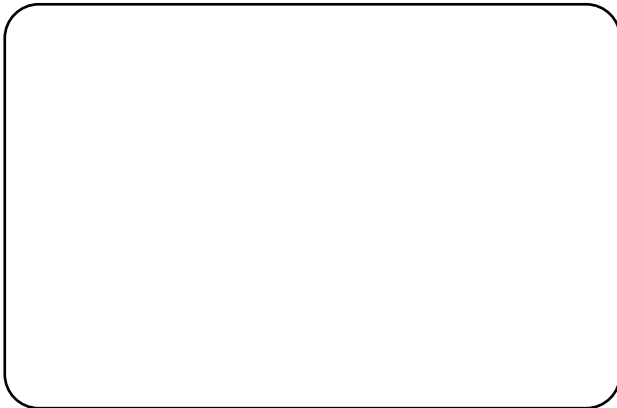


Genetic Engineering

What is genetic engineering?



Describe some applications of genetic engineering under the following headings.

Pharmaceuticals:

Medicine:

Agriculture:

Environmental science:

Outline each of the following processes in genetic engineering.

1. Isolation

2. Cutting

3. Ligation

4. Transformation

5. Expression

Briefly outline how the CRISPR-Cas9 system of genetic engineering works.

You should be able to use a genome database to search for alleles that are known to cause specific genetic diseases.

Outline the steps you took to do this for a gene of your choice.

What is DNA profiling?

Describe some uses of DNA profiling.

Describe some ethical issues arising from advancements in genetic technologies under the following headings:

Genetic data access and use:

Genetic modification:

DNA testing:

Stem cells:

Describe the steps involved in generating a DNA profile.

Outline the steps involved in DNA sequencing.