

GCSE Biology Learning Checklist

Unit 6: Inheritance, variation and evolution

Sub-unit: Reproduction

I can...		After Lesson	After Revision
1	Name the gametes of plants and animals		
2	State the differences between asexual and sexual reproduction		
3	Describe the process of meiosis		
4	Compare the differences between meiosis and mitosis		
5	Explain how the chromosome number halves and then returns to its original number following fertilisation		
6	Outline the advantages and disadvantages of asexual and sexual reproduction (<i>separate only</i>)		
7	Give examples of plants that reproduce asexually (<i>separate only</i>)		
8	Describe the life cycle of fungi and malarial parasites (<i>separate only</i>)		
9	Describe the structure of DNA		
10	Give the definition of a gene, a chromosome and the genome		
11	Explain the benefits of studying the human genome in: - searching for genes linked to different types of disease - understanding and treatment of inherited disorders - tracing human migration patterns from the past.		
12	Describe what a nucleotide is (<i>separate only</i>)		
12	Outline the process of protein synthesis (<i>separate only</i>)		
13	Explain how the structure of DNA affects the protein made (<i>separate only</i>)		
13	Describe how genetic variants may influence phenotype: - in coding DNA by altering the activity of a protein - in non-coding DNA by altering how genes are expressed (<i>separate only</i>)		
14	Describe complementary base pairing (<i>separate only</i>)		

15	Describe what happens in mutations (<i>separate only</i>)		
16	Explain how DNA can switch genes on and off, so variations in these areas of DNA may affect how genes are expressed. (<i>separate only</i>)		
17	Students should be able to explain the terms: gamete, chromosome, gene, allele, dominant, recessive, homozygous, heterozygous, genotype, phenotype.		
18	Complete a Punnett square diagram to express the outcome of a genetic cross		
19	Explain how polydactyly and cystic fibrosis are inherited		
20	State the number of pairs of chromosomes, and total number of chromosomes in human body cells		
21	I can identify the sex chromosomes for males and females		
20	Make informed judgements about the economic, social and ethical issues concerning embryo screening		

Keywords:

Asexual reproduction

Sexual reproduction

Meiosis

Gamete

Zygote

Fertilisation

Variation

Spores

Diploid

Haploid

Polymer

DNA

Genome

Chromosome

Gene

Human genome project

Base

Nucleotide

Mutation

Allele

Homozygous

Heterozygous

Genotype

Phenotype

Dominant

Recessive

Sex chromosomes

Polydactyly

Cystic fibrosis

Carriers

Embryo screening

Exam insights:

Dominant alleles should always be written first!

Remember: Homo = same / Hetero = different