

Learning about Genetic Disorders¹

Choose one of the following genetic disorders to investigate:

- cystic fibrosis, hemophilia, sickle cell disease or another single gene disorder
- Down syndrome (trisomy 21), Turner syndrome (45 X), or another chromosomal disorder
- coronary heart disease, breast cancer, Alzheimer's disease or another multi-factorial disorder.

Use reliable sources to answer questions such as:

- What is the genetic basis for this disorder? If there is a simple mode of inheritance for this disorder, how is this disorder inherited?
- What are the molecular, cellular, physiological and anatomical effects of the genes involved in this disorder?

The specific information available will vary, but be sure to include fundamental biological information in your report.

Recommended Reliable Sources

- Learn Genetics, Genetic Disorders (<https://learn.genetics.utah.edu/content/disorders/>)
- Genetic Disorders (<https://my.clevelandclinic.org/health/diseases/21751-genetic-disorders>)
- MEDLINEplus Health Topics, including Genetics/Birth Defects (<https://medlineplus.gov/geneticsbirthdefects.html>)
- Mayo Clinic Diseases and Conditions (<https://www.mayoclinic.org/patient-care-and-health-information>)
- Genetic Disorders (<https://www.hopkinsmedicine.org/health/genetic-disorders>)
- OMIM (Online Mendelian Inheritance in Man) (<https://omim.org/>)
- textbooks

Your teacher will tell you:

- whether you will work on your own, in pairs or in small groups
- what format you should use for your report
- whether and how you will share your findings with students who have investigated other genetic disorders.

¹ By Dr. Ingrid Waldron, Department of Biology, University of Pennsylvania, © 2024. This Student Handout and Teacher Notes with instructional suggestions are available at <https://serendipstudio.org/exchange/Bioactivities/GeneticsWebSearch>.