

# The 'could we should we' project

Investigating

# GMOs & Cloning

**Using the power of Art and Media to question the ethics of scientific progress**

Year 10 Science and Visual Art  
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.... South Korean scientists tinkering with fluorescence protein genes say they have bred white Turkish Angora cats to glow red under ultraviolet light. The Researchers that the pair of cats cloned from a mother's altered skin cell could help unravel mysteries of some 250 genetic diseases suffered by both humans and cats.....

## Project Overview

- This project is investigating one of the most exciting and rapidly advancing fields of modern science: Genetics. You will learn about how characteristics of organisms are determined and inherited and how we have the power to change organisms at the genetic level. You will create your very own GMO inspired ceramic bust sculpture in Art and promote it via a news report in Science.

## Learning Objectives

- Understanding of the structure of DNA, genes and chromosomes
- Understanding of how mutations can come about and how they can impact an organism
- Appreciation for massive advances in modern genetics and genetic engineering
- Consideration of ethics involved in this field especially in relation to cloning and GMOs
- Create and make a successful ceramic bust demonstrating knowledge of cloning and GMOs
- Document the process of creating and making bust in a Visual Journal
- Write a 250 word Practitioner statement
- Participate in a POL (presentation of learning) at the end of the project

## Requirements (What you'll do!)

- Look at Cell Biology and Microscopy
- Learn about DNA, Genes, Chromosomes and Heredity
- Modelling of DNA and DNA Replication
- Do your own DNA Extraction
- Carry out 'virtual cloning'
- Consider possible futures: "Gattaca" and Ethics
- Conduct research into GMOs and Cloning
- Make a ceramic bust including documenting the process and write a practitioner statement

## Final Product

Your final product has two components:

- News Report (audio/visual)
- A Bisque Fired Ceramic Bust and Practitioner Statement

## Grading

|   |     |
|---|-----|
| Understanding (DNA, Genes, Chromosomes and Gene technology) | 25  |
| Research Skills   | 10  |
| Communication (POL)   | 10  |
| Ethical Argument  | 5   |
| Idea generation and conceptualisation                       | 10  |
| Making  | 25  |
| Documentation   | 10  |
| Practitioner Statement                                      | 5   |
| Total   | 100 |

## Timeline

| Term/Week          | Project Tasks and Due Dates   |
|--------------------|---|
| Term 1             | <ul style="list-style-type: none"><li>• Learn the ins and outs of DNA and Genetics in Science</li><li>• GMO/Cloning Research</li></ul>  |
| Term 2<br>Week 1-2 | <ul style="list-style-type: none"><li>• GMO/Cloning Ethics Research/ Exploration of presentation format</li><li>• Create the GMO Ethics News report</li><li>• Introduction to project overview in Art</li><li>• Collect examples and imagery you find inspiring and generate ideas for GMO ceramic bust</li><li>• Complete idea generation and start drawing conceptual drawings. Build newspaper around armature to create the form of head and shoulders.</li></ul> |
| 3                  | <ul style="list-style-type: none"><li>• Exploration of presentation format</li><li>• Complete drawings and start making</li></ul>   |
| 4                  | <ul style="list-style-type: none"><li>• Continue making GMO Bust</li></ul>  |
| 5                  | <ul style="list-style-type: none"><li>• Finish making GMO Bust</li></ul>  |
| 6                  | <ul style="list-style-type: none"><li>• Dry and Fire GMO busts (move to kiln on Friday)</li></ul>   |
| 7                  | <ul style="list-style-type: none"><li>• Paint GMO busts</li></ul>   |
| 8                  | <ul style="list-style-type: none"><li>• Complete painting and varnish</li><li>• Write Practitioners statement and POL</li></ul>   |

## Challenge / Extension Options

- Investigate current international laws around genetic engineering and include this to support your ethical and moral arguments.