 2

- Gene
- Bt Cotton
- Dolly the sheep
- Genetic engineering

Group 3

- Artificial insemination
- Gregor Mendel
- Vaccines
- Yogurt

Group 4

- Gene therapy
- Bread
- Insulin
- James Watson

Group 5

- Francis Crick
- Round up Ready crops
- Cheese
- Plant breeding

Procedure:

1. Work in groups of two to help create a class timeline to put around your classroom.
2. Choose a list of biotech topics from different eras.
3. Research and print the following information:
 - a. Name of each technology or scientist (put in a large font that can be easily seen from a distance)
 - b. The year that the technology was first used (again large font)



- c. A picture that would help illustrate each technology or individual
- d. A definition of each technology or description of the scientists and their contribution to biotechnology
4. Once everyone has finished, arrange the entire class timeline in chronological order and attach your information to pieces of construction paper.
5. When the timeline is complete, hang it up around your room.
6. Once the timeline is on the wall, complete the conclusion questions independently. When everyone is finished, discuss your answers as a class.

Follow-Up Questions

1. What was the earliest biotechnological advancement identified and when did it occur?
2. What was the most recent? ([Click here](#) for a list of most recent articles)
3. Identify at least ten (10) problems that were solved through time with the use of biotechnology.
4. Identify five advances that you consider to have had the greatest impact on the human race and explain why.

Research the human population for each milestone on the timeline. Explain any correlation to increase in human population to the impact on natural resources, and the need for biotechnology.

