

Name _____

Discovering the World of Cytogenetics

Short Answer Key

1. Karyotyping is the arrangement of an individual's chromosomes in a specific order, and it is used in cytogenetics to detect chromosomal abnormalities.
2. Fluorescence in situ hybridization (FISH) is a technique that allows scientists to visualize specific DNA sequences within chromosomes using fluorescent probes.
3. Cytogenetics contributes to prenatal diagnosis and reproductive medicine by screening for chromosomal abnormalities in fetuses and assessing the risk of genetic disorders in prospective parents.
4. Cytogenetics is important for understanding the genetic basis of diseases and disorders because it identifies specific chromosomal changes associated with genetic disorders, leading to diagnostic tests and targeted therapies.
5. Cytogenetics contributes to evolutionary biology and species diversity by comparing chromosome structure and organization across different organisms and uncovering the genetic mechanisms driving speciation and adaptation.

