



TT

Gene

DNA, Genes & Chromosomes

1 2 3 4 5

Locus

Eukaryotes →

→

→

→

→

Prokaryotes →

→

→

→

→

Mitochondria + Chloroplasts

→

→

→

⋮

⋮

⋮

Not all DNA codes for proteins / polypeptides / functional RNA

→

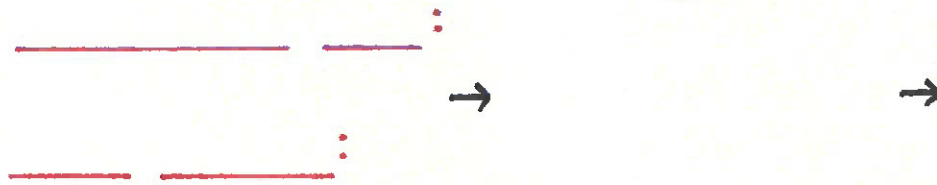
↳

DNA Triplet



Homologous Pair

Sex Linkage



Sex Chromosomes

Female = →

Males = →

Haemophilia



Sex Linkage

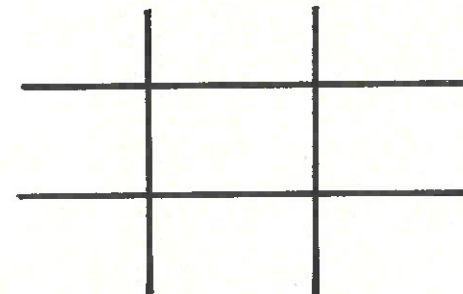
Phenotypic Ratio :

:
:

Parent 1

Parent 2

①
②



Phenotypic Ratio

:
:

F₁ Genotypes

Phenotypes

"
"
"
"



Autosome

Autosomal Linkage

1 2 3 4 5

e.g.

_____ :

→

→

→

→

→

→

Unless ...

→

→

→



Codominance & Multiple Alleles

1 2 3 4 5

ABO Blood Group System

→

→

→

Parent 1

Parent 2

①

②

F₁ Generation:

Genotype :

Phenotype :

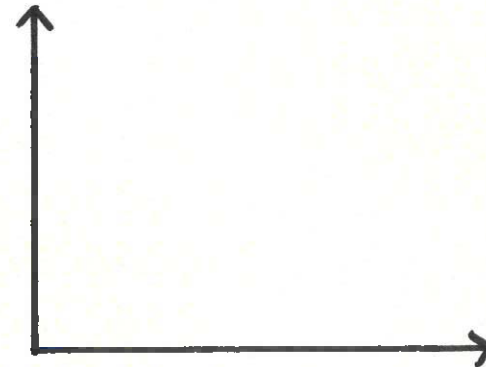


Polygenic Inheritance

1 2 3 4 5



e.g.





Introduction to Meiosis

1 2 3 4 5

Meiosis

_____ :

Mitosis

_____ :

Gametes

_____ :

_____ :

Haploid (n)

Meiosis

Mitosis



Diploid ($2n$)



Fertilisation





Homologous
Pairs

Before Meiosis

1 2 3 4 5

_____ : →
 →



Meiosis & Genetic Variation

1 2 3 4 5

Crossing Over

→

→

Independent Segregation



Mammalian Gametes

1

2

3

4

5

Egg Cell

Sperm Cell

Differences between egg + sperm cells

→

→

→

→

→



Fertilisation

Fertilisation & The Acrosome Reaction

1 2 3 4 5

Fertilisation:

