

Medium Term Plan 2021/2022 Subject: Science Term: AT1 Topic from LTP: Biology ELC – Cells, Genes and Inheritance Lessons per week: 3 Group(s): Rowsell 4Y

Students will show achievement by being able to understand the parts and workings of the cell and how this links to inherited characteristics. Practical tasks such as using a microscope encourage independence. The power point presentations will link to communication. Group work is a vital part of this unit to share their ideas. Learning about the different genetic diseases links to health and wellbeing.

	Topic	Learning Intentions	Task	Assessed LIs
W1	Cells	<ul style="list-style-type: none"> Students show know that all living things are made up of cells They should be able to label parts of a cell and know some functions of parts of the cell. Student will be able to create a model of the cell 	<ul style="list-style-type: none"> Drawing and labelling animal and plant cell diagrams Creating a model of the cell using jelly 	I can <ul style="list-style-type: none"> Explain all living things are made up of cells I can label parts of a cell and know some functions of parts of the cell. I can create a model of the cell
W2	Specialised Cells	<ul style="list-style-type: none"> Students will know that specialised cells are able to do different jobs 	<ul style="list-style-type: none"> Students are to creating a poster or clicker 7 board to show knowledge of specialised cells labelling the poster with 	I can <ul style="list-style-type: none"> Explain that certain specialised cells are able to do different jobs Explain the function of at least three of three of these cells

		<ul style="list-style-type: none"> • They will know the function of at least three of three of these cells • They will know how at least 3 are adapted to these functions 	<p>the function and adaptation of these cells</p> <ul style="list-style-type: none"> • 	Describe how at least 3 are adapted to these functions
W3	Microscopes	<ul style="list-style-type: none"> • Students should be able to use and label a microscope • They should be able to make and record observations of cells under a microscope • Students should be able to describe what happens if settings on a microscope are altered 	<ul style="list-style-type: none"> • Using a microscope to observe and compare different cell types • They will describe what happens when the setting on the microscope changes • They will label a microscope • Forensic fun – who left the hair at the scene of the crime 	<p>I can</p> <ul style="list-style-type: none"> • Use and label a microscope • Make and record observations of cells under a microscope • Describe what happens if you alter settings on a microscope
W4	Variation	<ul style="list-style-type: none"> • Students should be able to explain what is meant by variation • They should be able to explain how 	<ul style="list-style-type: none"> • Students are to look at pictures and suggest ways people differ and label these variations on a poster • They are then to sort which of these variations are inherited, 	<p>I can</p> <ul style="list-style-type: none"> • Explain what is meant by variation • Explain how variations in organisms occur • List variations as environmental, inherited or a mixture of both

		<p>variations in organisms occur</p> <ul style="list-style-type: none"> • They should be able to sort variations as environmental, inherited or a mixture of both 	<p>environmental or a mixture of both</p>	
W5	Genes and DNA	<ul style="list-style-type: none"> • Students should know the structure and function of DNA • They should know that different genes lead to variations in species • They should be able to extract DNA from pea cells 	<ul style="list-style-type: none"> • Students are to create a model of DNA using sweets to consolidate the shape • They are to undertake practical work extracting DNA from pea cells and use a microscope to observe the DNA 	<p>I can</p> <ul style="list-style-type: none"> • Describe the structure and function of DNA • Explain that different genes lead to variations in species • Extract DNA from pea cells
W6	Chromosomes	<ul style="list-style-type: none"> • Students should know that a chromosome is a long chain of DNA found in the cell nucleus. • They should know that we have 23 pairs, one from each parent 	<ul style="list-style-type: none"> • Student are to watch a BBC program about chromosomes • They are to label pictures XX or XY • They are to using a punnet square to show that the chance of a boy baby is 50% 	<p>I can</p> <ul style="list-style-type: none"> • Explain that a chromosome is a long chain of DNA found in the cell nucleus. • Explain that we have 23 pairs, one from each parent • Show that XX is female and XY is male • Determine the likelihood of having a boy using a punnet square

		<ul style="list-style-type: none">• Students should know that XX is female and XY is male• They should be able to determine the likelihood of having a boy using a punnet square		
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