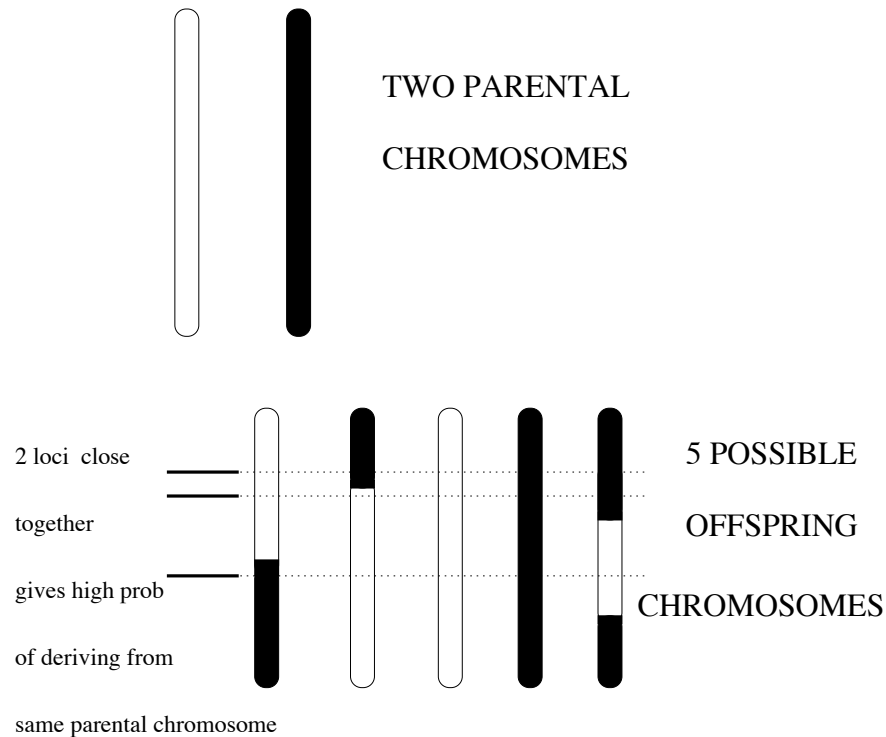


Inheritance of chromosome segments



- Each mat/pat genome of 3×10^9 bp ($\sim 3,000$ Mbp) is packaged into 22 chromosomes sized from 51 to 245 Mbp.

- Chromosomes are inherited in large chunks, $\sim 10^8$ bp or 100 Mbp.
- In any meiosis, **crossovers** occur as a Poisson process along the chromosome.
- In any meiosis, the chance that the DNA at two positions derives from different parental chromosomes increases with distance along the chromosome.
- At large distances, this probability is $\approx 1/2$ — independent inheritance.