

Subject: Science (Biology)

Topic: **Genes** – Evolution & Inheritance

Year Group: 8



Knowledge: Extinction			
I	All species will become extinct when all of a species die out		
2	The fossil record shows animals existed in the past which have now become extinct		
3	Extinction can be caused by new diseases, new competition, new predators, destruction of habitat and environmental changes.		
4	Extinction reduces biodiversity		

Knowledge: Inneritance			
I	Characteristics are passed from parents to their offspring		
2	Half of the genetic information comes from each parent.		
3	During fertilisation the genetic material joins together		
sperm contains 23 chromosomes During fertilisation the genetic material joins together. Each nucleus in an embryo contains 46 chromosomes.			

Knowledge: Natural selection		
The best adapted animals will survive to pass on their genes (Charles Darwin)		
_	Variation of characteristics shown within a species caused by their genes.	
2	Organisms with best adaptations survive and reproduce, weaker ones die out.	
3	Genes from successful organisms pass onto the next generation.	
4	Over time the best adaptations continue to pass on forming a new species.	
The organisms we see on Earth today have		

Knowledge: Punnet Square					
	Possible alleles from father				
Possible alleles from mother		B Dominant allele for brown eyes	b Recessive allele for blue eyes		
	b Recessive allele for blue eyes	Bb Offspring have brown eyes as B is dominant	bb Offspring have blue eyes as both alleles are recessive		
	b Recessive allele for blue eyes	Bb Offspring have brown eyes as B is dominant	bb Offspring have blue eyes as both alleles are recessive		

developed over millions of years this is

Evolution.

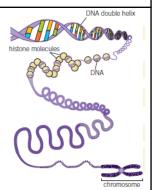
Key Vocabulary				
1	Allele	Different version of a gene, which codes for the same characteristic, for each characteristic there are two alleles.		
2	Dominant	The characteristic will be displayed, represented by a capital letter		
3	Recessive	Will not be displayed as a characteristic unless there are two of the same allele, represented by a small letter		
4	Genetic modification	The process scientists use to alter the genes of an organism		

Knowledge: DNA

DNA is the material which contains all of the genetic information

—	DNA in the shape of a double helix
2	Dene —a section of DNA which holds information for a particular characteristic
2	Chromosome –long

strand of DNA



Additional Information: Discuss Biodiversity, Discuss ways of preventing extinction, Discuss Genetic modification.