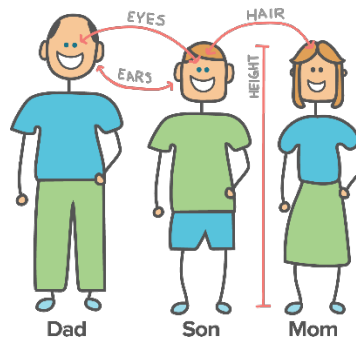


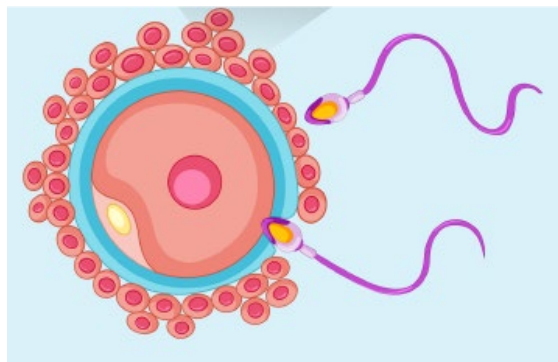
Genes - Inheritance KEY LEARNING

Our characteristics are due to the genes we inherit.

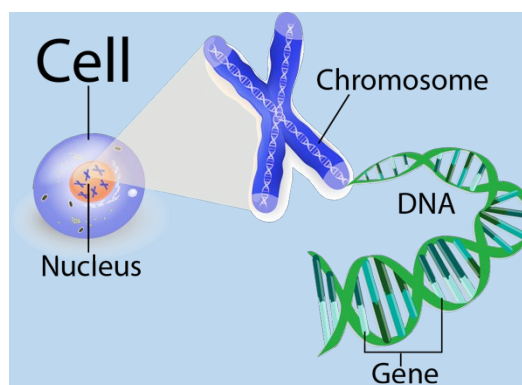
Chromosomes are long pieces of DNA which contain many genes.



Each parent provides half the information at fertilisation (sperm joining an egg).



The DNA of every individual is different, except for identical twins.



Keywords:

Inherited characteristics: Features that are passed from parents to their offspring.

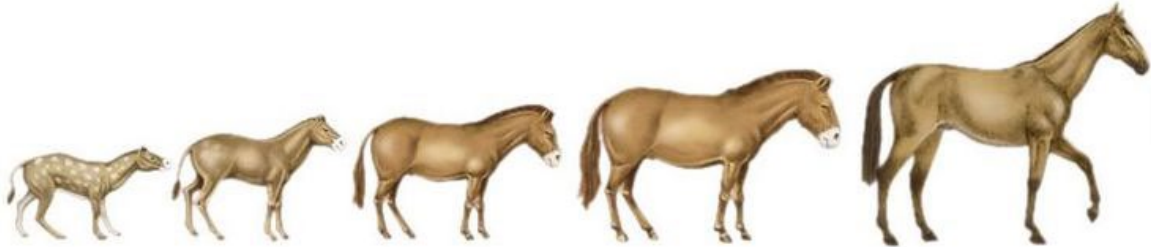
DNA: A molecule found in the nucleus of cells that contains genetic information.

Chromosomes: Thread-like structures containing tightly coiled DNA.

Gene: A section of DNA that determines an inherited characteristic.

Genes - Evolution KEY LEARNING

Evolution is the slow and gradual change of a species descended from a species in the past. It is a theory.



This is how the horse may have evolved from an earlier (smaller) species.

Extinction is when all members of a species die out.



Dodo.



Sabre Toothed Tiger



Mammoth

Natural selection is a theory that explains how species evolve and why extinction occurs. Better characteristics are chosen. Organisms without those characteristics are more likely to die.

Keywords:

Natural selection: Process by which species change over time in response to environmental changes and competition for resources.

Extinct: When no more individuals of a species remain.

Evolution: Theory that the animal and plant species living today descended from species that existed in the past.

Genes - Key Learning

Our characteristics are due to the genes we inherit.

Each parent provides half the information at fertilisation (sperm joining an egg).

Individuals with a characteristic that improves the chance of survival will compete more successfully.

They will live longer and breed more so pass on these characteristics more often.

Natural selection is a theory that explains how evolution happens and why species become extinct.

Evolution is the slow and gradual change of a species descended from a species in the past.

Extinction is when all members of a species die out.

Key Learning Questions	Year 8 Genes
Who pass on inherited characteristics to offspring?	Parents
Name the two sex cells made by humans. RECALL FROM YR7	Sperm
	Egg
What do we call a section of DNA that decides a characteristic?	Gene
What do we call a sperm joining an egg? RECALL FROM YR7	Fertilisation
How much information does each parent give their offspring?	Half
What word means 'no more individuals of a species remain'?	Extinct

Extension Questions	Year 8 Genes
What chemical are genes made from?	DNA
Complete the sequence: DNA → Gene → Chromosome → Nucleus → 	Cell
What thread-like structures contain many genes?	Chromosomes
Where are chromosomes stored?	In the nucleus.
What are different versions of a gene called?	Alleles
What do we call the theory that explains how species evolve?	Natural Selection
Why is variation important?	To avoid extinction
What word describes the variety of living things?	Biodiversity
Which theory says species living today descended from species that existed in the past?	Evolution
What is a group of organisms from one species living in one place?	Population
What is it called when living things struggle to get the same resource?	Competition
Lamarck suggested which species 'stretched' their neck because they needed to reach leaves high up a tree?	Giraffes
Which world-famous scientist lived in and was buried in Broadstone?	Alfred Russel Wallace

