



<p>This half term: Skills, Knowledge and Understanding to be developed:</p> <ul style="list-style-type: none"> • Skills (students <u>WILL BE ABLE</u> to by the end of the Learning Programme): to illustrate genetic crosses. • Knowledge (students <u>WILL KNOW</u> by the end of the Learning Programme): how to carry out genetic crosses. • Understanding (students <u>WILL DEMONSTRATE THEIR UNDERSTANDING</u>): by interpreting the results of the monhybrid, dihybrid, codominance, linkage and sex linked genetic crosses. 		<p>Key Terms / Words: monhybrid, dihybrid, codominance, linkage sex linked Chi²</p>	
<p>LP 3 – Week 1 and 2 Learning Outcomes: UNIT 3 MOCK EXAMINATIONS: Wednesday 12th January – Wednesday 18th January 2022</p> <p>Students will demonstrate their skills knowledge and understanding in an end of Unit 3 Mock Examination.</p> <p>Students will apply and demonstrate new knowledge and skills in an end of unit exam. (SUMMATIVE based on 4, 5, 8 and 10 mark questions).</p>	<p>Assessment</p> <p>SA</p> <p>Mark</p>		
<p>LP 3 – Week 2 Learning Outcomes:</p> <p>Students will know, understand and use the following genetic terms: gene, locus, alleles, dominant, recessive, codominant, phenotype, genotype, homozygous, heterozygous, F₁ and F₂, autosomes and sex chromosomes.</p> <p>Students will understand the principles of:</p> <ul style="list-style-type: none"> • monohybrid Mendelian inheritance including simple crosses involving codominance. • dihybrid Mendelian inheritance including simple crosses involving linkage. • how Mendel used the results of experimental genetic crosses to derive his laws of inheritance and be able to apply these laws when solving genetic problems. 		<p>Success criteria: SUMMATIVE ASSESSMENT Students will demonstrate their skills knowledge and understanding in an end of Unit 3 Mock Examination.</p> <p>Students will demonstrate their knowledge and understanding of monohybrid, dihybrid and codominance genetic crosses.</p>	<p>Homework LP 3 2/5</p> <p>Complete genetics exam question on:</p>
<p>LP 3 – Week 3 and 4 Learning Outcomes:</p> <p>Students will be able to:</p> <ul style="list-style-type: none"> • use symbols to represent dominant, recessive, codominant and sex-linked alleles and show how to represent genetic crosses in diagrammatic form when solving genetics problems; • show how and why test crosses may be carried out; <p>Students will know:</p> <ul style="list-style-type: none"> • that Mendel’s laws only apply if genes are not linked, i.e. on different chromosomes and that if genes show linkage, the results of crosses will not follow the expected Mendelian ratios. <p>Students will be able to: apply their knowledge and understanding of meiosis to explain the production of recombinants through independent assortment of non-linked genes and how crossing over can produce recombinants in linked genes.</p> <p>Students will apply and demonstrate new knowledge and skills in APP1 assessment</p>	<p>Assessment</p> <p>APP1</p> <p>Mark</p> <p>Grade</p>	<p>Students will demonstrate their knowledge and understanding of linkage, Chi Squared and Sex linkage by answering WJEC examination questions.</p>	<p>Homework LP 3 2/5</p> <p>Complete genetics exam question on:</p>
<p>LP 3 – Week 5 and 6 Learning Outcomes:</p> <p>Students will understand:</p> <ul style="list-style-type: none"> • under what conditions the Chi² test can be used and that the Chi² test can be used to determine if the results of a genetic cross are significantly different to expected results or whether the differences are due to chance alone. <p>Students will know how to:</p> <ul style="list-style-type: none"> • carry out and interpret the results of the Chi² test • formulate a null hypothesis • calculate expected numbers from Mendelian ratios; • calculate degrees of freedom; • choose a suitable probability level; • identify a Chi² value from a Chi² distribution table; • accept or reject the null hypothesis. <p>Students will understand:</p>		<p>Success criteria: Students will demonstrate their knowledge and understanding of monohybrid, dihybrid, codominance, linkage, Chi Squared and Sex linkage by answering WJEC examination questions.</p>	<p>Homework LP 3 3/5</p> <p>Revise for APP1 Complete genetics exam question:</p>



- sex-linkage in organisms with X and Y sex chromosomes, as the inheritance of a gene present on the X chromosome only
- the significance of the lack of a corresponding allele on the Y chromosome in terms of expression of recessive alleles.

Students will apply and demonstrate new knowledge and skills in an end of unit exam. (SUMMATIVE based on 4, 5, 8 and 10 mark questions).

Grade

<ul style="list-style-type: none">• sex-linkage in organisms with X and Y sex chromosomes, as the inheritance of a gene present on the X chromosome only• the significance of the lack of a corresponding allele on the Y chromosome in terms of expression of recessive alleles. <p>Students will apply and demonstrate new knowledge and skills in an end of unit exam. (SUMMATIVE based on 4, 5, 8 and 10 mark questions).</p>	<p>Grade</p>		
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