

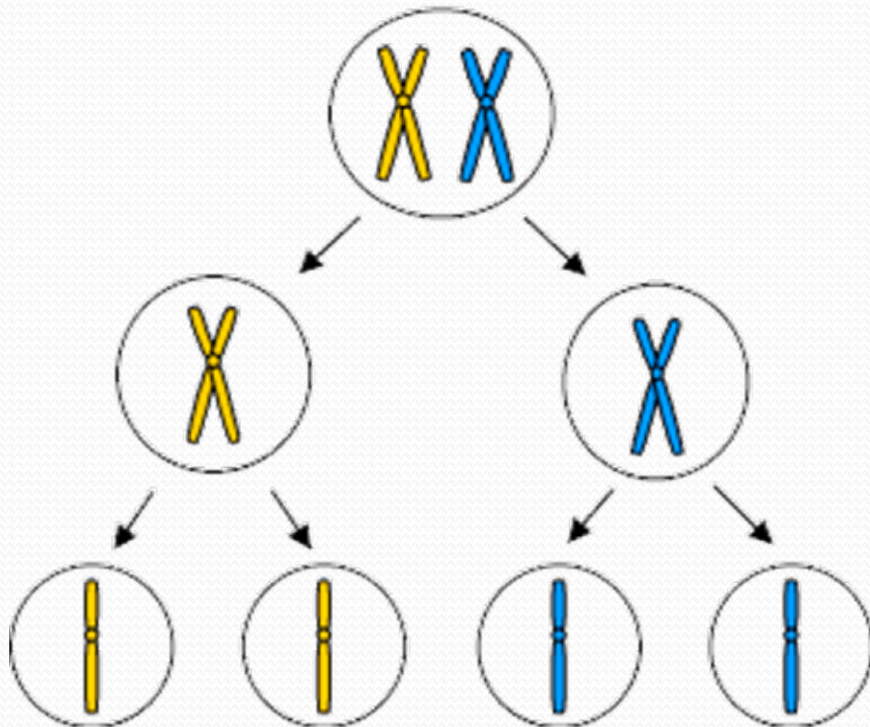
Mistakes in Meiosis



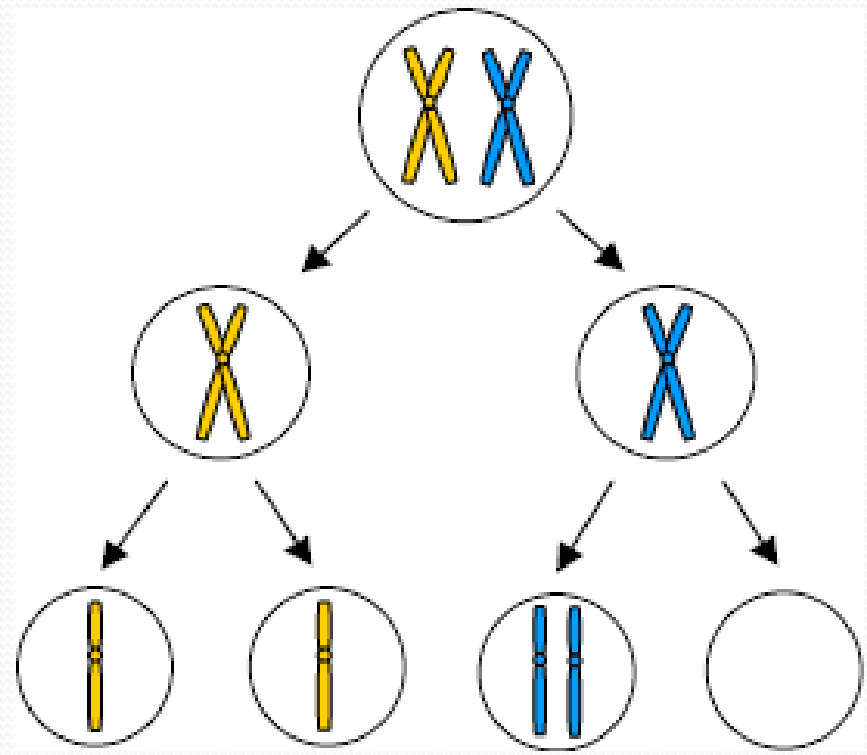
Nondisjunction

- The failure of homologous chromosomes to separate properly during meiosis.

What should happen

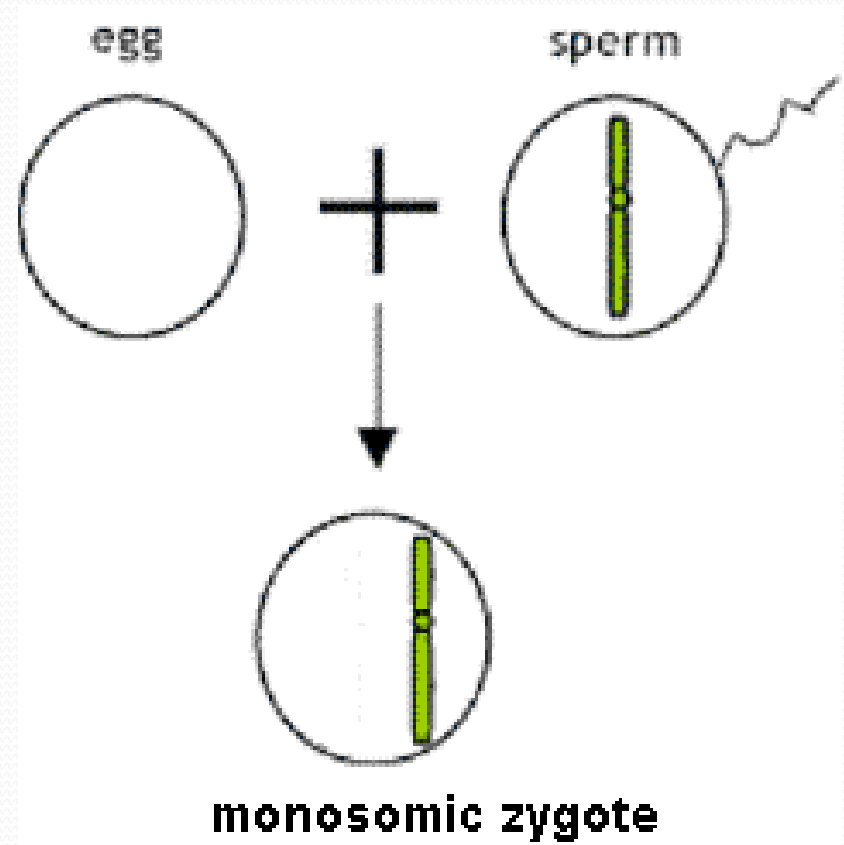
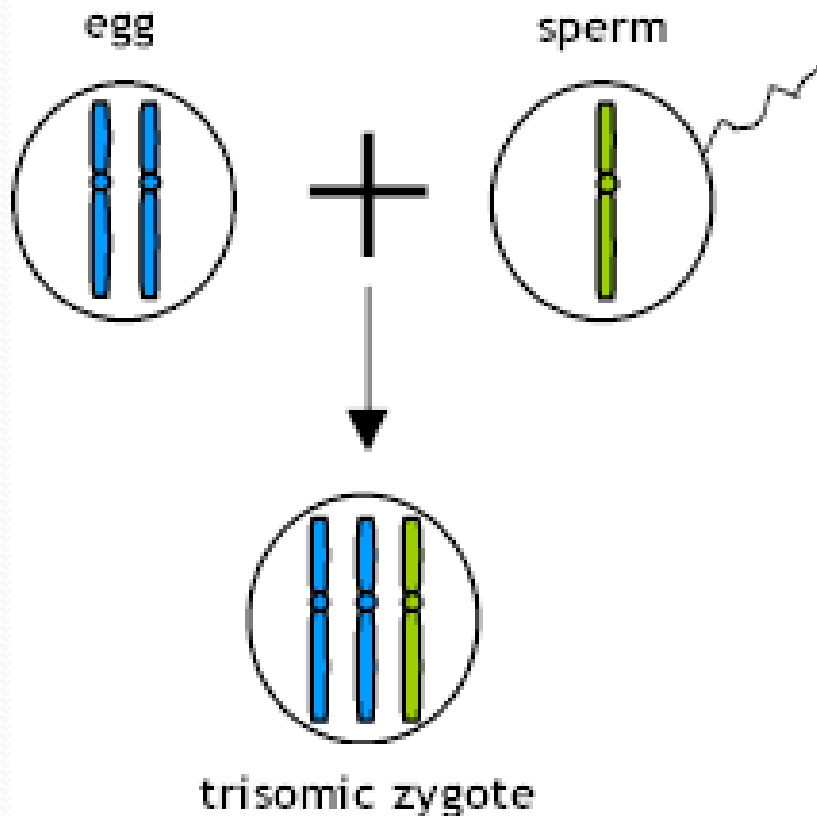


Nondisjunction



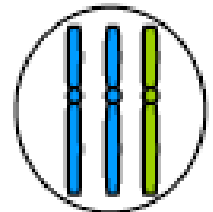
The results

- If the abnormal gametes is fertilized the results



Trisomy

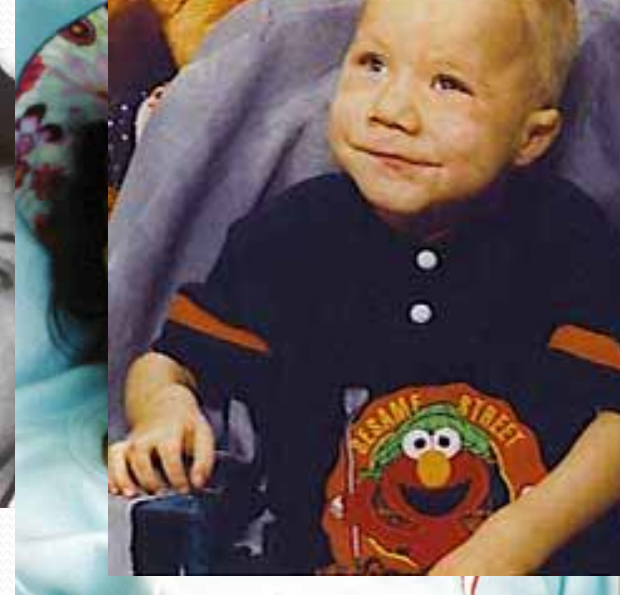
- The zygote has an extra chromosome
- Organisms with an extra chromosome sometimes survive



trisomic zygote

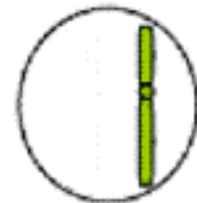
Examples of trisomy in

- Trisomy 21: Downs Syndrome
- Trisomy 18: Edwards syndrome
- Trisomy 13: Patau syndrome
- XXY: Klinefelter's syndrome



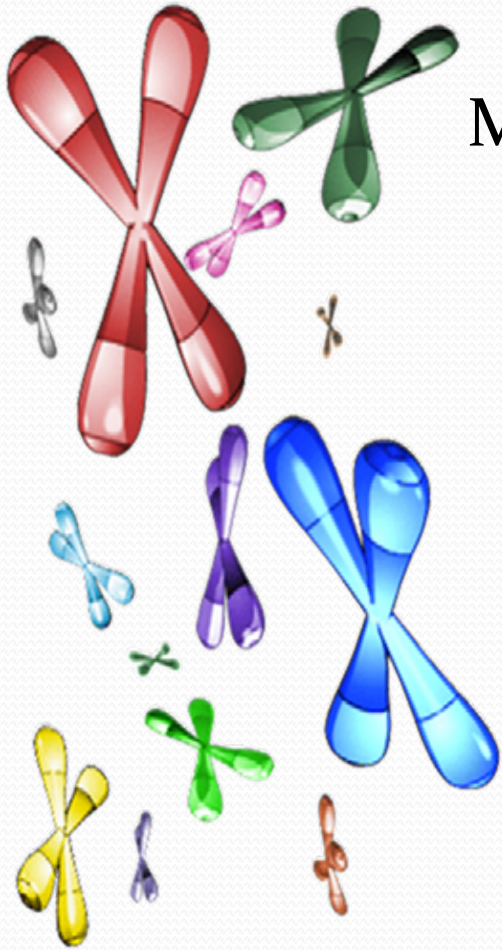
Monosomy

- The zygote is lacking a chromosome
- Organisms lacking one or more chromosomes rarely survive



monosomic zygote

Examples of monosomy in humans



Monosomy X: Turners Syndrome



Karyotype

- The pairs of homologous chromosomes are arranged in decreasing size. They are also matched by the length of chromatid arms and centromere location.

