

AQA Biology A-level

8.3 - Using genome projects

Flashcards

This work by [PMT Education](https://www.pmt.education) is licensed under [CC BY-NC-ND 4.0](https://creativecommons.org/licenses/by-nc-nd/4.0/)



What is the genome?



What is the genome?

The complete set of genetic information contained in the cells of an organism.



What is genome sequencing?



What is genome sequencing?

Identifying the DNA base sequence of an individual. This allows us to determine the amino acid sequence of the polypeptides coded for by that DNA.



What is the proteome?



What is the proteome?

The complete set of proteins that can be produced by a cell.



Can we directly translate the genome
into the proteome?



Can we directly translate the genome into the proteome?

In simple organisms, yes. In complex organisms, due to the presence of non-coding DNA and regulatory genes, it is much harder to obtain the proteome.



Give an application of sequencing the proteome in simple organisms.



Give an application of sequencing the proteome in simple organisms.

Identifying potential antigens for use in vaccine production.



Give some applications of genome sequencing.



Give some applications of genome sequencing.

- Comparing genomes between species to determine evolutionary relationships.
- Genetic matching.
- Personalised medicine.
- Synthetic biology.



How have sequencing methods changed over time?



How have sequencing methods changed over time?

Used to be a manual process, however now it has become automated. A reaction mixture is created and after the process is complete, a machine reads the base sequence.

