Stile

adenine

Genetics

Stile

allele

Genetics

Stile

amino acid

Genetics

Stile

anaphase

Genetics

Stile

base

Genetics

Stile

base pair

Genetics

Stile

cell cycle

Genetics

Stile

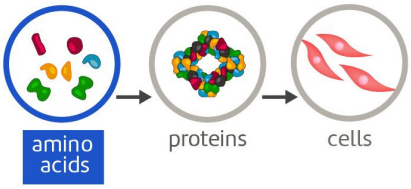
cell division

Genetics

Stile

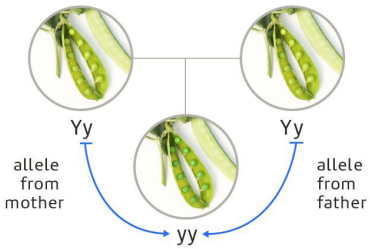
chromosome

Genetics



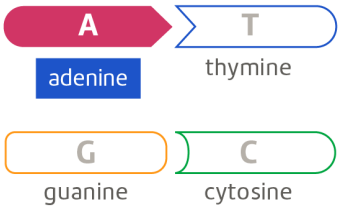
A small molecule that joins with others to form proteins

Amino acids are the building blocks of proteins, which are the building blocks of cells.



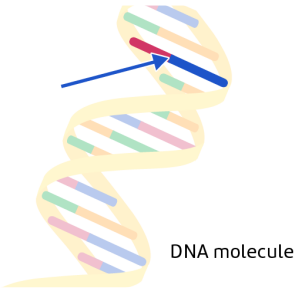
A version of a gene

An organism gets two alleles of each gene – one from its mother and one from its father.



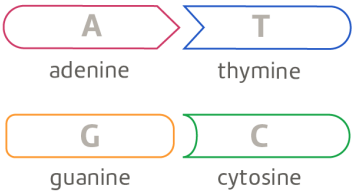
The base that combines with thymine to form a base pair

Adenine is one of the four letters that make up the genetic code in humans and other living things.



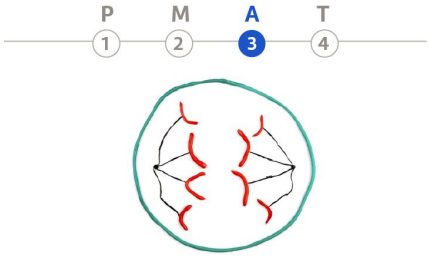
Two bases joined together

Base pairs form in only two combinations: A-T or G-C. These are the letters that make up the genetic code.



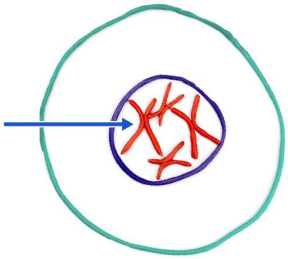
Part of a DNA molecule that comes in four types: A, C, G and T

Bases join together in pairs to form the 'rungs' of the DNA molecule.



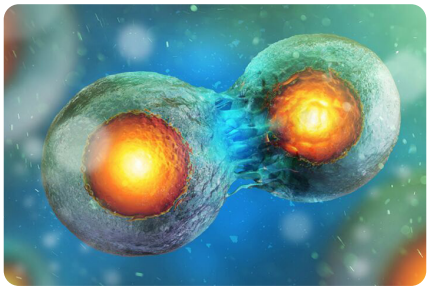
A stage of cell division in which the chromosomes separate

Anaphase is when the chromosomes separate and are pulled away from each other to opposite sides of the cell.



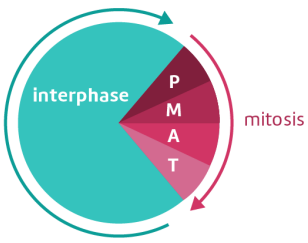
A DNA molecule that condenses during cell division

Most human cells contain 46 chromosomes but sex cells only contain 23 chromosomes.



The splitting of a cell to form new cells

Cell division allows organisms to grow, repair damage and reproduce. There are two types: mitosis and meiosis.



The repeated process of cell growth and division

During most of the cell cycle, a cell grows and performs its function. This ends when the cell divides by mitosis.

Stile

crossing over

Genetics

Stile

cytosine

Genetics

Stile

daughter cell

Genetics

Stile

DNA

Genetics

Stile

dominant allele

Genetics

Stile

dominant trait

Genetics

Stile

double helix

Genetics

Stile

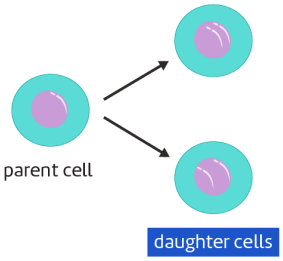
fertilisation

Genetics

Stile

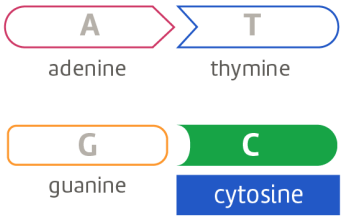
gene

Genetics



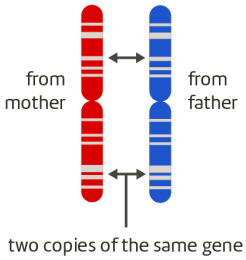
Any new cell formed by cell division

Each daughter cell has its own nucleus and set of DNA.



The base that combines with guanine to form a base pair

Cytosine is one of the four letters that make up the genetic code in humans and other living things.

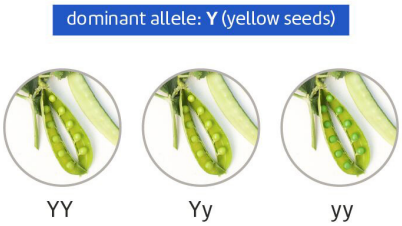


The swapping of genes between chromosomes in a homologous pair

Crossing over only occurs in meiosis, during prophase I. It increases the genetic variety of the sex cells produced.

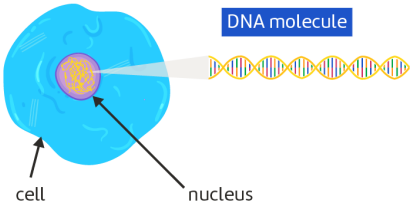
A feature that appears when at least one allele is present

Dominant traits include freckles, dimples and the ability to roll your tongue.



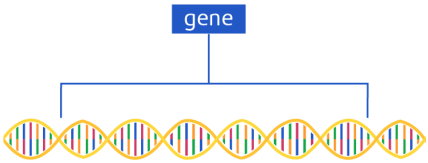
A version of a gene that is expressed even when only one copy is present

A dominant allele is represented by an uppercase letter. Yy or YY will result in the appearance of the Y trait.



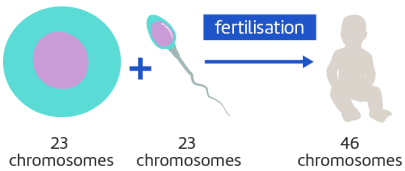
A molecule that contains genetic information

DNA, or deoxyribonucleic acid, is a very large molecule that contains instructions for building proteins.



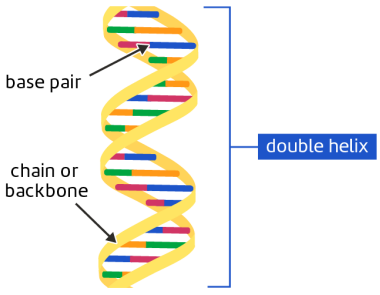
A unit of genetic information

A gene is a section of a DNA molecule that provides instructions for building a specific protein.



The joining of an egg and a sperm to form a new organism

Fertilisation combines DNA from the mother and father so the child gets half of its chromosomes from each parent.



A structure consisting of two chains twisted around each other

The DNA molecule has a double helix structure. The ‘rungs’ connecting the two chains are base pairs.

Stile

generation

Genetics

Stile

genotype

Genetics

Stile

guanine

Genetics

Stile

heterozygous

Genetics

Stile

homologous pair

Genetics

Stile

homozygous

Genetics

Stile

inheritance

Genetics

Stile

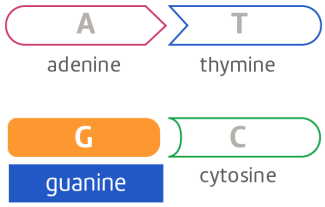
interphase

Genetics

Stile

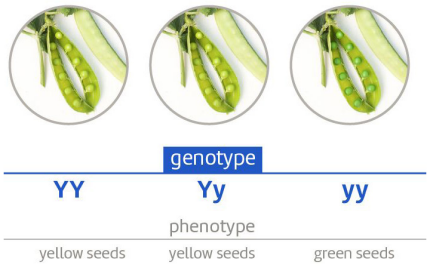
meiosis

Genetics



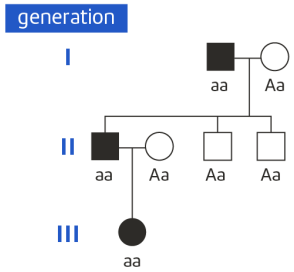
The base that combines with cytosine to form a base pair

Guanine is one of the four letters that make up the genetic code in humans and other living things.



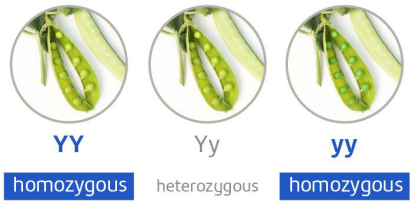
A pair of alleles that influence the appearance of a particular trait

A genotype is represented by two letters. An organism's genotype determines which traits it acquires – its phenotype.



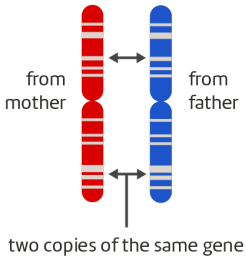
Members of a family that are born and live at about the same time

Traits are passed down from one generation to the next by the transfer of DNA from parents to children.



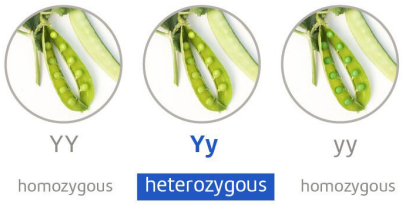
A genotype in which the two alleles are the same

A homozygous genotype consists of either two dominant alleles – YY – or two recessive alleles – yy.



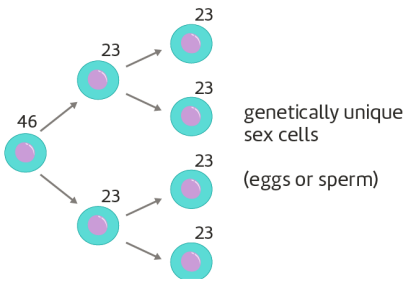
Two chromosomes that contain versions of the same genes

One chromosome in a homologous pair is inherited from the mother and the other from the father.



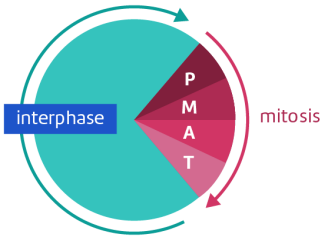
A genotype in which the two alleles are different

A heterozygous genotype consists of one dominant allele and one recessive allele – Yy



A type of cell division that produces sex cells for reproduction

Meiosis produces egg and sperm cells. One cell divides into four sex cells by two cycles of cell division.



The stage of the cell cycle in which a cell grows and copies its DNA

Interphase covers most of a cell's life span, while it is growing and performing its normal function in the body.

The passing down of traits via genes from one generation to the next

The inheritance of traits via sexual reproduction explains family resemblances.

Stile

metaphase

Genetics

Stile

mitosis

Genetics

Stile

mutation

Genetics

Stile

parent cell

Genetics

Stile

pedigree

Genetics

Stile

phenotype

Genetics

Stile

prophase

Genetics

Stile

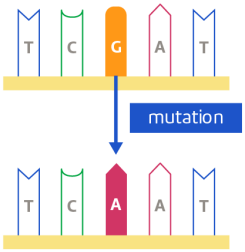
protein

Genetics

Stile

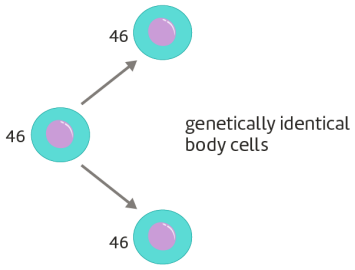
recessive allele

Genetics



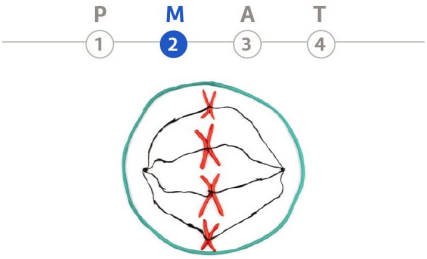
A permanent change in the sequence of bases that make up a gene

Some mutations are harmless while others cause disease. Mutations can be inherited by offspring.



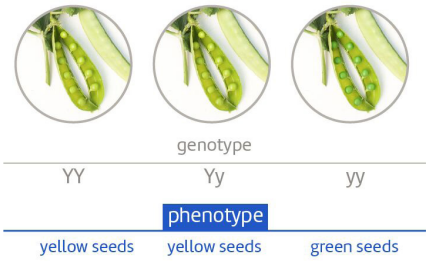
A type of cell division that produces cells for growth and repair

Mitosis continues from birth to death, producing new cells to allow an organism to grow and stay healthy.



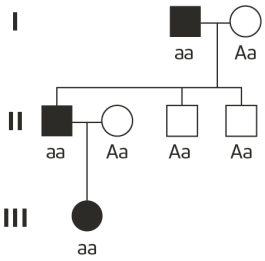
A stage of cell division in which the chromosomes line up

Metaphase is when the chromosomes line up in the middle of the cell.



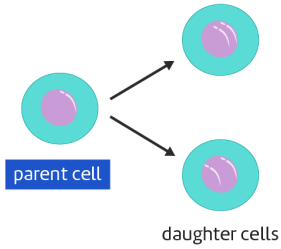
The collection of traits observable in an organism

A phenotype includes traits such as tall, purple flowers and yellow seeds. It is determined by the organism's genotype.



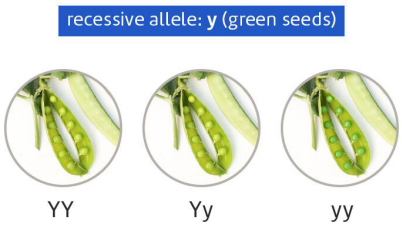
A family tree that shows how a trait is passed down through generations

In a pedigree, filled symbols show the presence of a trait and open symbols show its absence.



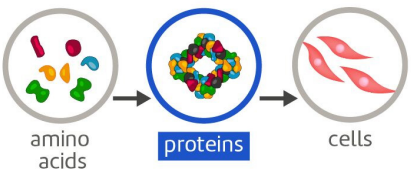
Any cell that divides to form new cells

A parent cell needs to copy its DNA before dividing so that it can be passed down to its daughter cells.



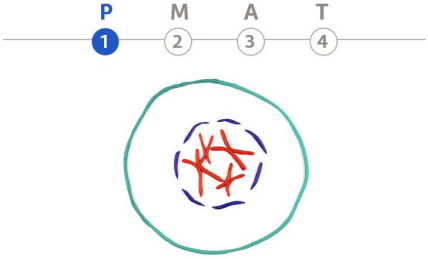
A version of a gene that is only expressed when two copies are present

A recessive allele is represented by a lowercase letter. Only yy will result in the appearance of the y trait.



A large molecule made up of amino acids

Proteins form structures and perform functions in an organism. DNA contains instructions for building proteins.



A stage of cell division in which the chromosomes condense

Prophase is when the cell prepares to divide. The chromosomes condense and the nucleus starts to break down.

Stile

recessive trait

Genetics

Stile

sex chromosome

Genetics

Stile

simple inheritance

Genetics

Stile

telophase

Genetics

Stile

thymine

Genetics

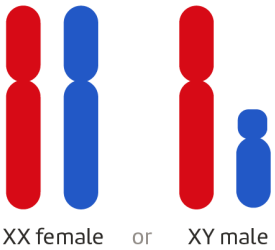
Stile

trait

Genetics

When the appearance of a trait is controlled by a single gene

Many traits are influenced by lots of genes but some, like albinism, are controlled by single genes.



A chromosome that helps determine an organism's sex

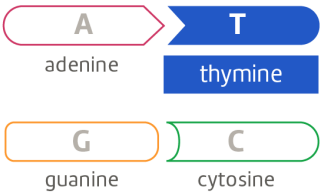
Sex chromosomes come in two types: X or Y. Most females have two X chromosomes while most males have an X and a Y.

A feature that only appears when two alleles are present

Recessive traits include cleft chins, attached earlobes and hitchhiker's thumbs.

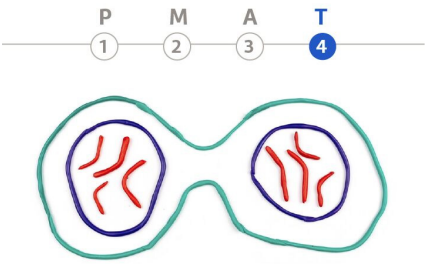
A feature of an organism

Traits include height, hair colour, skin colour and freckles.



The base that combines with adenine to form a base pair

Thymine is one of the four letters that make up the genetic code in humans and other living things.



A stage of cell division in which two nuclei form

Telophase is when two new nuclei form, each with its own set of DNA.