D3.2 Inheritance

What the Cell · DP Biology · note-taking sheet · SL statements D3.2.1–15

Name _____ **Date** _____

How to use this sheet: go through the slides and videos with it, then close them and write from memory. Use your own words and add page numbers from the book (pp. 725–746) where you want more detail.

Guiding questions. What patterns of inheritance are seen in plants and animals? What happens at the molecular level to produce these patterns?

D3.2.1–2 Gametes and crosses

Explain how a diploid parent passes on genes. Then define P, F1 and F2, and say why pollination is needed for a cross.

D3.2.3–5 Genotype, phenotype and dominance

Define each term: **allele, genotype, homozygous, heterozygous, phenotype**.

Give one human trait from genotype only, one from environment only, and one from both.

Draw a Punnett grid for Yy × Yy. State both ratios. Why do YY and Yy look the same?

D3.2.6–7 Plasticity and phenylketonuria

What is phenotypic plasticity? What is the cause of PKU, and how is it managed?

D3.2.8–10 Multiple alleles and dominance patterns

Blood group	Possible genotypes
A	
B	
AB	
O	

	Incomplete dominance	Codominance
Heterozygote		
Example		

D3.2.11–13 Sex chromosomes and pedigrees

Explain how sex is determined at fertilization. Why are more males affected by haemophilia?

Pattern	Clues in a pedigree
Autosomal recessive	
Autosomal dominant	
X-linked recessive	

D3.2.14–15 Continuous variation

Distinguish continuous and discrete variables. What does polygenic mean?

List the six aspects of a box-and-whisker plot, and how to test for an outlier.

Before you finish

Tick the ones you can explain without notes. Circle anything to ask about.

- ☐ Gene and allele
- ☐ Punnett grids
- ☐ Why YY and Yy look alike
- ☐ Plasticity
- ☐ PKU
- ☐ ABO groups
- ☐ Codominance
- ☐ Haemophilia crosses
- ☐ Reading pedigrees
- ☐ Box plots and outliers