

Biotechnology	Description	Uses / Examples	Controversy
DNA Sequencing	reads the genetic code genes or entire genomes	diagnosing diseases compare diff. species	• can a company own your genes
Genetic Engineering	insert gene from 1 organism into another	- Human Genome Project - genetically modified foods (GMOs) - medicine (insulin) - research	Are GMOs safe? ethics?
Cloning	insert nucleus from the body cell of adult into egg cell (unfertilized) ↳ genetically identical individual	- Dolly the sheep - grow replacement body parts or organs	human cloning

<p>DNA Fingerprinting</p>	<p>Compare DNA fragments from known and mystery sources</p>	<ul style="list-style-type: none"> - paternity tests - forensics (CSI) 	<ul style="list-style-type: none"> - privacy - DNA library
<p>Karyotyping</p>	<p>Chart organized and homologous chromosomes</p>	<ul style="list-style-type: none"> - identify the sex of an individual - chromosomal abnormalities 	<p>making reproductive decisions,</p>

In general, what is the purpose of genetic technologies?

help humans

Why are all of these technologies possible?

all organisms share same genetic language

What does this universal similarity suggest about the relationships among all organisms on this planet?

one common ancestor