Wandin Yallock STEM S&S with Curriculum Links

Even Years

Programming			
Term 1 -	**Science**	**Digital Technologies**	**Design and Technology**	**Maths**
Prep - 2	Use a range of methods, including drawings and provided tables, to sort information (VCSIS053)	Identify and explore digital systems (hardware and software components) for a purpose (VCDTDS013) Recognise and explore patterns in data and represent data as pictures, symbols and diagrams (VCDTDI014) Collect, explore and sort data, and use digital systems to present the data creatively (VCDTDI015) Follow, describe and represent a sequence of steps and decisions (algorithms) needed to solve simple problems (VCDTCD017)	Visualise, generate, and communicate design ideas through describing, drawing and modelling (VCDSCD019) Sequence steps for making designed solutions (VCDSCD022)	Follow a short sequence of instructions (VCMNA077) Recognise the importance of repetition of a process in solving problems (VCMNA094) Apply repetition in arithmetic operations, including multiplication as repeated addition and division as repeated subtraction (VCMNA114)
3/4	Safely use appropriate materials, tools, equipment and technologies (VCSIS067) Compare results with predictions, suggesting possible reasons for findings (VCSIS070) Represent and communicate observations, ideas and findings to show patterns and relationships using formal and informal scientific language (VCSIS072)	Explore a range of digital systems with peripheral devices for different purposes, and transmit different types of data (VCDTDS019) Represent and communicate observations, ideas and findings to show patterns and relationships using formal and informal scientific language (VCSIS072) Develop simple solutions as visual programs	Recognise the role of people in design and technologies occupations and explore factors, including sustainability, that impact on the design of solutions to meet community needs (VCDSTS023) Plan a sequence of production steps when making designed solutions (VCDSCD032) Evaluate design ideas, processes and solutions based on	Use a function machine and the inverse machine as a model to apply mathematical rules to numbers or shapes (VCMNA139) Define a simple class of problems and solve them using an effective algorithm that involves a short sequence of steps and decisions (VCMNA164)

			criteria for success developed with guidance and including care for the environment and communities (VCDSCD031)	
5/6		Define problems in terms of data and functional requirements, drawing on previously solved problems to identify similarities (VCDTCD030) Design a user interface for a digital system, generating and considering alternative design ideas (VCDTCD031) Design, modify and follow simple algorithms represented diagrammatically and in English, involving sequences of steps, branching, and iteration (VCDTCD032) Develop digital solutions as simple visual programs (VCDTCD033) Explain how student-developed solutions and existing information systems meet current and future community and sustainability needs (VCDTCD034)	Generate, develop, communicate and document design ideas and processes for audiences using appropriate technical terms and graphical representation techniques (VCDSCD039) Apply safe procedures when using a variety of materials, components, tools, equipment and techniques to produce designed solutions (VCDSCD040) Develop project plans that include consideration of resources when making designed solutions (VCDSCD042)	Follow a mathematical algorithm involving branching and repetition (iteration) (VCMNA194)

Physical Science

Term 2 -	Science	Digital Technologies	Design and Technology	Maths
Prep - 2	The way objects move depends on a variety of factors including their size and shape: a push or a pull affects how an object moves or changes shape (VCSSU048)	Collect, explore and sort data, and use digital systems to present the data creatively (VCDTDI015)	Explore how technologies use forces to create movement in designed solutions (VCDSTC014) Explore needs or opportunities for	Use direct and indirect comparisons to decide which is longer, heavier or holds more, and explain reasoning in everyday language (VCMMG078) Describe position and

			designing, and the technologies needed to realise designed solutions (VCDSCD018) Visualise, generate, and communicate design ideas through describing, drawing and modelling (VCDSCD019) Use materials, components, tools, equipment and techniques to produce designed solutions safely (VCDSCD020) Use personal preferences to evaluate the success of design ideas, processes and solutions including their care for environment (VCDSCD021)	movement (VCMMG082) Measure and compare the lengths, masses and capacities of pairs of objects using uniform informal units (VCMMG095) Compare masses of objects using balance scales (VCMMG116)
3/4	Forces can be exerted by one object on another through direct contact or from a distance (VCSSU064) Suggest ways to plan and conduct investigations to find answers to questions including consideration of the elements of fair tests (VCSIS066) Use formal measurements in the collection and recording of observations (VCSIS068) Use a range of methods including tables and column graphs to represent data and to identify patterns and trends (VCSIS069) Reflect on an investigation, including whether a test was fair or not (VCSIS071) Reflect on an investigation, including whether a test was fair or not (VCSIS071)		Critique needs or opportunities for designing and explore and test a variety of materials, components, tools and equipment and the techniques needed to create designed solutions (VCDSCD028 Generate, develop, and communicate design ideas and decisions using appropriate technical terms and graphical representation techniques (VCDSCD029) Select and use materials, components, tools and equipment using safe work practices to produce designed solutions (VCDSCD030) Evaluate design ideas, processes and solutions based on criteria for success developed with guidance and including care for the environment and communities	Measure, order and compare objects using familiar metric units of length, area, mass and capacity (VCMMG140) Use scaled instruments to measure and compare lengths, masses, capacities and temperatures (VCMMG165)

			(VCDSCD031) Plan a sequence of production steps when making designed solutions (VCDSCD032)	
5/6	With guidance, pose questions to clarify practical problems or inform a scientific investigation, and predict what the findings of an investigation might be based on previous experiences or general rules (VCSIS082) With guidance, plan appropriate investigation types to answer questions or solve problems and use equipment, technologies and materials safely, identifying potential risks (VCSIS083 Decide which variables should be changed, measured and controlled in fair tests and accurately observe, measure and record data (VCSIS084) Compare data with predictions and use as evidence in developing explanations (VCSIS086) Suggest improvements to the methods used to investigate a question or solve a problem (VCSIS087) Communicate ideas and processes using evidence to develop explanations of events and phenomena and to identify simple cause-and-effect relationships (VCSIS088)		Use scaled instruments to measure and compare lengths, masses, capacities and temperatures (VCMMG165) Critique needs or opportunities for designing, and investigate materials, components, tools, equipment and processes to achieve intended designed solutions (VCDSCD038) Generate, develop, communicate and document design ideas and processes for audiences using appropriate technical terms and graphical representation techniques (VCDSCD039) Apply safe procedures when using a variety of materials, components, tools, equipment and techniques to produce designed solutions (VCDSCD040) Negotiate criteria for success that include consideration of environmental and social sustainability to evaluate design ideas, processes and solutions (VCDSCD041) Develop project plans that include consideration of resources when making designed solutions (VCDSCD042)	

Light and Sound

Term 3 -	Science	Digital Technologies	Design and Technology	Maths
Prep - 2	Light and sound are produced by a range of sources and can be sensed (VCSSU049) Science Inquiry Skills	Identify and explore digital systems (hardware and software components) for a purpose (VCDTDS013)	Creating Designed Solutions	
3/4	Science Inquiry Skills	Explore a range of digital systems with peripheral devices for different purposes, and transmit different types of data (VCDTDS019)	Creating Designed Solutions	
5/6	Light from a source forms shadows and can be absorbed, reflected and refracted (VCSSU080) Science Inquiry Skills	Identify and explore digital systems (hardware and software components) for a purpose (VCDTDS013)	Investigate how forces or electrical energy can control movement, sound or light in a designed product or system (VCDSTC034) Creating Designed Solutions	

Biology - Living Things

Term 4 -	Science	Digital Technologies	Design and Technology	Maths
Prep -2	Living things have a variety of external features and live in different places where their basic needs, including food, water and shelter, are met (VCSSU042) Living things grow, change and have offspring similar to themselves (VCSSU043)	Collect, explore and sort data, and use digital systems to present the data creatively (VCDTDI015) Independently and with others create and organise ideas and information using information systems, and share these with known people in safe online environments (VCDTDI016)		

3/4	Different living things have different life cycles and depend on each other and the environment to survive (VCSSU058) Energy from a variety of sources can be used to generate electricity; electric circuits enable this energy to be transferred to another place and then to be transformed into another form of energy (VCSSU081)	Individually and with others, plan, create and communicate ideas and information safely, applying agreed ethical and social protocols (VCDTDI022) Recognise different types of data and explore how the same data can be represented in different ways (VCDTDI020)		6
5/6	Living things have structural features and adaptations that help them to survive in their environment (VCSSU074) The growth and survival of living things are affected by the physical conditions of their environment (VCSSU075)	Acquire, store and validate different types of data and use a range of software to interpret and visualise data to create information (VCDTDI028) Plan, create and communicate ideas, information and online collaborative projects, applying agreed ethical, social and technical protocols (VCDTDI029)	Creating Designed Solutions	

Odd Years

Space				
Term 1 -	**Science**	**Digital Technologies**	**Design and Technology**	**Maths**
Prep - 2	Observable changes occur in the sky and landscape; daily and seasonal changes affect everyday life (VCSSU046)	Recognise and explore patterns in data and represent data as pictures, symbols and diagrams (VCDTDI014)		
3/4	Earth's rotation on its axis causes regular changes, including night and day (VCSSU061) Earth's surface changes over time as a result of natural processes and human activity (VCSSU062)	Individually and with others, plan, create and communicate ideas and information safely, applying agreed ethical and social protocols (VCDTDI022)		
5/6	Earth is part of a system of planets orbiting around a star (the Sun) (VCSSU078)	Plan, create and communicate ideas, information and online collaborative projects, applying agreed ethical, social and technical protocols (VCDTDI029)		

Human Endeavour				
Term 2 -	**Science**	**Digital Technologies**	**Design and Technology**	**Maths**
Prep - 2	People use science in their daily lives (VCSSU041)	Independently and with others create and organise ideas and information using information systems, and share these with known people in safe online environments (VCDTDI016)	Identify how people create familiar designed solutions and consider sustainability to meet personal and local community needs (VCDSTS013)	

3/4	Science knowledge helps people to understand the effects of their actions (VCSSU056)	Individually and with others, plan, create and communicate ideas and information safely, applying agreed ethical and social protocols (VCDTDI022)	Recognise the role of people in design and technologies occupations and explore factors, including sustainability, that impact on the design of solutions to meet community needs (VCDSTS023)	
5/6	Scientific understandings, discoveries and inventions are used to inform personal and community decisions and to solve problems that directly affect people's lives (VCSSU073)	Plan, create and communicate ideas, information and online collaborative projects, applying agreed ethical, social and technical protocols (VCDTDI029)	Investigate how people in design and technologies occupations address competing considerations, including sustainability, in the design of solutions for current and future use (VCDSTS033)	

Chemistry

Term 3 -	Science	Digital Technologies	Design and Technology	Maths
Prep -2	Objects are made of materials that have observable properties (VCSSU044) Everyday materials can be physically changed or combined with other materials in a variety of ways for particular purposes (VCSSU045)	Science Inquiry Skills		
3/4	A change of state between solid and liquid can be caused by adding or removing heat (VCSSU059) Natural and processed materials have a range of physical properties; these properties can influence their use (VCSSU060)	Science Inquiry Skills	Investigate how forces and the properties of materials affect the behaviour of a designed solution (VCDSTC024)	
5/6	Solids, liquids and gases behave in different ways and	Science Inquiry Skills		

	have observable properties that help to classify them (VCSSU076) Changes to materials can be reversible, including melting, freezing, evaporating, or irreversible, including burning and rusting (VCSSU077)			

P-2 Human Body & 3-6 Electricity

Term 4 -	Science	Digital Technologies	Design Technologies	Maths
Prep - 2	Living things have a variety of external features and live in different places where their basic needs, including food, water and shelter, are met (VCSSU042) Name parts of the body and describe how their body is growing and changing (VCHPEP058) (Health) Describe physical and social changes that occur as children grow older and discuss how family and community acknowledge these (VCHPEP072)(Health) Science Inquiry Skills			
3/4	Heat can be produced in many ways and can move from one object to another; a change in the temperature of an object is related to the gain or loss of heat by the object		Investigate how forces and the properties of materials affect the behaviour of a designed solution (VCDSTC024) Investigate the suitability of materials,	

	(VCSSU063) **Science Inquiry Skills**		systems, components, tools and equipment for a range of purposes (VCDSTC027) **Creating Designed Solutions**	
5/6	Energy from a variety of sources can be used to generate electricity; electric circuits enable this energy to be transferred to another place and then to be transformed into another form of energy (VCSSU081) **Science Inquiry Skills**		Investigate how forces or electrical energy can control movement, sound or light in a designed product or system (VCDSTC034) Investigate characteristics and properties of a range of materials, systems, components, tools and equipment and evaluate the impact of their use (VCDSTC037) **Creating Designed Solutions**	Multiply decimals by whole numbers and perform divisions by non-zero whole numbers where the results are terminating decimals, with and without digital technologies (VCMNA215) Design algorithms involving branching and iteration to solve specific classes of mathematical problems (VCMNA221) Connect decimal representations to the metric system (VCMMG222)