

Monohybrid inheritance

Define inheritance.

Monohybrid inheritance

Define genotype.

Monohybrid inheritance

Define phenotype.

Monohybrid inheritance

What is the difference between homozygous and heterozygous?

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Which individuals are pure-breeding?

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Define a dominant allele.

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Define a recessive allele.

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What phenotypic ratio does $Tt \times Tt$ give?

The genetic make-up of an organism, in terms of the alleles present.

The transmission of genetic information from generation to generation.

Homozygous: two identical alleles of a gene (TT, tt). Heterozygous: two different alleles (Tt).

The observable features of an organism.

An allele that is expressed if it is present in the genotype.

Two identical homozygous individuals that breed together are pure-breeding. A heterozygous individual is not pure-breeding.

3 dominant : 1 recessive (1 TT : 2 Tt : 1 tt).

An allele that is only expressed when there is no dominant allele of the gene present in the genotype.

Monohybrid inheritance

What phenotypic ratio does $Tt \times tt$ give?

Monohybrid inheritance

Pedigree: two unaffected parents have an affected child. What does this tell you?

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What does a Punnett square show?

Monohybrid inheritance **Supplement**

What is a test cross?

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A test cross gives some recessive offspring. What is the unknown parent?

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Define codominance.

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Which genotypes give blood group A?

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What genotype gives blood group AB?

The characteristic is recessive and both parents are heterozygous carriers.

1 dominant : 1 recessive.

Crossing an organism of unknown genotype with a homozygous recessive one to identify the unknown genotype.

The possible gametes from each parent and the genotypes of the offspring they can make.

A situation in which both alleles in heterozygous organisms contribute to the phenotype.

Heterozygous, because it must have passed on a recessive allele.

IA IB, because IA and IB are codominant.

IA IA or IA Io.

Monohybrid inheritance **Supplement**

What is a sex-linked characteristic?

Monohybrid inheritance **Supplement**

Why is red-green colour blindness more common in males?

Monohybrid inheritance **Supplement**

What genotype is a carrier female for colour blindness?

Monohybrid inheritance **Supplement**

**Carrier mother × normal father:
chance a son is colour blind?**

Males have one X chromosome, so one recessive allele is enough. Females need two.

A feature in which the gene responsible is located on a sex chromosome, which makes it more common in one sex than in the other.

1 in 2 (50%).

$X^B X^b$.