# **DNA Technology**

# **Recombinant DNA Technology** (Define)

**Read article:** <http://knowgenetics.org/transgenic-organisms/>

**Name 3 examples of transgenic organisms and explain which genes have been recombined. Reflect!**

1. **Gene Sequencing** (Define)

Describe the Human Genome Project.

How is gene sequencing used to help humans? Reflect!

1. **Cloning** (Define)

Read articles

<https://www.genome.gov/25020028/cloning-fact-sheet/>

Name examples of cloned organisms. Can these cloned organisms reproduce? Reflect!

<https://www.thebalance.com/designer-babies-375701> Should we be able to select those traits which we prefer or should we only select traits which will prevent disorders? Reflect!

1. **Stem Cell Research** (Define)

Read: <https://explorable.com/stem-cell-pros-and-cons>

Write a paragraph describing a pro (positive opinion) and a second paragraph describing a con (negative opinion) of using stem cell research.

What are Induced pluripotent stem cells? Would you be for or against using these cells for stem cell research? Reflect!

5. **Gene Therapy**  (Define)

Read article

<https://www.washingtonpost.com/news/to-your-health/wp/2017/12/18/fda-approves-first-gene-therapy-for-an-inherited-disease-childhood-blindness/?utm_term=.f8f62b1c7230>

Explain the various disorders in which gene therapy is being used and how this is done. Is Gene therapy costly? Reflect!

6.  **Forensics** (Define)

A. Describe DNA Gel electrophoresis and how it is useful.

B. Read article: [https://www.nbcnews.com/news/us-news/dna-mugshot-how-new-tech-gives-hope- cold-cases-n384771](https://www.nbcnews.com/news/us-news/dna-mugshot-how-new-tech-gives-hope-%20cold-cases-n384771) Reflect!

7. **Genetically Modified Organisms** (Define)

[**http://responsibletechnology.org/gmo-education/gmos-in-food/**](http://responsibletechnology.org/gmo-education/gmos-in-food/)

**What are the pros and cons of GMOs?**

**Name some foods which you consume which are most likely GMOs.**

**Reflect!**