

DNA Technology Notes Chapter 9

Genetic Engineering/Biotechnology

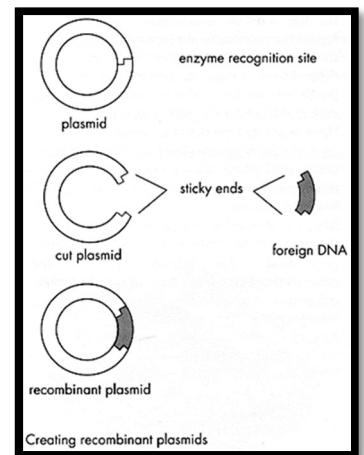
- Genetic Engineers can _____ the _____ of living _____.
- Examples:
 - Selective _____
 - _____ DNA
 - _____
 - _____ Organisms

Using DNA technology	Practical Uses of DNA Technology
1. Cure _____ 2. Treat genetic disorders 3. _____ 4. Improve the _____	1. _____ (ex. A bacteria is used to produce human insulin) 2. _____ - safer and more effective 3. Pest _____ 4. Increase _____ yields (Crop plants are bigger, prettier, pest resistant, etc)

- How can genetic engineers manipulate genes?
 - They can cut _____ using _____ into smaller, more manageable pieces.

Recombinant DNA Technology

- The ability to _____ of one organism with the DNA of _____.
- Use " _____ " to cut out a _____
- Use a " _____ " to insert (_____) a _____
- Recombinant DNA technology was first used in the 1970's with _____.
- Benefits of Recombinant Bacteria
 - Bacteria can make _____ or human growth hormone.
 - Bacteria can be engineered _____.



Selective Breeding

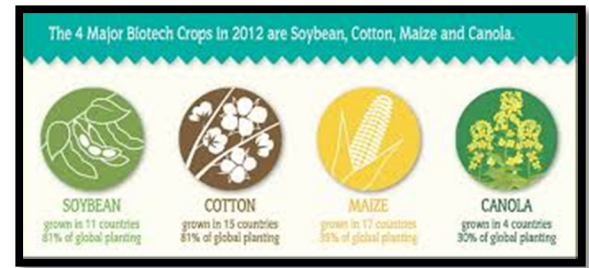
- Breed only those _____ with _____ traits
- People have been using selective breeding for _____ with _____ and _____.

Genetically Modified Organism (GMOs)

- The DNA of _____ can also be _____.
- PLANTS:
 - _____ and insect-resistant crops
 - _____
 - _____ of food in supermarket is

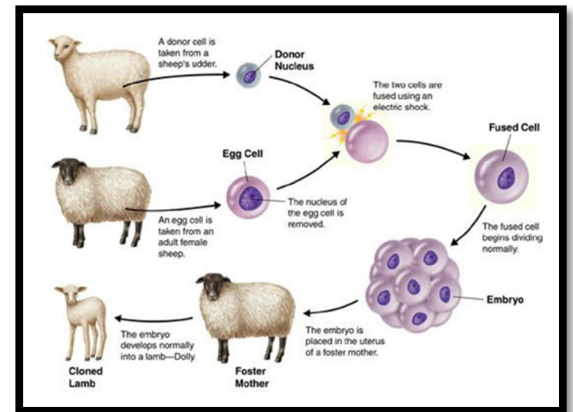
genetically modified.

- Genetically modified organisms are called _____
 - Examples:



Cloning

- Cloning describes the processes used to create an _____ of another cell, tissue _____.



DNA Fingerprinting



- A pattern of bands made of _____
- Compare the _____ to see if 2 samples are _____
- Used in _____
- This technology allows scientists to identify _____!
- _____ is a technique used to separate DNA fragments according to their _____



Human Genome Project

- _____ - find the location of _____ on _____
- Sequencing - find the sequence of the entire human genome has _____, about _____
- Find out the function of each gene → _____ - inserting normal genes into human cells to correct _____

