



Work for individual students not attending school

Half Term 2: October to December

Pupils who are absent should select the lesson activity that they are up to

- Click the link and watch the video.
- Complete the tasks as you watch. Write your answers on paper for all the tasks set.
- Complete the exit quiz by clicking the green circles at the bottom of the screen. ●●●●●
- Submit your work to your teacher when you return to school.

Date (week commencing)	Lesson	Focus/Topic/Theme	Hyper link to Activity
2/11/20	1	Meiosis and Fertilisation	https://classroom.thenational.academy/lessons/meiosis-and-fertilisation-60u3ed?activity=video&step=1
	2	Sexual and Asexual reproduction	https://classroom.thenational.academy/lessons/sexual-vs-asexual-reproduction-ccr64t?activity=video&step=1
9/11/20	3	Genes, DNA and Chromosomes	https://classroom.thenational.academy/lessons/genes-dna-and-chromosomes-71gk6d?activity=video&step=1
	4	Genetic Inheritance	https://classroom.thenational.academy/lessons/genetic-inheritance-higher-c5jk4t?activity=video&step=1
16/11/20	5	Inherited Disorders - Part 1	https://classroom.thenational.academy/lessons/inherited-disorders-part-1-higher-c8u6ad?activity=video&step=1
	6	Inherited Disorders - Part 2	https://classroom.thenational.academy/lessons/inherited-disorders-part-2-64up8r?activity=video&step=1
23/11/20	8	Sex Determination	https://classroom.thenational.academy/lessons/sex-determination-crup8t?activity=video&step=1
	9	Mendel	https://classroom.thenational.academy/lessons/mendel-cnhrpar?activity=video&step=1
30/11/20	10	Protein Synthesis	https://classroom.thenational.academy/lessons/protein-synthesis-68w62c?activity=video&step=1
	11	Mid Topic Review	https://classroom.thenational.academy/lessons/mid-topic-review-6nj38c?activity=video&step=1



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Date (week commencing)	Lesson	Focus/Topic/Theme	Hyper link to Activity
7/12/20	12	Revision: Select and complete revision activities below. GCSE Bitesize: Using the web link read the revision notes and watch the video. https://www.bbc.co.uk/bitesize/guides/z9pkmsg/revision/1 SENECA: Use the web link to work through the revision notes and attempt questions at the end of the topic. https://app.senecalearning.com/classroom/course/6b76a6e0-cf79-11e7-83a9-29a486db2c9f	
14/12/20	13	Revision: Create revision flashcards using the knowledge organisers to help you with recall and understanding of the topic.	

Year 11 Reproduction Unit 2

Keyword	Definition	Sexual vs Asexual Reproduction	Sex determination																										
Gene	A small section of DNA which codes for a particular protein.	Sexual reproduction involves the joining (fusion) of male and female gametes <ul style="list-style-type: none"> • Mixing of genetic information which leads to variety in the offspring 	Sex determination Ordinary human body cells contain 23 pairs of chromosomes. 22 pairs control characteristics only, but one of the pairs carries the genes that determine sex.																										
Chromosome	Thread-like structures which contain the DNA. In body cells there are 46 (23 pairs).	Asexual reproduction involves only one parent and no fusion of gametes. <ul style="list-style-type: none"> • No mixing of genetic information, which leads to genetically identical offspring. 	Females - XX Males - XY Ratio 1:1 (50% likelihood for a male or a female)																										
Gametes	Sex cells – sperm and egg. Contain 23 chromosomes																												
Allele	A version of a gene (e.g. blue eyes)	Inheritance Construct and interpret punnet squares to determine the genotype and phenotype for genetic crosses <ul style="list-style-type: none"> • Interpret the question - know what the genotype is for each cross • Summarise the result of the punnet square by giving the phenotypic ratio or probability 	Gregor Mendel <ul style="list-style-type: none"> • Bred pea plants • Investigated inheritance through breeding pea plants and analysing results using statistics • Identified units of inheritance that we now know as genes • Proposed idea of dominant and recessive traits 																										
Dominant allele	An allele that will always expressed, even if only one copy is present (B)	Pea colour Y yellow , y green																											
Recessive allele	An allele only be expressed if the individual has two recessive alleles (bb)	<table style="width: 100%; text-align: center;"> <tr> <td> <table border="1" style="border-collapse: collapse;"> <tr><td>Y</td><td>Y</td></tr> <tr><td>y</td><td>Yy</td></tr> <tr><td>y</td><td>Yy</td></tr> </table> </td> <td> • 4 yellow 100% chance of yellow (all offspring have inherited the dominant allele) </td> <td> <table border="1" style="border-collapse: collapse;"> <tr><td>Y</td><td>y</td></tr> <tr><td>y</td><td>Yy</td></tr> <tr><td>y</td><td>Yy</td></tr> </table> </td> <td> • 2 green and 2 yellow Ratio 1:1 50% chance green 50% chance yellow </td> <td> <table border="1" style="border-collapse: collapse;"> <tr><td>Y</td><td>y</td></tr> <tr><td>Y</td><td>YY</td></tr> <tr><td>y</td><td>Yy</td></tr> <tr><td>y</td><td>Yy</td></tr> </table> </td> <td> • 1 green and 3 yellow Ratio 1:3 25% chance green 75% chance yellow </td> </tr> </table>	<table border="1" style="border-collapse: collapse;"> <tr><td>Y</td><td>Y</td></tr> <tr><td>y</td><td>Yy</td></tr> <tr><td>y</td><td>Yy</td></tr> </table>	Y	Y	y	Yy	y	Yy	• 4 yellow 100% chance of yellow (all offspring have inherited the dominant allele)	<table border="1" style="border-collapse: collapse;"> <tr><td>Y</td><td>y</td></tr> <tr><td>y</td><td>Yy</td></tr> <tr><td>y</td><td>Yy</td></tr> </table>	Y	y	y	Yy	y	Yy	• 2 green and 2 yellow Ratio 1:1 50% chance green 50% chance yellow	<table border="1" style="border-collapse: collapse;"> <tr><td>Y</td><td>y</td></tr> <tr><td>Y</td><td>YY</td></tr> <tr><td>y</td><td>Yy</td></tr> <tr><td>y</td><td>Yy</td></tr> </table>	Y	y	Y	YY	y	Yy	y	Yy	• 1 green and 3 yellow Ratio 1:3 25% chance green 75% chance yellow	
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Genotype	The genetic make-up of an organism (BB, Bb, bb)																												
Phenotype	The physical characteristics expressed in an organism (e.g. blue or brown eyes)																												
Homozygous	The same versions of a gene (both blue eyes BB or bb)																												
Heterozygous	Two different versions of a gene (blue and brown eyes Bb)																												
Punnet square	Used to predict genetic crosses and the phenotype ratios of offspring																												
Further Reading Combined Science CGP- Page Separate Science CGP- Page https://www.bbc.com/bitesize/guides/z9pkmsg/revision/1																													
		Genetic Disorders Inherited disorders caused by the inheritance of certain alleles.	Cystic fibrosis (a disorder of cell membranes) is caused by a recessive allele.																										
		Polydactyly (having extra fingers or toes) is caused by a dominant allele.																											

Contact

You can email your **class teacher** if you have any questions about the activities set.

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