

The Human Genome and 100,000 Project

Human genome

Aims

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Method used to sequence genome

100,000 project

Aims

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Method used to sequence genome

Link the term to the correct definition

Genomics

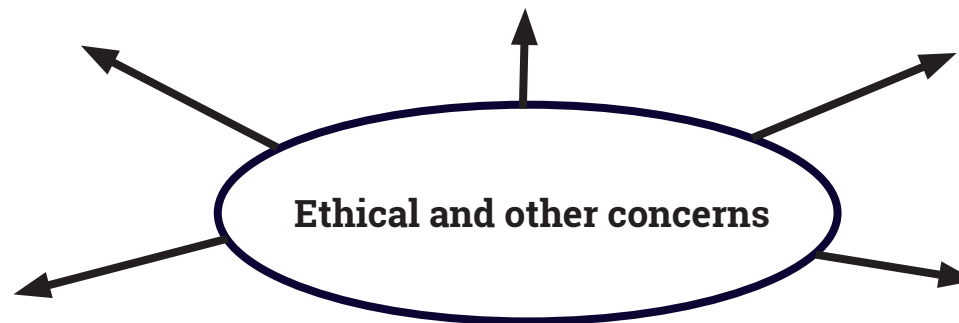
The application of moral principles

Ethics

The complete set of genetic material in an organism

Genome

The analysis of the structure and function of genomes



Human genome

Aims

- Identify the genes in the human genome and which chromosomes they are on
- Determine the sequence of the 3 billion base pairs in human DNA and store this information on databases.
- Improve knowledge and understanding of genetic disorders
- Improve diagnosis and treatment of genetic disorders
- Consider the ethical, legal and social issues that arise from the project.

Method used to sequence genome

Sanger sequencing

Otherwise known as the chain termination method. This method took a year to sequence a million base pairs.

100,000 project

Aims

- Study variation in the genomes of 100,000 people
- Enable medical and scientific discovery
- Develop a UK genomics industry.

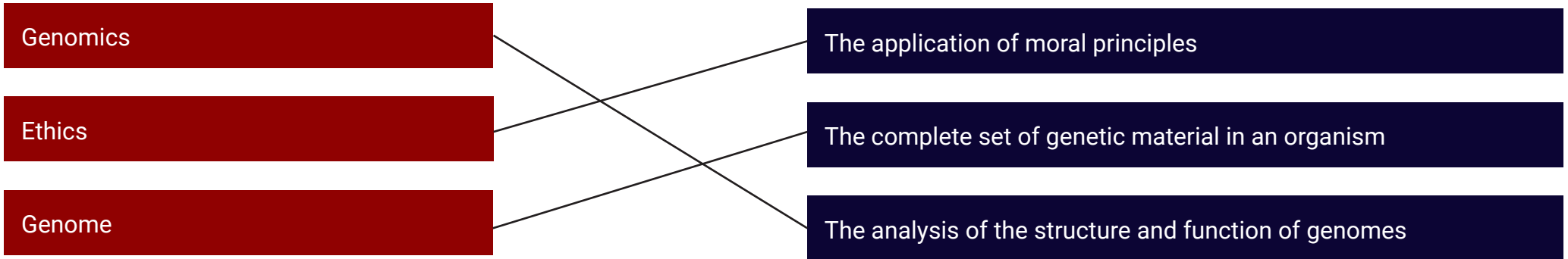
Method used to sequence genome

Next generation sequencing

Much faster than Sanger sequencing and includes methods such as passing DNA through nanopores in protein molecules.

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Is a child's DNA the property of the parent? Should parents have the right to know and not disclose any pre-disposition to disease?

Who owns genetic data?

Do patients want to know about future issues? Do their relatives have the right to this information?

Is electronically stored data ever safe?

Is the screening of embryos to choose the 'best' ethical?

Ethical and other concerns