



SVC Science Learning Pathway - Year 7



LP	Literacy/Numeracy	How Science Works	Biology	Chemistry	Physics
8-9	<ul style="list-style-type: none"> Students will plot appropriate graphs (bar chart or line graph) with units, headings and scales based on the practical, then analyse graphs and use them to support conclusions after data is extrapolated. Their analysis of practical results are communicated coherently, enhanced by specialist terms which they are able to use with a high degree of accuracy in the correct context. Their spoken communication is clear, with use of data & specialist terms fluently to support & justify conclusions. 	<ul style="list-style-type: none"> Students will with some support able to create their own practical plans Students will explain why CV's are important and how this allows other people to get similar results to them. This is called reproducibility Students will explain if their results are accurate. Students will use their results in their conclusion to help answer the question they were given. 	<ul style="list-style-type: none"> Students will be creative and explain how unfamiliar specialised cells may work. Students will link cells to tissues, organs & organ systems, and how specialised cells fit into this model. They are able to explain the most likely time for optimum fertility based on menstrual graphs e.g. Students will use a chart to explain that when an eggs is released & link this to the specialised cell the sperm. Students will think of reasons for lack of fertility and how hormones affect this. 	<ul style="list-style-type: none"> Students will confidently write word equations & begin to create some symbol equations for reactions e.g. neutralisation. They are able to predict the products of reactions and link reactions to energy changes. Students will explain the properties of unfamiliar materials based on their states of matter, explaining the changes of state using the particle theory, creating relevant particle diagrams or models. 	<ul style="list-style-type: none"> Students will create models to explain ideas such as current & resistance in circuits. Students will construct different types of circuits then draw scientific circuit diagrams using correct symbols Students will explain clearly how electricity flows in a series and parallel circuit. Students will explain forces as being balanced or unbalanced and link this to resultant motion. Their work explaining motion is often shown with force arrows created to support my ideas.
6-7	<ul style="list-style-type: none"> Students will plot appropriate graphs (bar chart or line graph) and analyse graphs then use them to support conclusions after data is extrapolated. Students will clearly communicate analysis of practical and use specialist terms mainly in the correct context to enhance explanations. Students will communicate clearly via discussion, using data & specialist terms to explain conclusions. 	<ul style="list-style-type: none"> Students will explain how control variables are kept the same to make their practical work reliable and fair. Students will use other scientists work to help them plan their own practical method. Students will use their results to decide if their practical is working. Students will spot patterns in their results and use this with other scientists work to explain the results in their conclusion. Students will evaluate their results and then suggest further useful practical tests. 	<ul style="list-style-type: none"> Students will explain how a range of specialised cells work. Students will explain how shape is important in a specialised cells job. Students will explain how the menstrual cycle affects fertility and likelihood of pregnancy. Students will describe and explain the factors that affect the menstrual cycle. E.g. diet. 	<ul style="list-style-type: none"> Students will write word equations for reactions e.g. neutralisation. Students will predict the products of some reactions, connecting reactions to energy changes. They are able to explain the properties of materials based on their states of matter. Students will confidently explain changes of state using the particle theory. 	<ul style="list-style-type: none"> Students will use models to explain ideas such as current & resistance in circuits Students will construct different types of circuits then draw scientific circuit diagrams using correct symbols. They are able to explain forces as being balanced or unbalanced. Their work explains motion and my diagrams show force arrows can be clearly interpreted.

LP	Literacy/Numeracy	How Science Works	Biology	Chemistry	Physics
4-5	<ul style="list-style-type: none"> Students will plot appropriate graphs (bar chart or line graph) and interpret them to spot patterns. This is evident in my conclusion. Students will use specialist terms mainly in the correct context. Students will discuss clearly, using results to explain conclusions. 	<ul style="list-style-type: none"> Students will write a plan with a little help to answer new Science questions. And test hypothesis that are given. They can identify the independent variable (IV) and the dependent variable (DV), listing the relevant control variables (C.V). They are able to evaluate my practical and suggest improvements to make the practical better. Students will explain what their results mean and write a conclusion based on their results. 	<ul style="list-style-type: none"> Students will suggest how familiar specialised cells work e.g. the sperm cell has a tail so it can swim to fertilise the egg Students will interpret diagrams e.g. the menstrual cycle to identify when the egg is released and the build-up of the uterus lining. 	<ul style="list-style-type: none"> They are beginning to interpret word equations for reactions e.g. neutralisation. Students will confidently describe the difference between physical & chemical changes and give examples. Students will describe the properties of materials based on their states of matter and describe changes of state using the particle theory. 	<ul style="list-style-type: none"> Students will explain ideas like current & resistance in circuits. Students will build a series and parallel circuit then draw scientific circuit diagrams using symbols. Students will describe how electricity flows in a circuit. Students will describe how friction can be controlled.
2-3	<ul style="list-style-type: none"> Students will describe patterns in their graphs and results. Students will begin to analyse practical results and communicate them using some specialist terms Students will discuss their findings, using results to give conclusions 	<ul style="list-style-type: none"> Students will make predictions based on simple scientific knowledge. Students will choose the correct equipment and record results in a table. Students will suggest how ideas could be tested. Students will decide which measurements they should make and what they are looking for. 	<ul style="list-style-type: none"> Students will compare animal & plant cells giving 3 differences between animal & plant cells. Students will list differences between cells, tissues, organs & organ systems. Students will describe the main parts of the menstrual cycle 	<ul style="list-style-type: none"> Students will label word equations for known reactions e.g. neutralisation. They are able to summarise the difference between physical & chemical changes. Students will summarise the properties of materials based on their states of matter. 	<ul style="list-style-type: none"> Students will state definitions such as current & resistance in circuits. Students will build a series circuit and draw a simple scientific diagram. Students will summarise the main forces acting on objects. Students will describe the difference between weight and mass.
0-1	<ul style="list-style-type: none"> Students will ensure graphs axis are labelled. Students will state simple patterns in their conclusions. 	<ul style="list-style-type: none"> Students will follow a method and collect useful results by making simple measurements. Students will identify patterns in results. Students will label diagrams of the apparatus they use a lot. E.g. Bunsen, tripod, test tubes etc. 	<ul style="list-style-type: none"> Students will label the main parts of a cells. Students will spot differences between cells, tissues organs, & organ systems. Students will remember key facts about the menstrual cycle e.g. how long it is etc. 	<ul style="list-style-type: none"> Students will label some word equations. They are able to quote the difference between physical & chemical changes. Students will label diagrams. Students will list the properties of solids, liquids & gases. 	<ul style="list-style-type: none"> Students will state what current is. They are able to recognise some circuit symbols. Students will label some forces acting on objects. Students will name some forces.