



Work for individual students not attending school

Half Term 3: January – February 2021

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
4/1/21	1	Sexual/asexual reproduction	Sexual vs. Asexual reproduction (thenational.academy)
	2	DNA, genes and chromosomes	Genes, DNA and chromosomes (thenational.academy)
11/2/21	3	Meiosis	Meiosis and fertilisation (thenational.academy)
18/2/21	4	Inherited disorders (1)	Inherited disorders (Part 1)- Higher (thenational.academy)
	5	Inherited disorders (2)	Inherited disorders (Part 2) (thenational.academy)
25/1/21	6	Sex determination	https://classroom.thenational.academy/lessons/sex-determination-crup8t?activity=video&step=1
1/2/21	7	Topic review	https://classroom.thenational.academy/lessons/mid-topic-review-6nj38c?activity=video&step=1
8/2/21	8	<p>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/z7mbkqt/revision/1 https://www.bbc.co.uk/bitesize/guides/z2xbh39/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/891f0540-1d79-11e8-a6da-15f18bba751c</p>	



Work for individual students not attending school

Half Term 3: January – February 2021

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.

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 	Ordinary human body cells contain 23 pairs of chromosomes.																										
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. 	22 pairs control characteristics only, but one of the pairs carries the genes that determine sex. <ul style="list-style-type: none"> • Females - XX • Males - XY Ratio 1:1 (50% likelihood for a male or a female)																										
Gametes	Sex cells – sperm and egg. Contain 23 chromosomes	Inheritance	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 																										
Allele	A version of a gene (e.g. blue eyes)	Construct and interpret punnett 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 punnett square by giving the phenotypic ratio or probability Pea colour Y yellow , y green	<table border="0"> <tr> <td> <table border="1"> <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> <ul style="list-style-type: none"> • 4 yellow • 100% chance of yellow (all offspring have inherited the dominant allele) </td> <td> <table border="1"> <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> <ul style="list-style-type: none"> • 2 green and 2 yellow • Ratio 1:1 • 50% chance green 50% chance yellow </td> <td> <table border="1"> <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> <tr><td>y</td><td>Yy</td></tr> </table> <ul style="list-style-type: none"> • 1 green and 3 yellow • Ratio 1:3 • 25% chance green 75% chance yellow </td> </tr> </table>		<table border="1"> <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> <ul style="list-style-type: none"> • 4 yellow • 100% chance of yellow (all offspring have inherited the dominant allele) 	Y	Y	y	Yy	y	Yy	<table border="1"> <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> <ul style="list-style-type: none"> • 2 green and 2 yellow • Ratio 1:1 • 50% chance green 50% chance yellow 	Y	y	y	Yy	y	Yy	<table border="1"> <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> <tr><td>y</td><td>Yy</td></tr> </table> <ul style="list-style-type: none"> • 1 green and 3 yellow • Ratio 1:3 • 25% chance green 75% chance yellow 	Y	y	Y	YY	Y	YY	y	Yy	y	Yy
<table border="1"> <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> <ul style="list-style-type: none"> • 4 yellow • 100% chance of yellow (all offspring have inherited the dominant allele) 	Y	Y	y	Yy	y	Yy	<table border="1"> <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> <ul style="list-style-type: none"> • 2 green and 2 yellow • Ratio 1:1 • 50% chance green 50% chance yellow 	Y	y	y	Yy	y	Yy	<table border="1"> <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> <tr><td>y</td><td>Yy</td></tr> </table> <ul style="list-style-type: none"> • 1 green and 3 yellow • Ratio 1:3 • 25% chance green 75% chance yellow 	Y	y	Y	YY	Y	YY	y	Yy	y	Yy					
Y	Y																												
y	Yy																												
y	Yy																												
Y	y																												
y	Yy																												
y	Yy																												
Y	y																												
Y	YY																												
Y	YY																												
y	Yy																												
y	Yy																												
Dominant allele	An allele that will always expressed, even if only one copy is present (B)	Genetic Disorders	Polydactyly (having extra fingers or toes) is caused by a dominant allele.																										
Recessive allele	An allele only be expressed if the individual has two recessive alleles (bb)	Cystic fibrosis (a disorder of cell membranes) is caused by a recessive allele.																											
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)																												
Punnett 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/z9pkmasq/revision/1																												

Contact

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

j.matthews@deyeshigh.co.uk
h.sharpley@deyeshigh.co.uk
c.boardman@deyeshigh.co.uk
t.clark@deyeshigh.co.uk
a.ryan@deyeshigh.co.uk