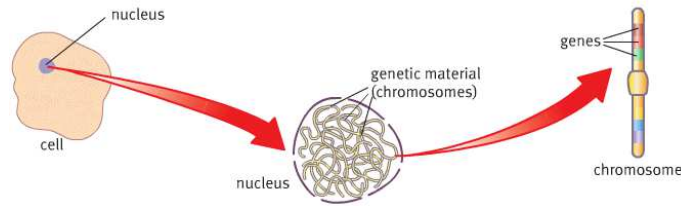


Science Knowledge Organiser – B1 You and your genes

B1.1 What are genes and how do they affect the way that organisms develop?



Nucleus	
DNA	
Gene	
Structural protein	
Functional protein	
Genetic variation	
Environmental variation	
Genes and environment	

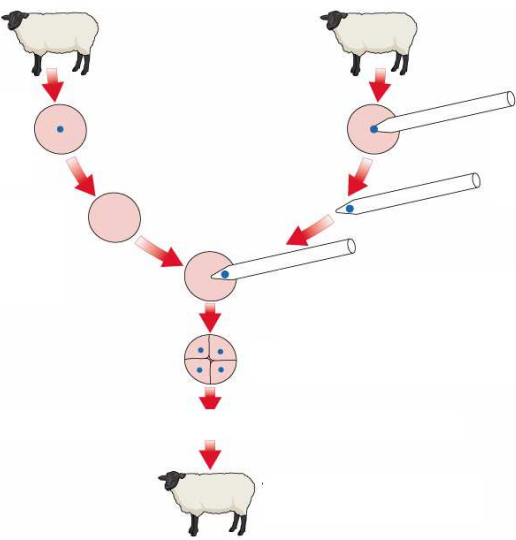
B1.2 Why can people look like their parents and siblings but not be identical to them?

Chromosomes	
Alleles	
Homozygous	
Heterozygous	
Dominant	
Recessive	
Sex chromosomes	
Sex-determining gene	
Genotype	
Phenotype	
Punnett square	

B1.3 How can and should genetic information be used? How can we use our knowledge of genetics to prevent disease?

Huntington's disease (HD)	
Cystic fibrosis (CF)	
Symptoms of HD	
Symptoms of CF	
Carrier	
Genetic test (GT)	
Pre-implantation genetic diagnosis (PGD)	
Use of GT (adults)	
Use of GT (children)	
Use of GT (embryos)	
Implications of GT	

B1.4 How is a clone made?

Asexual reproduction	
Clone	
Natural clones (plants)	
Natural clones (animals)	
Artificial clone	 <p>The diagram illustrates the process of artificial cloning. It starts with two sheep. From the left sheep, a somatic cell is taken and fused with an enucleated egg cell. From the right sheep, an egg cell is taken and fused with a somatic cell. Both paths lead to a fused cell, which then undergoes mitosis to form a zygote. The zygote develops into an embryo, which is then implanted into a surrogate mother to produce a clone.</p>
Adult stem cell	
Embryonic stem cell	