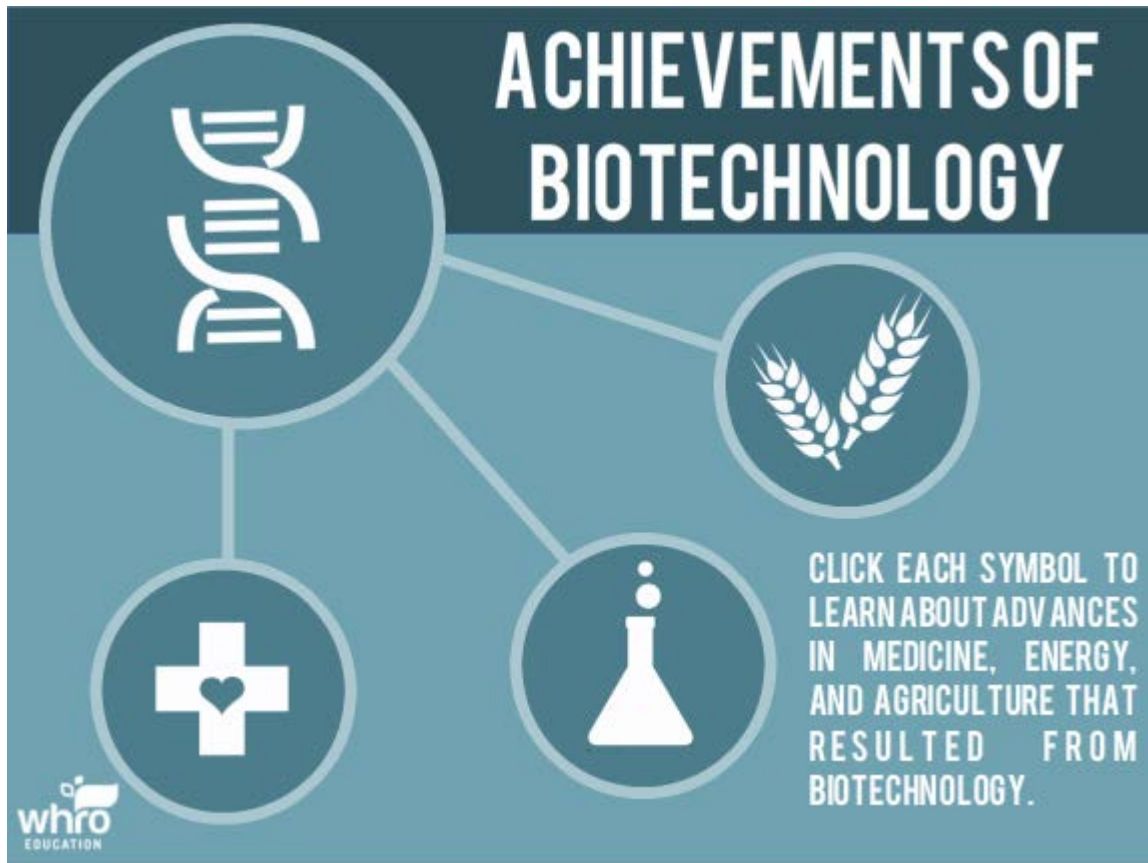


Module 6: DNA, RNA, and Molecular Genetics
Topic 5 Warm-Up: Achievements of Biotechnology Notes

Introduction

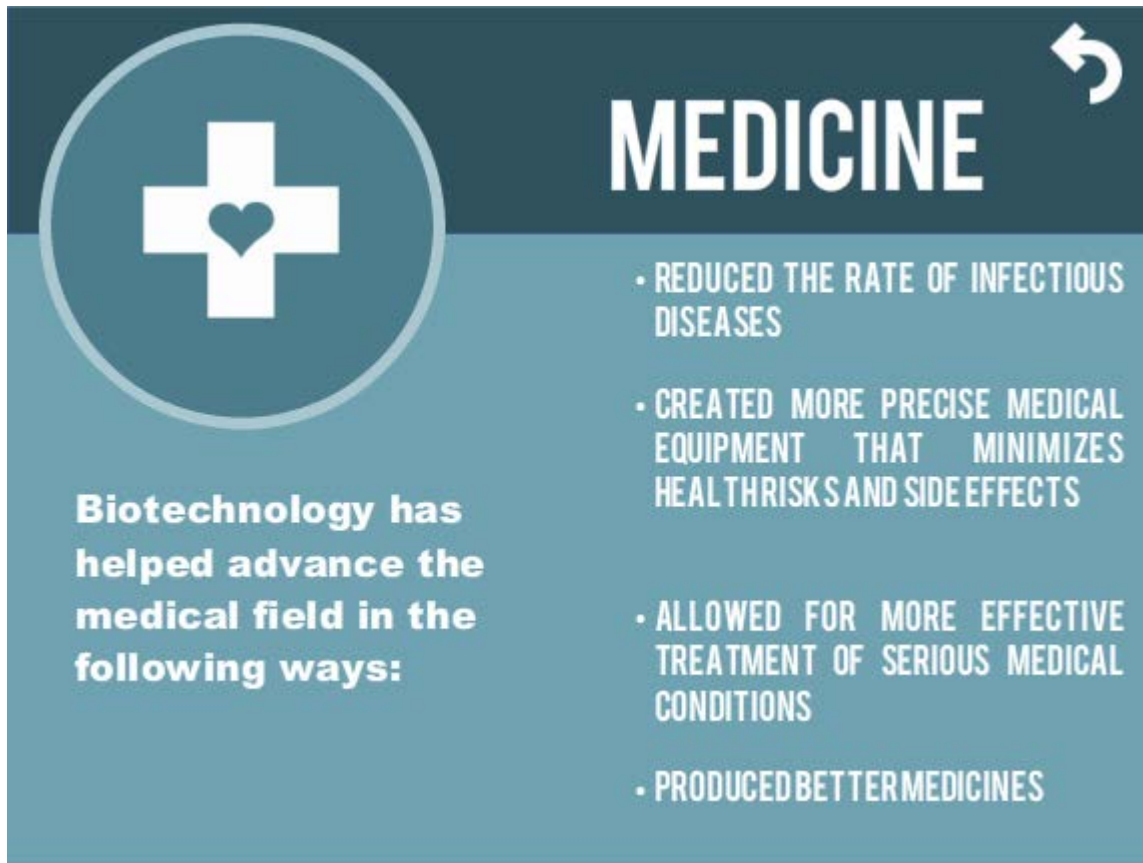


Advances in Biotechnology

Click each symbol to learn about the advances in the medical field, fuel, and agriculture that resulted from biotechnology.

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Medical



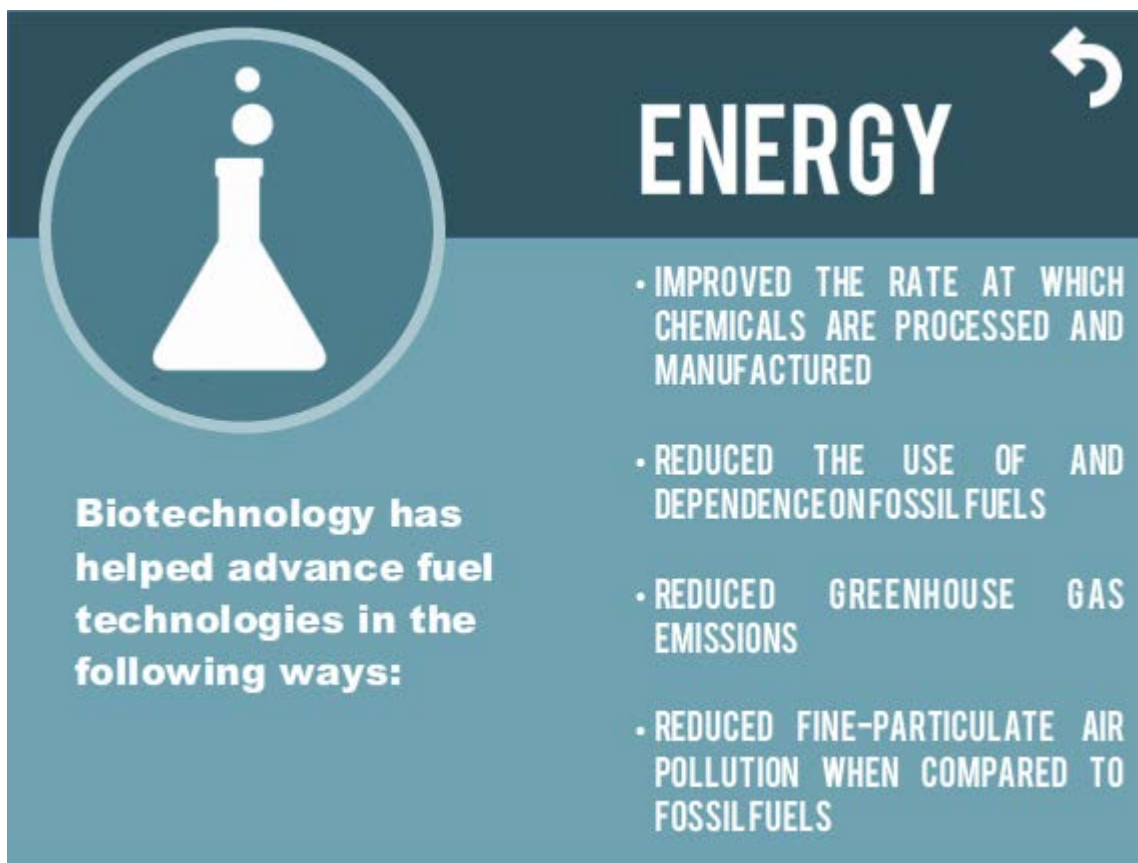
The infographic features a dark teal header with the word "MEDICINE" in large white letters and a white medical cross icon with a heart in the center. A white curved arrow points to the right in the top right corner. Below the header, the text "Biotechnology has helped advance the medical field in the following ways:" is followed by a list of four bullet points: "REDUCED THE RATE OF INFECTIOUS DISEASES", "CREATED MORE PRECISE MEDICAL EQUIPMENT THAT MINIMIZES HEALTH RISKS AND SIDE EFFECTS", "ALLOWED FOR MORE EFFECTIVE TREATMENT OF SERIOUS MEDICAL CONDITIONS", and "PRODUCED BETTER MEDICINES".

Biotechnology has helped advance the medical field in the following ways:

- Reduced the rate of infectious diseases
- Created more precise medical equipment that minimized health risks and side effects
- Allowed for more effective treatment of serious medical conditions
- Produced better medicines

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Energy



ENERGY

Biotechnology has helped advance fuel technologies in the following ways:

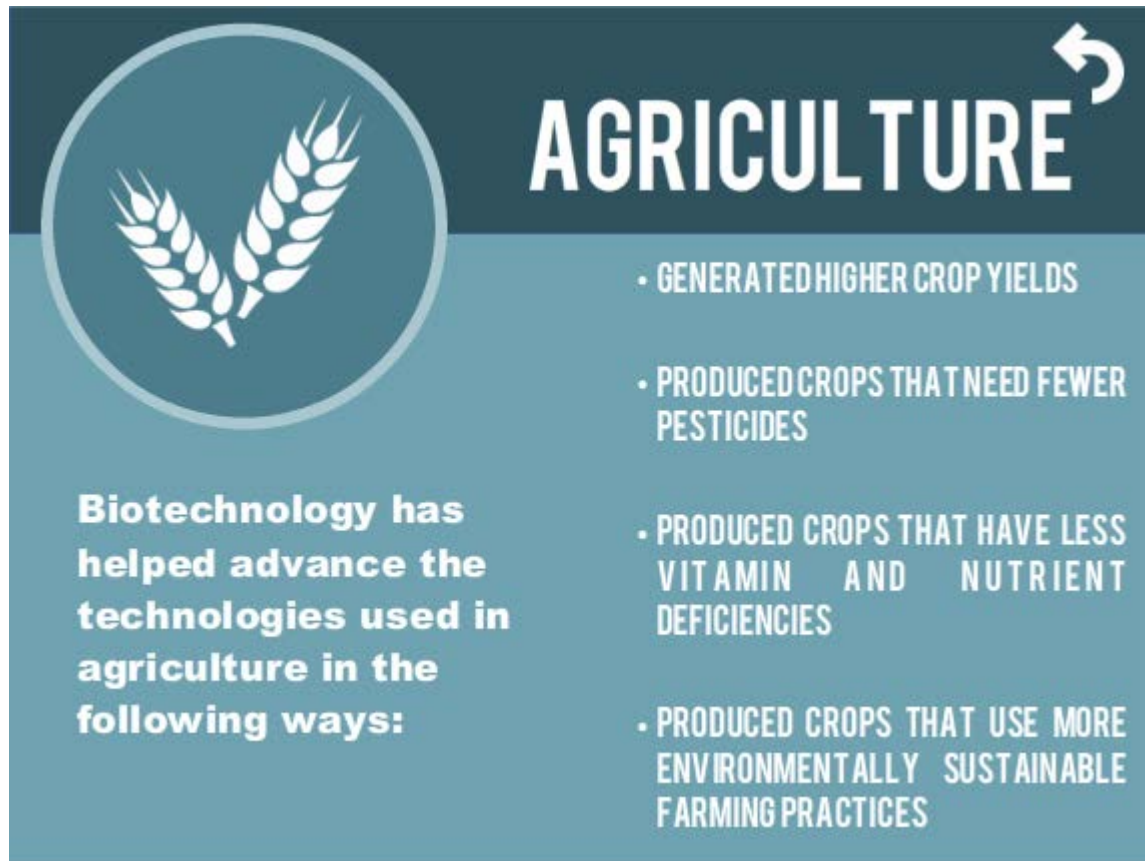
- IMPROVED THE RATE AT WHICH CHEMICALS ARE PROCESSED AND MANUFACTURED
- REDUCED THE USE OF AND DEPENDENCE ON FOSSIL FUELS
- REDUCED GREENHOUSE GAS EMISSIONS
- REDUCED FINE-PARTICULATE AIR POLLUTION WHEN COMPARED TO FOSSIL FUELS

Biotechnology had helped advance fuel technologies in the following ways:

- Improved the rate at which chemicals are processed and manufactured
- Reduced the use of and dependence on fossil fuels
- Reduced greenhouse gas emissions
- Reduced fine-particulate air pollution when compared to fossil fuels

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Agriculture



The infographic features a circular icon of wheat stalks on the left. The word 'AGRICULTURE' is written in large, bold, white letters on a dark teal background, with a white arrow pointing to the right above it. Below the icon, the text reads: 'Biotechnology has helped advance the technologies used in agriculture in the following ways:'. To the right, a list of four bullet points is displayed in white text on a teal background.

AGRICULTURE

• GENERATED HIGHER CROP YIELDS

• PRODUCED CROPS THAT NEED FEWER PESTICIDES

• PRODUCED CROPS THAT HAVE LESS VITAMIN AND NUTRIENT DEFICIENCIES

• PRODUCED CROPS THAT USE MORE ENVIRONMENTALLY SUSTAINABLE FARMING PRACTICES

Biotechnology has helped advance the technologies used in agriculture in the following ways:

Biotechnology had helped advance the technologies used in agriculture in the following ways:

- Generated higher crop yields
- Produced crops that need fewer pesticides
- Produced crops that have less vitamin and nutrient deficiencies
- Produced crops that use more environmentally sustainable farming practices