BIOLOGY YEAR 12 - MODULE 5 - LESSON 15

Non-Mendelian Patterns - Co-dominance, Incomplete Dominance, Multiple Alleles

Use this worksheet after reading the lesson to practise the key ideas and prove you can meet the success criteria.

Name _____

Date _____

Class _____

1. Key Ideas

Not every inheritance pattern fits a simple dominant-recessive model. Some traits show both alleles together, some show an intermediate phenotype, and some genes have more than two alleles in the population.

- What co-dominance, incomplete dominance and multiple alleles mean.
- Why some phenotype ratios are not the classic 3:1 Mendelian ratio.

2. Success Criteria

By the end, you should be able to:

- What co-dominance, incomplete dominance and multiple alleles mean.
- That ABO blood groups are the standard HSC example of co-dominance plus multiple alleles.
- Why some phenotype ratios are not the classic 3:1 Mendelian ratio.

3. Key Terms

Co-dominance
Both alleles are fully expressed in the heterozygous phenotype.

Incomplete dominance
The heterozygous phenotype is intermediate between the two homozygous phenotypes.

Multiple alleles
A gene exists in more than two allele forms within the population.

Heterozygous
Having two different alleles for a gene.

ABO blood group
A human blood group system showing co-dominance and multiple alleles.

Phenotypic ratio
The relative frequency of observable traits in offspring.

4. Activity: Build the Lesson Map

Use the lesson to complete the table. Keep answers brief but specific.

Prompt	Your answer
Main concept	
Important example	
Common mistake to avoid	
How this links to the next lesson	

5. Short Answer Questions

1. Explain this lesson goal in your own words: "What co-dominance, incomplete dominance and multiple alleles mean.". Use one specific example from the lesson.

BAND 3 2 MARKS

2. Apply this idea to a new example: "That ABO blood groups are the standard HSC example of co-dominance plus multiple alleles.". Show your reasoning clearly.

BAND 4 3 MARKS

3. Analyse why this idea matters for understanding Non-Mendelian Patterns - Co-dominance, Incomplete Dominance, Multiple Alleles: "Why some phenotype ratios are not the classic 3:1 Mendelian ratio.".

BAND 5 4 MARKS

6. Extend: Apply the Idea

BAND 5/6 5 MARKS

A student gives a memorised answer about Non-Mendelian Patterns - Co-dominance, Incomplete Dominance, Multiple Alleles but does not use evidence or reasoning.

Improve the answer by writing a stronger response that uses accurate terminology, a relevant example and a clear explanation.

7. Multiple Choice

1. What is the best first step when answering a question about Non-Mendelian Patterns - Co-dominance, Incomplete Dominance, Multiple Alleles?

- [ ] A. Identify the key concept being tested
- [ ] B. Write every fact from memory
- [ ] C. Ignore the command word
- [ ] D. Skip examples and evidence

2. Which answer would show stronger understanding of Non-Mendelian Patterns - Co-dominance, Incomplete Dominance, Multiple Alleles?

- [ ] A. An answer with accurate terms and reasoning
- [ ] B. A copied definition only
- [ ] C. A single-word response
- [ ] D. An answer with no example

3. What should you do if a question asks you to explain?

- [ ] A. Link the idea to a reason or cause
- [ ] B. List unrelated facts
- [ ] C. Only draw a diagram
- [ ] D. Write the shortest possible answer

8. Success Criteria Proof

Finish with evidence that you can do each success criterion.

SUCCESS CRITERION 1

Prove that you can: What co-dominance, incomplete dominance and multiple alleles mean.

BAND 3 2 MARKS

SUCCESS CRITERION 2

Prove that you can: That ABO blood groups are the standard HSC example of co-dominance plus multiple alleles.

BAND 4 3 MARKS

SUCCESS CRITERION 3

Prove that you can: Why some phenotype ratios are not the classic 3:1 Mendelian ratio.

BAND 5 4 MARKS

One thing I still need help with: