

Inheritance **Triple only**

Who was Gregor Mendel and what did he do?

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Why was inheritance difficult to understand before Mendel's work was explained?

Inheritance

Why do individuals have different inherited characteristics?

Inheritance

Define a chromosome.

Inheritance

Define an allele.

Inheritance

Dominant allele or recessive allele: which is expressed when only one copy is present?

Inheritance

Homozygous or heterozygous: which has two different alleles of a gene?

Inheritance

What is the difference between genotype and phenotype?

Genes, chromosomes and DNA were not known, so there was no mechanism to explain it.

A monk who bred pea plants and counted offspring over generations, discovering the basis of genetics.

A long molecule of DNA in the nucleus that carries many genes.

Because they inherit different combinations of alleles.

The dominant allele.

A different version of the same gene.

Genotype is the alleles an organism has.
Phenotype is the characteristic that is expressed.

Heterozygous. Homozygous means two identical alleles.

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What are a gamete and a zygote?

Inheritance

What ratio of phenotypes is expected from $Tt \times Tt$ (T dominant)?

Inheritance

Two parents without a characteristic have a child with it. What does this show?

Inheritance

Which sex chromosomes do human males and females have?

Inheritance

What is the probability of a baby being male or female?

Inheritance

How can the outcome of a cross be expressed?

Inheritance

Two carriers (Ff) have a child. What is the probability that it is ff?

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What is codominance?

3 showing the dominant characteristic : 1 showing the recessive.

A gamete is a sex cell with half the chromosomes. A zygote is the cell formed when two gametes fuse.

Males XY, females XX.

The characteristic is recessive and both parents are carriers.

As a ratio, a probability or a percentage.

50% (a 1 : 1 ratio). The sperm decides, as it carries an X or a Y.

Both alleles are expressed in the phenotype of a heterozygous organism, such as IA and IB giving blood group AB.

1/4, 0.25 or 25%.

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What are multiple alleles? Give the ABO alleles.

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Which genotypes give blood group A?

Inheritance **Triple only** **Higher tier**

Why are sex-linked disorders more common in males?

Inheritance **Triple only** **Higher tier**

A carrier mother has children with an unaffected father. What is the chance a son has the disorder?

IA IA or IA IO.

More than two alleles of a gene. The ABO alleles are IA, IB and IO.

50%. No daughters are affected, but half are carriers.

Males have only one X, so one recessive allele on it causes the disorder. Females need two copies.