



SCIENCE & INQUIRY SCOPE AND SEQUENCE – 2 year cycle

Updated Jan 2019

SCIENCE: **Chemical Science**, **Biological Science**, **Physical Science**, **Earth and Space Science**

ODD YEAR	TERM 1	TERM 2	TERM 3	TERM 4
FOUNDATION	Biological Science Growing Well (F) To capture students' interest and find out what they think they know about how living things have basic needs, including food and water. To elicit students' questions about the basic needs of plants and animals.	Earth and Space Science Weather In My World (F) To observe and describe the features of the weather such as temperature, cloud cover, wind strength and rain using appropriate language and symbols. To identify clothes and activities that are suitable for particular weather conditions.	Chemical Science What's It Made Of? (F) To identify examples of everyday materials. To observe and describe properties of materials.	Physical Science On the Move (F) To identify and describe some ways in which humans and toys move. To identify and describe some parts that enable humans and toys to move.
YEAR 1/2	Chemical Science Spot the Difference (1) To identify everyday materials and their properties. To observe and describe changes to the properties of everyday materials.	Biological Science Watch It Grow (2) To capture students' interest and find out what they think they know about the way living things grow, change and have offspring similar to themselves. To elicit students' questions about the life stages of living things.	Physical Science Bend It, Stretch It (1) To provide opportunities for students to represent what they know about physical changes to objects, and how everyday materials can be physically changed in a variety of ways.	Earth and Space Science Water Works (2) To identify and describe the uses of water and sources of water. To identify an action that can help to conserve water.
YEAR 3/4	Biological Science Plants In Action (4) To describe changes to the seed during germination and the seedling during its growth. To identify a number of conditions required for plants to grow. To identify parts of a seedling (root, stem, leaves) and parts of a flower (for example, petals, and stamens).	Earth and Space Science Night and Day (3) To provide opportunities for students to represent what they know about how the Earth's rotation on its axis causes regular changes, including night and day, and to reflect on their learning during the unit.	Physical Science Heat It Up (3) To provide opportunities for students to represent what they know about how heat can be produced in many ways and can move from one object to another, and to reflect on their learning during the unit.	Chemical Science Package It Better (4) To provide opportunities for students to represent what they know about how natural and processed materials have a range of physical properties and that these properties can influence their use, and to reflect on their learning during the unit.
YEAR 5/6	Physical Science Light Show (5) To provide opportunities for students to represent what they know about how light from a source forms shadows and can be absorbed, reflected and refracted, and to reflect on their learning during the unit.	Earth and Space Science Earthquake Explorers (6) To explain that when tectonic push into each other, pull apart from each other and slide past each other energy builds up as stress in the plates. To explain how the sudden release of energy causes movement of the ground which results in damage to the buildings and structures.	Biological Science Marvellous Micro Organisms (6) To explain that yeast obtains energy when it breaks down sugars, a process that releases a gas (carbon dioxide). To explain that yeast grows faster at warm temperatures than when it is cold or hot.	Chemical Science What's the Matter (5) To provide opportunities for students to represent what they know about how solids, liquids and gases have different observable properties and behave in different ways, and to reflect on their learning during the unit.



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FOUNDATION	Biological Science Staying Alive (F) To identify the basic needs for a human to survive such as air, food, water and shelter. Identify the basic needs for an animal to survive such as air, food, water and shelter. To identify the senses and describe how each sense helps us.	Earth and Space Science Weather In My World (F) To observe and describe the features of the weather such as temperature, cloud cover, wind strength and rain using appropriate language and symbols. To identify clothes and activities that are suitable for particular weather conditions.	Chemical Science What's It Made Of? (F) To identify examples of everyday materials. To observe and describe properties of materials.	Physical Science On the Move (F) To identify and describe some ways in which humans and toys move. To identify and describe some parts that enable humans and toys to move.
YEAR 1/2	Biological Science Schoolyard Safari (1) To identify parts of a small animal used for movement, feeding and protection. To identify conditions of a small animal's habitat, for example, moist, cool, dry or hot. To identify and describe the behaviour of small animals in habitats.	Chemical Science All mixed Up (2) To provide opportunities for students to represent what they know about how different materials can be combined, including by mixing, for a particular purpose, and to reflect on their learning about liquids and solids during the unit.	Earth and Space Science Up, Down, All Around (1) To provide opportunities for students to represent what they know about observable features in the sky and landscape and how they change over time, and to reflect on their learning during the unit.	Physical Science Push & Pull (2) To identify and describe a push acting on an object in a familiar context. To identify and describe a pull acting on an object in a familiar context.
YEAR 3/4	Earth and Space Science Beneath Our Feet (4) To support students to represent and explain their understanding of soils, rocks and landscapes and how they change over time. To introduce current scientific views about how landscapes are formed over time.	Chemical Science Melting Moments (3) To provide opportunities for students to represent what they know about the way a change of state between solid and liquid can be caused by adding or removing heat, and to reflect on their learning during the unit.	Physical Science Smooth Moves (4) To provide opportunities for students to represent what they know about how forces can be exerted by one object on another through direct contact of from a distance, and to reflect on their learning during the unit.	Biological Science Feathers, Furs, Leaves (3) To provide opportunities for students to represent what they know about how living things can be grouped on the basis of observable features and can be distinguished from non-living things, and to reflect on their learning during the unit.
YEAR 5/6	Biological Science Desert Survivors (5) To support students to plan and conduct an investigation of whether or not a feature of an animal is an adaptation for surviving in a desert environment.	Chemical Science Change Detectives (6) To be able to explain that changes of state involve physical changes. To be able to explain that chemical changes produce new substances and consume the original substances. To identify physical and chemical changes.	Physical Science Essential Energy (6) To provide opportunities for students to represent what they know about how energy from a variety of sources can be used to generate electricity, and to reflect on their learning during the unit.	Earth and Space Science Earth's Place in Space (5) To provide opportunities for students to represent what they know about the Earth as part of a system of planets orbiting a star (the Sun) and to reflect on their learning during the unit.



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INQUIRY: **Geography**, **History**, **Design STEM**, **Civics & Citizenship**, **Digital Technologies**

ODD YEAR	TERM 1	TERM 2	TERM 3	TERM 4
PREP INQUIRY	<p>History Personal and Family Histories. The structure of my family and other families. How things change over time. How I change over time.</p>	<p>Geography People live in places. Drawing basic maps, using location language. Looking at the differences and similarities between children in different countries around the world. Places I know in Gembrook. Studying the symbols used by indigenous Australians tying them to current weather symbols.</p>	<p>Digital Technologies Students will be introduced to patterns and will organise, manipulate and present this data through a range of activities, including classifying objects and data, using iPads to film student interviews. Students will also be introduced to basic cyber safety issues.</p>	<p>Design STEM Designing my object? Science extension in line with 'What's it made of?' Using our new understanding of common materials to design something that floats. Explain the design choices and how their materials are suitable to the task.</p>
YEAR 1/2 INQUIRY	<p>History Present and past Family life Students explain aspects of daily life to identify how some aspects have changed over time (family roles and responsibilities), while others have remained the same. They describe personal and family life, a person, a site, or an event of significance in the local community (how GPS came to be).</p>	<p>Design STEM Designing toys With guidance, students create designed solutions for each of the prescribed technologies contexts. They describe given needs or opportunities. Students create and evaluate their ideas and designed solutions based on personal preferences. They communicate design ideas for their designed solutions, using modelling and simple drawings. Following sequenced steps, students demonstrate safe use of tools and equipment when producing designed solutions.</p>	<p>Geography People are connected to many places They identify how people are connected to different places and explain the value of places to people. They describe different ways that places can be cared for. They describe and explain the location and distance using geographical terms, and describe the location of the major geographical divisions of the world.</p>	<p>Digital Technologies By the end of Level 2, students identify how common digital systems are used to meet specific purposes. Students use digital systems to represent simple patterns in data in different ways and collect familiar data and display them to convey meaning. Students design solutions to simple problems using a sequence of steps and decisions. They create and organise ideas and information using information systems and share these in safe online environments.</p>
YEAR 3/4 INQUIRY	<p>Geography Places are Both Similar and Different. In Levels 3 and 4, the curriculum continues to develop students' mental map of the world and their understanding of place through examining the major characteristics of Australia, Australia's neighbouring countries and Africa and South America. The concept of place is developed by examining the similarities and differences between places within and outside Australia. Students use the geographic concepts of environment and space to examine the similarities and differences between places in terms of the</p>	<p>Design STEM Exploring Inventions By the end of Level 4 students explain how solutions are designed to best meet the needs of the communities and their environments. They describe contributions of people in design and technology occupations. Students describe how the features of technologies can be used to create designed solutions for each of the prescribed technologies contexts. Students create designed solutions for each of the prescribed technologies contexts. They explain needs or opportunities and evaluate ideas and designed solutions against identified criteria</p>	<p>History Community and Remembrance. Identify the origin and content features of primary sources when describing the significance of people, places and events. The significance of Country and Place to Aboriginal and Torres Strait Islander peoples who belong to a local area. A significant example of change and a significant example of continuity over time in the local community, region or state/territory. The role that people of diverse backgrounds have played in the development and character of the local community and/or other societies</p>	<p>Digital Technologies By the end of Level 4, students describe how a range of digital systems can be used for different purposes. Students explain how the same data sets can be represented in different ways. They collect and manipulate different data when creating information and digital solutions. They plan and safely use information systems when creating and communicating ideas and information, applying agreed protocols. Students define simple problems, and design and develop digital solutions using algorithms that involve decision-making and user input. They explain</p>



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	<p>climate and the types of settlements. These comparisons should continue to be made at the scale of the local place.</p>	<p>for success, including sustainability considerations. They develop and expand design ideas and communicate these using models and drawings including annotations and symbols. Students plan and sequence major steps in design and production. They identify appropriate technologies and techniques and demonstrate safe work practices when creating designed solutions.</p>		<p>how their developed solutions and existing information systems meet their purposes.</p>
<p>YEAR 5/6 INQUIRY</p>	<p>History In Levels 5 and 6, students study colonial Australia in the 1800s and the development of Australia as a nation, particularly after 1900. Students look at the founding of British colonies and the development of a colony. They learn about what life was like for different groups of people in the colonial period. They examine significant events and people, political and economic developments, social structures, and settlement patterns. Students explore the factors that led to Federation and experiences of democracy and citizenship over time. Students understand the significance of Australia's British heritage, the Westminster system, and other models that influenced the development of Australia's system of government. Students learn about the way of life of people who migrated to Australia and their contributions to Australia's economic and social development. In this band, students will apply the following historical concepts and skills to the historical knowledge: sequencing chronology, using historical sources as evidence, identifying continuity and change, analysing causes and effects and determining historical significance.</p>	<p>Geography In Levels 5 and 6, the curriculum focuses on the concepts of place and interconnection. Students' mental maps of the world are further developed through learning the locations of the major countries in the Asia region, Europe and North America. The scale of study goes global as students investigate the geographical diversity and variety of connections between people and places. In exploring the interconnections between people and environments, students examine how environmental characteristics such as climate and landforms influence the human characteristics of places, and how human actions influence the environmental characteristics of places. They also examine how human decisions and actions influence the way spaces within places are organised and managed. They learn that some climates produce hazards such as bushfires and floods that threaten the safety of places and gain an understanding of the application of the principles of prevention, mitigation and preparedness as ways of reducing the effects of these hazards.</p>	<p>Digital Technologies (Literacy) STEM In Levels 5 and 6, students develop an understanding of the role of individual components of digital systems play in the processing and representation of data. They acquire, validate, interpret, track and manage various types of data and are introduced to the concept of data states in digital systems and how data are transferred between systems.</p>	<p>Enterprise Market In Levels 5 and 6, students explore the importance of economic and financial decision-making in everyday life. They consider the concept of opportunity cost and examine why decisions about the ways resources are allocated to meet the needs and wants in their community involve trade-offs. Students examine the choices made by consumers and businesses arising from the concept of scarcity. The limited resources available means that unlimited needs and wants cannot be met, so choices about what to purchase and how goods and services are produced and distributed must be made. Students consider factors influencing these choices and the strategies that help with these decisions, as well as the effect of consumer and financial decisions on individuals, families, the community and the environment. Work is an essential part of society. Students consider the nature of work, and the influences on the way people work in today's society, and potential influences in the future. Students identify particular enterprising behaviours and capabilities and why they are important in everyday life. The emphasis in Levels 5 and 6 is on personal, community or regional issues or events, with opportunities for concepts to be considered in national, regional or global contexts where appropriate.</p>



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INQUIRY: **Geography**, **History**, **Design STEM**, **Civics & Citizenship**, **Digital Technologies**

EVEN YEAR	TERM 1	TERM 2	TERM 3	TERM 4
<p>PREP INQUIRY</p>	<p>History Personal and Family Histories. The structure of my family and other families. How things change over time. How I change over time.</p>	<p>Geography People live in places. Drawing basic maps, using location language. Looking at the differences and similarities between children in different countries around the world. Places I know in Gembrook. Studying the symbols used by indigenous Australians tying them to current weather symbols.</p>	<p>Digital Technologies Students will be introduced to patterns and will organise, manipulate and present this data through a range of activities, including classifying objects and data, using iPads to film student interviews. Students will also be introduced to basic cyber safety issues.</p>	<p>Design STEM Designing my object? Science extension in line with ‘What’s it made of?’ Using our new understanding of common materials to Design something that floats. Explain the design choices and how their materials are suitable to the task.</p>
<p>YEAR 1/2 INQUIRY</p>	<p>History The Past in the Present Students use sources (physical, visual, oral) including the perspectives of others (parents, grandparents) to describe changes to daily life and the significance of people, places or events. They compare objects from the past and present. Students create a narrative about the past using terms and a range of sources.</p>	<p>Health: Bullying This Personal, Social and Community Health unit introduces five resilience strategies to help students deal positively and effectively with bullying. Describe and apply strategies that can be used in situations that make them feel uncomfortable or unsafe. Use software including word processing programs with growing speed and efficiency to construct and edit texts featuring visual, print and audio elements. Describe and apply strategies that can be used in situations that make them feel uncomfortable or unsafe</p>	<p>Geography Places have distinctive features. Mapping Gembrook. Students define and identify and describe the features of places and changes in these, at a local scale. They collect and record geographical data and information. They represent data and information in tables, plans and labelled maps and interpret it to draw conclusions.</p>	<p>Digital Technologies By the end of Level 2, students identify how common digital systems are used to meet specific purposes. Students use digital systems to represent simple patterns in data in different ways and collect familiar data and display them to convey meaning. Students design solutions to simple problems using a sequence of steps and decisions. They create and organise ideas and information using information systems and share these in safe online environments.</p>



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<p>YEAR 3/4 INQUIRY</p>	<p>Geography Students identify and describe spatial characteristics, and the characteristics of places and environments at a range of scales. They identify and explain interconnections and identify and describe locations, including Australia’s neighbouring countries. They collect and record relevant geographical data and information and represent data and information in tables, simple graphs and maps of appropriate scale that conform to cartographic conventions. They interpret data and information, and use geographical terminology, to identify and to develop descriptions, explanations and conclusions.</p>	<p>Civics & Citizenship An introduction to democracy and local government in Gembrook. Students will investigate why and how people participate within communities and cultural and social groups. They will describe the different cultural, religious and/or social groups to which they and others in the community may belong. They recognise the importance of rules and distinguish between rules and laws. They describe how people participate in their community as active citizens and factors that shape a person’s identity and sense of belonging.</p>	<p>History First Contacts Students identify the origin and content features of primary sources when describing the significance of people, places and events. They will learn about the significance of Country and Place to Aboriginal and Torres Strait Islander peoples who belong to a local area. They will explore the history of the local community, region or state/territory and role that people of diverse backgrounds have played in the development and character of the local community and societies.</p>	<p>Digital Technologies Students describe how a range of digital systems can be used for different purposes. Students explain how the same data sets can be represented in different ways. They collect and manipulate different data when creating information and digital solutions. They plan and safely use information systems when creating and communicating ideas and information, applying agreed protocols. Students define simple problems, and design and develop digital solutions using algorithms that involve decision-making and user input. They explain how their developed solutions and existing information systems meet their purposes.</p>
<p>YEAR 5/6 INQUIRY</p>	<p>History In Levels 5 and 6, students study colonial Australia in the 1800s and the development of Australia as a nation, particularly after 1900. Students look at the founding of British colonies and the development of a colony. They learn about what life was like for different groups of people in the colonial period. They examine significant events and people, political and economic developments, social structures, and settlement patterns. Students explore the factors that led to Federation and experiences of democracy and citizenship over time. Students understand the significance of Australia’s British heritage, the Westminster system, and other models that influenced the development of Australia’s system of government. Students learn about the way of life of people who migrated to Australia and their contributions to Australia’s economic and social development. In this band, students will apply the following historical concepts and skills to the historical knowledge: sequencing chronology, using historical sources as evidence, identifying continuity and</p>	<p>Civics & Citizenship The Level 5 and 6 curriculum introduces students to the key values of Australia’s liberal democratic system of government and the key institutions of Australia’s democratic government, including state/territory and federal parliaments, and the court system. Students learn about representative democracy and voting processes in Australia. Students expand on their knowledge of the law by studying how laws affect the lives of citizens as well as how state/territory and federal laws are made in a parliamentary system. Students investigate the role of groups in our community and examine the rights and responsibilities of Australian citizens. They explore the obligations that people may have as global citizens.</p>	<p>Design Technologies In Levels 5 and 6, students critically examine technologies that are used regularly in the home and in local, national, regional or global communities, with consideration of society, ethics and social and environmental sustainability factors. Students consider why and for whom technologies were developed.</p>	<p>Enterprise Market In Levels 5 and 6, students explore the importance of economic and financial decision-making in everyday life. They consider the concept of opportunity cost and examine why decisions about the ways resources are allocated to meet the needs and wants in their community involve trade-offs. Students examine the choices made by consumers and businesses arising from the concept of scarcity. The limited resources available means that unlimited needs and wants cannot be met, so choices about what to purchase and how goods and services are produced and distributed must be made. Students consider factors influencing these choices and the strategies that help with these decisions, as well as the effect of consumer and financial decisions on individuals, families, the community and the environment. Work is an essential part of society. Students consider the nature of work, and the influences on the way people work in today’s society, and potential influences in the future. Students identify particular enterprising behaviours and capabilities and why they are important in everyday life. The emphasis in Levels 5 and 6 is on personal, community or regional issues or events, with</p>



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