
SYNOPSIS:

This program discusses how science and nature are cooperating to give us new sources of fuel and biodegradable products. We'll see how genetic engineers are taking one common plant, the rapeseed and attempting to solve both worldwide problems.

CURRICULUM UNITS:

Biology
Chemistry
Genetics
Physics

CAREER OPPORTUNITIES:

Agricultural Science
Biotechnologist
Botanist
Earth Scientist
Ecologist
Environmentalist
Genetic Engineer
Horticulturist
Materials Engineer
Molecular Biologist

PROGRAM OVERVIEW:

This program offers an introduction to biotechnology and how it serves a practical purpose in our lives. Two of the problems facing our world are the limited supply of natural resources and our growing piles of trash. Scientists are hoping to find a solution to both these problems with an ordinary plant, the rapeseed. After viewing this program, students will be inspired by the vital role biotechnology and the rapeseed plant is playing in our lives.

ISSUES & CRITICAL THINKING:

After showing the program, ask your students the following questions:

- 1) What types of products are made from the oil of an oilseed plant?
- 2) Why is it important to experiment with oilseed plants like the rapeseed?
- 3) What does biodegradable mean?
- 4) How would biodegradable plastics help the environment?
- 5) What do genetic engineers do?
- 6) How can genetic engineers improve our lives?
- 7) Where do fossil fuels come from?

GLOSSARY:

BIODEGRADE- To naturally decompose through a biological process.

BIOTECHNOLOGY- A field of science that uses various methods such as genetic engineering to change or improve organisms and the products we get from them.

DNA- A large, twisted ladder-like molecule within each living cell of an organism that holds the plan for how the cell and organisms will develop.

FOSSIL FUELS- Known commonly as coal or oil, the ancient decomposed parts of plants and animals used as forms of energy.

GENETIC ENGINEER- Scientists who identify segments of DNA, called genes who can remove the genes to another life form in order to change its genetic instructions.

OILSEED PLANTS- Plants such as linseed or rapeseed from which oils can be extracted in commercially useable quantities.

RAPSEED PLANT- A plant that grows in Asia, Europe and some parts of Canada, that can be changed through scientific engineering in order to produce biodegradable oils.

SYNTHETIC- A man-made substance.

TRAITS- Characteristics.

The Wonders of Technology,
Genetic Engineering,
Biotechnology



GENETIC ENGINEERING: MAKING
PLANTS GROW PLASTIC



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