Technologies.

The Australian Curriculum: Technologies describes two distinct but related subjects:
Design and Technologies*,* in which students use design thinking and technologies to generate and produce designed solutions for authentic needs and opportunities and **Digital Technologies**, in which students use computational thinking and information systems to define, design and implement digital solutions.

Technologies aims to develop the knowledge, understanding and skills to ensure that, individually and collaboratively, students:
- investigate, design, plan, manage, create and evaluate solutions
- are creative, innovative and enterprising when using traditional, contemporary and emerging technologies, and understand how technologies have developed over time
- make informed and ethical decisions about the role, impact and use of technologies in the economy, environment and society for a sustainable future
- engage confidently with and responsibly select and manipulate appropriate technologies materials, data, systems, components, tools and equipment − when designing and creating solutions
- critique, analyse and evaluate problems, needs or opportunities to identify and create solutions.

Prep:
Digital Technologies
During term 3 Prep students will be recognising and exploring digital systems (hardware and software components) for a purpose. The students will recognise and explore patterns in data and represent data as pictures, symbols and diagrams. The students will be following, describing and representing a sequence of steps and decisions (algorithms) to solve simple problems. They will be working on an iPad using an app called 'Bee-Bots"

Design and Technologies
In conjunction with the students Science learning within their classroom we will be extending on their learning about weather events and the clothing that we use during these events.
The students will explore the characteristics of materials that are used to create these items and then safely design and make their own hat for a weather event. This will allow the students to explore needs and have an opportunity to design.

Year 1:
Design and Technologies
In English, Year 1 students are studying Fairy Tales. The students will be extending their learning by focussing one of three Fairy Tales: Rapunzel, Three Billy Goats Gruff and The Gingerbread Man. The students will be creating and designing solutions by using engineering principles and systems. These designs are going to include STEAM (Science, Technology, Engineering, Art and Maths) skills taught each week. The students will then be describing the purpose of their design and how their design meets the needs of the user (a Fairy Tale character). The students will be drawing and labelling their designs and then evaluating their own and their peer's designs, this feedback will be used to improve their design.

Year 2:
Design and Technologies
In Year 2, students will be discovering materials and the properties of materials. We will investigate materials by exploring questions such as: What is it? Where does it come from? Is it a man-made or natural material? What can we use it for? Students will describe the purpose of familiar products and how related materials meet the needs of users. They will also be learning about how recycling of materials can be used for everyday art and other useful items. Finally, using recycled materials, students will design a piece of work utilising diagrams and labelling to demonstrate their understanding of the material and how materials can be reused. The students will be safely using a range of tools and equipment to create these items.

Year 3: *Digital Technologies **and** Design and Technologies*
Our unit this term is 'Let's Make a Game of It!'
We will investigate how a range of digital systems (hardware and software) and their peripheral devices can be used for different purposes. We will explore the software program Scratch Junior and its features. We will discover how products, services and environments are designed to best meet the needs of communities and their environments and how the features of technologies can be used to produce designed solutions such as a game to educate children. Using Scratch Junior, students will then go on to design and produce their own quiz game.
During the design and production of their quiz game, students will:
- plan and sequence major steps in design and production as they create their solution
- design and implement digital solutions using algorithms that involve decision-making and user input
- evaluate ideas and designed solutions against identified success criteria.

Year 4: *Design and Technologies*
This term we will explore the factors, including sustainability, that impact on designs that meet community needs. Our major focus is looking at how we can repurpose something to create another useful item.
Students will apply processes and production skills as they:
- critique needs or opportunities for designs
- explore techniques for shaping and joining materials
- identify examples of recycling, up cycling and re-using
- generate design ideas for a useful item and communicate these with annotated design drawings
- produce a useful item by selecting relevant tools and resources and use them safely
- evaluate design ideas, processes and solutions
- collaborate as well as work individually throughout the process
- manage by sequencing production steps
By the end of the term, we hope to have repurposed a simple cardboard box into another useful item.

Year 5: *Digital Technologies **and** Design and Technologies*
This term, we will be investigating 'Our Digital World.'
We will explore how hardware and software components connect to collect, store, process and transmit data *for example, how digital system components interact to transmit a letter from the keyboard to the monitor or transfer a photo from a digital camera to a storage device.* We will learn about how digital systems connect to form networks and discover how fibre optic light operates within our own school network system, allowing us to transmit data faster. We will also build on our knowledge of data representation by learning about the binary system and finally move into designing and creating our own digital solutions.

Year 6: *Digital Technologies*
This term students will discover ways that Scientists and Engineers use rovers to explore places where humans cannot go. We will also investigate some of the technologies involved in such missions, with particular focus on the Mars 2020 Mission. Using Lego WeDo robotics, students will further their understanding of code and develop computational thinking skills. Their major project is a collaboration with others to build a Space Rover and develop algorithms to address the problem of how to get a robot to assemble a base on Mars.