

MODULE

**Biotechnology**

- Construct models of the DNA molecule and model the recombinant DNA process.
- Extract DNA cells from an organism. Discuss the risks and benefits of the use of biotechnology.
- Design an experiment using the scientific method.

SESSION FOCUS

- 1 DNA and Biotechnology
- 2 Recombinant DNA, DNA Extraction
- 3 Gene Splicing
- 4 Risks/Benefits in Biotechnology
- 5 Enzyme Experiment
- 6 Enzyme Experiment Data Analysis
- 7 Design an Experiment

**Dear Parent,**

As parents and teachers, we realize it can be hard to get a child to discuss what he or she is learning in school. We hope the information provided on this page will assist you in communicating with your child about what he or she is learning.

Your participation in the learning process is extremely important, as you are your child's best teacher.

For the next few days, your child will be learning about biotechnology and its use in fields such as agriculture, medicine, and household products.

**Words students will learn in this Module include:**

- biotechnology
- chromosome
- DNA
- enzyme
- gene
- gene splicing
- nitrogenous base
- nucleotide
- plasmid
- recombinant DNA
- transgenic

**Questions for Discussion**

During the course of this Module, your child will be assessed on key concepts and activities. You might want to discuss these concepts and activities with your child. He or she will be asked to:

- Give examples of how biotechnology is being used to benefit people and animals. *(Two possible answers include insulin production and agents that eliminate blood clots.)*
- List two things that the genes of a DNA molecule control. *(Genes control an animal's appearance, health, growth, and reproduction.)*
- Explain any differences between a control group and an experimental group. *(A major difference is that the control group contains all the same components as the experimental group except for what is being tested.)*

Student: \_\_\_\_\_

Parent: \_\_\_\_\_