

NEW ZEALAND STEAM PRODUCT CURRICULUM MAP



page 1

AL

the PCB into the bottom

BRANDS ALIGNED TO THE NEW ZEALAND CURRICULUM



NEW ZEALAND STEAM PRODUCT CURRICULUM MAP



CURRICULUM ALIGNMENT SNAP SHOT NEW ZEALND

STEAM PRODUCT	TECHNOLOGY		MATHEMATICS	SCIENCE	SOCIAL SCIENCE
	DIGITAL TECHNILOGIES PO'	TECHNOLOGY AO'S			
3 DOODLER	FALSE	TRUE	TRUE	TRUE	FALSE
3 DUX DESIGN	FALSE	TRUE	TRUE	FALSE	FALSE
CIRCUIT SCRIBE	TRUE	TRUE	FALSE	TRUE	FALSE
CURSICOPE	FALSE	FALSE	FALSE	TRUE	FALSE
INTELINO	TRUE	TRUE	TRUE	TRUE	FALSE
KANO	TRUE	TRUE	TRUE	TRUE	FALSE
LITTLE BITS	TRUE	TRUE	FALSE	TRUE	FALSE
MAKEY MAKEY	TRUE	TRUE	FALSE	TRUE	FALSE
MERGE VR/AR	TRUE	TRUE	TRUE	TRUE	TRUE
MICROBITS	TRUE	TRUE	FALSE	TRUE	FALSE
OZOBOT	TRUE	TRUE	TRUE	TRUE	FALSE
PRIMO - CUBETTO	TRUE	TRUE	TRUE	TRUE	FALSE
RASPBERRY PI	TRUE	TRUE	FALSE	FALSE	FALSE
ROBOBLOQ	TRUE	TRUE	TRUE	TRUE	FALSE
SMARTIVITY	FALSE	FALSE	TRUE	TRUE	FALSE
SNAP CIRCUIT	FALSE	TRUE	FALSE	TRUE	FALSE
STRAWBEES	TRUE	TRUE	TRUE	TRUE	FALSE



CURRICULUM LEVEL ALIGNMENT NEW ZEALND

STEAM PRODUCT	1	2	3	4	5	6	7	8
3 DOODLER	FALSE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
3 DUX DESIGN	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
CIRCUIT SCRIBE	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
CURSICOPE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE
INTELINO	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE
KANO	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
LITTLE BITS	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
MAKEY MAKEY	FALSE	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE
MERGE VR/AR	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
MICROBITS	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
OZOBOT	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE
PRIMO - CUBETTO	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
RASPBERRY PI	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
ROBOBLOQ	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE
SMARTIVITY	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
SNAP CIRCUIT	FALSE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
STRAWBEES	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE



NEW ZEALND STEAM RESOURCES CATALOGUE

CONTENTS

BRANDS ALIGNED TO CURRICULUM	2
CURRICULUM ALIGNMENT SNAPSHOT	3
CURRICULUM LEVEL ALIGNMENT	4
3 DOODLER	6
3 DUX DESIGN	7
CIRCUIT SCRIBE	8
CURISCOPE	9
INTELINO	10
KANO	12
LITTLEBITS	15
MAKEY MAKEY	18
MERGE	20
MICRO:BIT	23
OZOBOT	25
PRIMO	27
RASBERRY Pi	28
ROBOBLOQ	31
SMARTIVITY	32
SNAP CIRCUITS	33
STRAWBEES	34



Digital Technologies Progress Outcomes						
3Doodler	Computational Thinking	Designing and Developing Digital	lechnology	Mathematics	Science	Social Science
Level 1		Outcomes				
Level 2			Planning for practice Develop a plan that identifies the key stages and the resources required to complete an outcome. Brief development Explain the outcome they are developing and describe the attributes it should have, taking account of the need or opportunity and the resources available. Outcome development and evaluation Investigate a context to develop ideas for potential outcomes. Evaluate these against the identified attributes; select and develop an outcome. Evaluate the outcome in terms of the need or opportunity. Technological modelling Understand that functional models are used to test a technological outcome for fitness of purpose. Technological products Understand that there is a relationship between a material used and its performance properties in a technological product.	Shape Sort objects by their spatial features, with justification. Identify and describe the plane shapes found in objects.	Properties and changes of matter Observe, describe, and compare physical and chemical properties of common materials and changes that occur when materials are mixed, heated, or cooled. Chemistry and society Find out about the uses of common materials and relate these to their observed properties.	
Level 3			Planning for practice Undertake planning to identify the key stages and resources required to develop an outcome. Revisit planning to include reviews of progress and identify implications for subsequent decision making. Brief development Describe the nature of an intended outcome, explaining how it addresses the need or opportunity. Describe the key attributes that enable development and evaluation of an outcome. Outcome development and evaluation Investigate a context to develop ideas for potential outcomes. Trial and evaluate these against key attributes to select and develop an outcome to address the need or opportunity. Evaluate this outcome against the key attributes and how it addresses the need or opportunity. Technological products Understand the relationship between the materials used and their performance properties in technological products. Characteristics of technological outcomes Understand that technological outcomes are recognisable as fit for purpose by the relationship between their physical and functional natures.	Shape Classify plane shapes and prisms by their spatial features. Represent objects with drawings and models.	Properties and changes of matter Group materials in different ways, based on the observations and measurements of the characteristic chemical and physical properties of a range of different materials. Compare chemical and physical changes. Chemistry and society Relate the observed, characteristic chemical and physical properties of a range of different materials to technological uses and natural processes.	
Level 4			Technological modelling Understand how different forms of functional modelling are used to explore possibilities and to justify decision making and how prototyping can be used to justify refinement of technological outcomes. Technological products Understand that materials can be formed, manipulated, and/or transformed to enhance the fitness for purpose of a technological product.	Measurement Use side or edge lengths to find the perimeters and areas of rectangles, parallelograms, and triangles and the volumes of cuboids. Shape Identify classes of two- and three-dimensional shapes by their geometric properties. Relate three-dimensional models to two-dimensional representations and vice verse		

3Dux Design

3Dux Decian	Digital Technologies Progress Outcomes		Tachnology	Mathematics	Science	Social Science
SDux Deaight	Computational Thinking	Designing and Developing Digital Outcomes	iconnology	Wathomatico	000000	
			Planning for practice Outline a general plan to support the development of an outcome, identifying appropriate steps and resources.			
			Brief development Describe the outcome they are developing and identify the attributes it should have, taking account of the need or opportunity and the resources available.			
			Outcome development and evaluation Investigate a context to communicate potential outcomes. Evaluate these against attributes; select and develop an outcome in leveling with the identified attributes.	Measurement Order and compare objects or events by length, area, volume and capacity, weight (mass), turn (angle), temperature, and time by direct comparison and/or counting whole numbers of units. Shape		
Level 1			Technological modeling Understand that functional models are used to represent really and tesis design concepts and that prototypes are used to test technological outcomes.			
			Technological products Understand that technological products are made from materials that have performance properties.	Sort objects by their appearance.		
			Characteristics of technology Understand that technology is purposeful intervention through design.			
			Characteristics of technological outcomes Understand that technological outcomes are products or systems developed by people and have a physical nature and a functional nature.			
			Planning for practice Develop a plan that identifies the key stages and the resources required to complete an outcome.	d the		
			Brief development Explain the outcome they are developing and describe the attributes it should have, taking account of the need or opportunity and the resources available.			
			Ductorem development and evaluation investigate a context to develop lokes for potential auconcerne Evaluate these against the identified attributes; select and develop an cutcome. Evaluate the outcome in terms of the need or opportunity.	Measurement Create and use appropriate units and devices to measure length, area, volume and		
Level 2			Technological modelling Understand that functional models are used to exporte, stat, and evaluate design concepts for potential outcomes and that protetyping is used to test a technological outcome for fitness of purpose.	capacity, weight (mass), turn (angle), temperature, and time. Shape Sort objects by their spatial features, with justification.		
			Technological products Understand that there is a relationship between a material used and its performance properties in a technological product.	itientiny and describe the plane shapes found in objects.		
			Characteristics of technology Understand that technology both reflects and changes society and the environment and increases people's capability.			
			Characteristics of technological outcomes Understand that technological outcomes are developed through technological practice and have related physical and functional natures.			
			Planning for practice Undertake planning to identify the key stages and resources required to develop an outcome. Revisit planning to include reviews of progress and identify implications for subsequent decision making.			
			Bief development Describe the nature of an intended outcome, explaining how it adversesses the need or opportunity. Describe the key attributes that enable development and evaluation of an outcome.	Measurement		
Level 3			Outcome development and evaluation Investigate a context to develop ideas for potential outcomes. Trial and evaluate these against key attributes to select and develop an outcome to address the need or opportunity. Evaluate this outcome against the key attributes and how it addresses the need or opportunity.	Find areas of rectangles and volumes of cuboids by applying multiplication. Shape Classify plane shape and prisms by their spatial features. Represent objects with drawings and models.		
			Technological products Understand the relationship between the materials used and their performance properties in technological products.			
			Characteristics of technological outcomes Understand that technological outcomes are recognisable as fit for purpose by the relationship between their physical and functional natures.			
				Measurement		
Level 4				Use side or edge lengths to find the perimeters and areas of rectangles, parallelograms, and triangles and the volumes of cuboids.		
				Shape Identify classes of two- and three-dimensional shapes by their geometric properties. Relate three-dimensional models to two-dimensional representations, and vice versa.		



Circuit Cariba	Digital Technologies Progress Out	tcomes	Tashaalasu	Mathematics	Caianan	Casial Caianaa
CIFCUIT SCRIDE	Computational Thinking	Designing and Developing Digital Outcomes	lechnology	Mathematics	Science	Social Science
Level 1	P01 - In authentic contexts and taking account of end-users, students use their decomposition skills to break down simple non- computerised tasks into precise, unambiguous, step-b-step instructions (algorithmic timking). They give these instructions, identify any errors in them as they are followed, and correct them (simple debugging).				Understanding about science Appreciate that scientists ask questions about our world that lead to investigations and that open-mindedness is imported the because there work here one science and the science of the sci	
Level 2			Planning for practice Develop a plan that identifies the key stages and the resources required to complete an outcome. Brief development Explain the outcome they are developing and describe the attributes it should have, taking account of the need or opportunity and the resources available. Outcome development and evaluation Investigate a context to develop ideas for potential outcomes. Evaluate these against the identified attributes; select and develop an outcome. Evaluate the outcome in terms of the need or opportunity. Understand that functional models are used to explore, test, and evaluate design concepts for potential outcomes and that prototyping is used to test a technological outcome for fitness of purpose. Understand that there is a relationship between a material used and its performance properties in a technological products		Investigating in science Investigating in science Extend their experiences and personal explanations of the natural world through exploration, play, asking questions, and discussing simple models. Communicating in science Build their language and develop their understandings of the many ways the natural world can be represented. Physical inquiry and physics concepts Explore everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light, sound, waves, and heat. Chemistry and society Find out about the uses of common materials and relate these to their observed properties.	
Level 3	P02 - In authentic contexts and taking account of end-users, students give, follow and debug simple algorithms in computerised and non-computered contexts. They use these algorithms to create simple programs involving outputs and sequencing (outputing instructions one after the other) in age- appropriate programming environments.		Planning for practice Undertake planning to identify the key stages and resources required to develop an outcome. Revisit planning to include reviews of progress and identify implications for subsequent decision making. Brief development Describe the nature of an intended outcome. explaining how it addresses the need or opportunity. Describe the key attributes that enable development and evaluation of an outcome. Nutroe development Investigate a context to develop ideas for potential outcomes. Trial and evaluate against the key attributes and how it addresses the need or opportunity. Evaluate this outcome against the key attributes and how it addresses the need or opportunity. Determine developing and the set of the stage of the set of outcomes. Understand the relationship between the materials used and their performance properties in technological products. Characteristics of technological outcomes Understand that technological advoces are reconsinable as fit for purpose by the relationship between their physical and functional natures. 		Planning for practice Undertake planning to identify the key stages and resources required to develop an outcome. Revisit planning to include reviews of progress and identify implications for subsequent decision making. Brief development Describe the nature of an intended outcome, explaining how it addresses the need or opportunity. Describe the key attributes that enable development and evaluation of an outcome. Outcome development and evaluation Investigate a context to develop ideas for potential outcomes. Trial and evaluate these against key attributes to select and develop an outcome to address the need or opportunity. Evaluate this outcome against the key attributes are not or opportunity. Evaluate this outcome against the key attributes are used to explore, test, and evaluate design concepts for potential outcomes and that prototyping is used to test a technological outcome for fitness of purpose. Understand that there is a relationship between an anterial used and its performance properties in a technological product. Understand that there are relationship between the inputs, controlled transformations, and outputs occurring within simple technological systems. Understand that technological by therefiels and changes society and the environment and increases people's capability. Characteristics of technological outcomes required to develop the relationship between their physical and hurdership planning to include reviews of progress and identify implications for subsequent decision making.	
Level 4			Technological modelling Understand how different forms of functional modelling are used to explore possibilities and to justify decision making and how prototyping can be used to justify refinement of technological outcomes. Technological products Understand that materials can be formed, manipulation, and/or transformed to enhance the fitness for purpose of a technological product.		Brief development Justify the nature of an intended outcome in relation to the need or opportunity. Describe specifications that reflect key stakeholder feedback and that will inform the development of an outcome and its evaluation. Outcome development and evaluation Analyse their own and others' outcomes to inform the development of ideas for feasible outcomes. Undertake ongoing functional modelling and evaluation that takes account of key stakeholder feedback and trialling in the physical and social environments. Use the information gained to select and develop the outcome that best addresses the specifications. Evaluate the final outcome's fitness for purpose against the brief. Understand how evidence, reasoning, and decision making in functional modelling contribute to the development of design concepts and how prototyping can be used to justify ongoing refinement of outcomes.	

	Digital Technologies Progress Outcomes		T I I I I I I I I			
Curioscope	Computational Thinking	Designing and Developing	lechnology	Mathematics	Science	Social Science
l aval 1		Digital Outcomes			Inderstanding about science	
Level I					Appreciate that scientists ask questions about our world that lead to investigations and that open-mindedness is	
					important because there may be more than one explanation.	
					Investigating in science	
					Extend their experiences and personal explanations of the natural world through exploration, play, asking	
Level 2					questions, and discussing simple models.	
					l ife processes	
					Recognise that all living things have certain requirements so they can stay alive.	
					Inderstanding about science	
					Appreciate that science is a way of explaining the world and that science knowledge changes over time.	
					Identify ways in which scientists work together and provide evidence to support their ideas.	
					Investigating in science	
Level 3					Build on prior experiences, working together to share and examine their own and others' knowledge.	
					Ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple	
					σχριαιίαυσης.	
					Communicating in science	
					Begin to use a range of scientific symbols, conventions, and vocabulary.	
					Life processes	
					Linderstanding about science	
					Appreciate that science is a way of explaining the world and that science knowledge changes over time.	
					Invectinating in science	
Lovel 4					Build on prior experiences, working together to share and examine their own and others' knowledge.	
Level 4					Ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple	
					explanations.	
					Life processes	
					Recognise that there are life processes common to all living things and that these occur in different ways.	
Level 5					Life processes Identify the key structural features and functions involved in the life processes of plants and animals	
					Describe the organisation of life at the cellular level.	
Loval C					Life processes	
Level o					investigate environmental factors that affect these processes.	

intelino°

Intelino	Digital Technologies Prog	gress Outcomes	Technology	Mathematics	Science	Social Science
Intonno	Computational Thinking	Designing and Developing Digital Outcomes	recimology	With official of	000000	outai ocicii co
Level 1	P01 In authentic contexts and taking account of end-users, students participate in break down simple, in occuprating taking to process, unambiguous, step-by-by entrustructures (algorithmic thriking). They give these instructions, identify any errors in them as they are followed, and correct them (simple debugging).		Planning for practice Outline a general plan to support the development of an outcome, identifying appropriate signs and resources. Brief development Describe the outcome for any endevelopment of the attributes it should have, taking account of the need or opportunity and the resources available. Outcome development and evaluation Investigate a context to communicate potential outcomes. Foundate here against attributes, select and develop an outcome is keeping with the attributes. Dechnological products Indevelopment and evaluation Dechnological approaches. Technological systems Understand that technological systems and outputs.	Number strategies Lise a range of counting, grouping, and requisi-baring strategies with whole numbers and fractors. Measurement Order and compare objects or events by length, area, volume and capacity, weight (mass), turn (angle), temperature, and time by direct comparison and/or counting whole numbers of units. Shape Shape State Shape • Give and follow instructions for movement that involve distances, directions, and half or a parson or object. Statistical involve distances, directions, and half or a parson or object. • Describe their position relative to a person or object. Statistical areaviering questions • objects on ad movering question adversing question or solve to relative to a person or object. Statistical areaviering values. • posing and anavering question relative to a classing the results. Probability Investigate situations that involve distances of chance, acknowledging and anticipating possible outcomes. Acknowledging and anticipating possible outcomes.	Understanding about science Appreciate that scientists ask quastions about our world that lead to investigations and that open-minidedness is important because there may be more than one explanation. Investigating in science Extend their experiences and personal explanations of the natural world through exploration, play, asking questions, and discassing simple models. Participating and contributing Explore and a cort suss and questions that lish their science learning to their daily living.	
Level 2		undersland ina, ngulai devides slare coment, winch can de reflereel faler.	Planning for practice Develop a plan that divertifies the key stapes and the resources required to complete an outcome. Brid development Explain the outcome they are developing and describe the attributes it should have, taking account of the need or opportunity and the resources available. Dutcome development and ovaluation restigate a control developing and provide an outcome. Fealuate these against the identified attributes, select and develop an outcome. Fealuate the controme in terms of the need or opportunity. The There is a relationstip between a metrial used and its Performance properties in a technological product. Technological systems Understand that there are relationsibe between the plusts, controlled transformations, and outputs occurring within simple technological systems.	Measurement Create and use appropriate units and devices to measure length, area, volume and capacity, weight (mass), turn (angle), temperature, and time. Shape Shape Soft objects by their spatial features, with justification. Position and orientation • Oraste and use simple maps to show position and direction. Describe different views and orientation • Oraste and use simple maps to show position and direction. Describe different views using the statistical enquiry cycle: • gathering, sorting, and displaying catagory and whole-number data • communicating indings based on their dura. Position data. • gathering, sorting, and displaying catagory and whole-number data • communicating indings based on their dura. Position different illicition and and and different illicition and and ending and different illicition and and and different illicition and and ending and different illicition and and and different illicition and and and and and different illicition and and and and and and and and and an	Epilore everyday examples of physical theoremens, tota be morement, forces, electricity and magnetism, light, sound, waves, and heat.	
Level 3	PO2 In authentic contexts and taking account of enri-users, students give, follow and debug simple algorithms in computerised and non-computerised contexts. They use these algorithms to create simple programs involving outputs and sequencing gutting tancutoris one after the other) in age- appropriate programming environments.	P02 In authentic contexts and taking account of end-users, students make decisions about creating, manipulating, storing, retrieving, sharing and teshing digital content for a specific purces, outwa particular parameters, tools, and techniques. The		Measurement Use linear scales and whole numbers of metric units for length, area, volume and capacity, weight (mass), angle, temperature, and time. Position and orientation Use a co-ordinate system or the language of direction and distance to specify locations and discribe paths. Statistical investigations using the statistical enquiry cycle: • gathering, sorting, and signalying multivariate catapoys and whole-number data and simple time-series data to answer questions • identifying patterns and trends in contrex, within and between data sets • communicating financies is contrast, within and between data sets • probability Investigations throw elements of chance by comparing experimental results with expectations from models of all the outcomes, adknowledging that samples vary.	Understanding about science Identify ways in which scientists work together and provide evidence to support their ideas. Investigating in science • Build on prior experiences, working bugether to share and examine their own and others' knowledge. • Ask questions, find evidence, explore simple englantions. Physical inquity and physics concepts Explore, describ, and represent patherms and trenks for everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light, sound, waves, and heat. For example, lientify and describe everyday examples of sources of energy, forms of energy, and energy transformations. Phyticipating and contributing Explore various aspects of an issue and make decisions about possible actions.	
Level 4	P03, In authentic contexts and taking account eP03, step isstructions to create algorithms for computer syngams. They use logical thinking to predict the behaviour of the organsm, and they understand that there can be more than ore algorithm for the same problem. They develop and debug simple programs that use inputs, outputs, sequence and iteration (repeating part of the algorithm with a log). They understand that there data using just two states represented by binary digits (bits).	understand that digital devices impact on humans and society and that both the devices and their impact change over time. Students lidentify the specific role of components in a simple input-process-output system and how they work together, and they recognise the "control role" that humans have in the system. They can select from an increasing range of applications and file types to develop outcomes for particular purposes.	Planning for practice Undertake planning that includes reviewing the effectiveness of past actions and resourcing, exploring implications for future actions and accessing of resources, and consideration of stakeholder freedack, to enable the development of an outcome. Technological systems Understand how technological systems employ control to allow for the transformation of inputs to outputs.	Measurement Use appropriate scales, devices, and metric units for length, area, vulume and capachy, weight (mass), temperature, angle, and time. Iherpret and use scales, intensides, and charts. Position and orientation Communicate and interpret hardware and drafts. Statistical investigations using the statistical enquiry cycle: determing, appropriate scales and testics. Statistical investigation Plan and conduct (meeting and minimality and the statistical enquiry cycle: determing, and fight/prim multivariate category, measurement, and time- series data to detect patterns, variandes, relationships, and tends organing appropriate variables and data collection methods in estimates that to test patterns, variandus, relationships, and tends - comparing distributions visually oromunicating refining, using appropriate lengtagys. <u>Probability</u> investigate situations for timodes of the possible contorme, action depreding variations and independence. use simple fractions and precentages to describe probabilities.	Understanding about science Identify ways in which scientists work together and provide evidence to support their ideas. Investigating in science Build on prior experiences, working puscher to share and examine their own and others' knowledge. • Ask questions, find evidence, explore anigher motels, and carry out appropriate investigations to develop simple explanations. Proticipating and explorations for the evolution of the science and the science an	

intelino°

Level 5	P94 In authentic contexts and taking account of end-users, takinetis decompose problems to create simple algorithms using the three building blocks of programing sequence, selection, and iteration. They implement these algorithms by creating programs that use inpuls, olptats, sequence, basic selection using comparative operators, and iteration. They debug simple algorithms and programs by identifying where this grow own gwith their instructions and correcting them, and they are able to explain with things weret wrong and how they fixed them. Students understand that digital devices represent data with thinsys digits and have ways of detecting errors in data storage and transmission. They evaluate the efficiency of algorithms, recognising that completes need to search and our targe amounts of data. They allow the interfaces in relation to their efficiency and usability. The authentic contexts and laking accounts of data. They allow evaluate user metafects in relation to their efficiency and usability. Bauters understand and big accounts of catals. They allow evaluate user problems into algorithms. They use these algorithms to relate independently decompose problems into algorithms. They use these algorithms to preade a circlebia of different data bytes, and iteration. They determine when to use different types of control structures. Students document their programs, using an organised approach for testing and debugging. They understand how complexes stree more complexe preaded using thread dysta, and they develop programs considering human-computer interaction (HC) heuristics.		Measurement Select and use appropriate metric units for length, area, volume and capacity, weight (mass), temperature, angle, and time, with avareness that measurements are approximate. Probability • Compare and describe the variation between theoretical and experimental distributions in situations that involve elements of chance. • Caclulate probabilities, using fractions, percentages, and ratios.	Understanding about science Understand that scientist investigations are informed by current scientific theories and aim to collect evidence that will be interpreted through process of logical argument. Physical inquiry and physics concepts dentify and describe empty changes and concentation of empty angle described is the example, identify and describe empty changes and concentation of empty angle described for example, identify and describe empty changes and concentation of empty angle described circuits, and the effect of contact and non-contact on the motion of objects. Deplore a technological or biological application of physics.	
Level 6	POG In authentic contexts and taking account of end-users, students determine and compare the "cost" (computational complexity) of two treative adjustimus for the same problem size. They understand the concept of compression cosing to offletern and species. by place uses, and how it enables widely used lexinologies to function. Students use an iterative process to design, develop, downant of text basic computer programs. They apply design principles and usability heartariss to their own designs and evaluate user initiations in terms of them.		Probability Investigate situations that Involve elements of chance: • comparing discrete theoretical distributions and experimental distributions, appreciating the role of sample size • calculating probabilities in discrete situations.	Understanding about science Understanding about science Understand that scientists i mestigations are informed by current scientific theories and aim to collect evidence that will be interpreted through processes of logical argument. Physical inquiry and physics concepts Investigate trends and relationships in physical phenomena in the areas of mechanics, electricity, electromagnetism, heat, light and vaews, and atomic and nuclear physics. O enconstruets and understanding of physical phenomena due doncorpets by explaining and solving questions and process. Using physics Investigate how physics knowledge is used in a technological or biological application.	
Level 7			Probability Investigate situations that involve elements of chance: • comparing theoretical continuous distributions, such experimental distributions • calculating probabilities, using such tools as two-way tables, tree diagrams, simulations, and technology.		

[KANO]

Kana	Digital Technologies	s Progress Outcomes	Tashnalagu	Mathematica	Saianaa	Casial Calanaa
r\d110	Computational Thinking	Designing and Developing Digital Outcomes	recinititity	iviau iel laŭos		Sucial Science
Level 1						
Level 2		P01 -in authentic contexts and taking account of end-users, students participate in teacher-led activities to develop, manipulate, store, retrieve and stare digital content in order to meet technological callenges. In doing on, they identify digital develops and their purposes and understand that humans make them. They know how to use some applications, they can identify the inputs and outputs of a system, and they understand that digital devices at the content, which can be retrieved later.	Planning for practice Develop a plan that identifies the key stages and the resources required to complete an outcome. Brief development Explain the outcome they are developing and describe the testifuluses it should have, taking account of the need or opportunity and the resources available. Outcome development and evaluation Investigate a content to develop idea to proteinal outcome. Scalate these against the identified attributes; select and develop an outcome. Evaluate the outcome in terms of the meed or opportunity. Technological modeling Understand that technological outcome for ffreess of purpose. Understand that technological products Understand that technological spreaders Understand that technological outcome is use plants, control transformations, and outputs Characteristics of technological outcomes Understand that technological outcomes Characteristics of technological understand that technological outcomes Characteristics of systems developed by people and have a physical nature and a harchoonical	Shape Sort objects by their spatial features, with justification. Identity and describe the plane shapes found in objects.	Understanding about science Appreciate that scientists ask questions about our world that lead to investigations and that open-mindedness is important because there may be more than one explanation. Investigating in science Extend there preferess and personal explanations of the natural world through exploration, play, asking questions, and discussing simple models. Communicating in science Build their language and develop their understandings of the manry ways the natural world can be represented. Explore everyday examples of physical homomens, that as movement, tores, electricity and magnetism, light, sound, waves, and heat.	
Level 3	P02 - In authentic contexts and taking account of end-users, students give, follow and debug simple algorithms in computerised and non-computerised contexts. They use these algorithms to create simple programs involving outputs and assessmering (puts) instructions one after the other) in age-appropriate programming environments.		Planning to identify the key stags and resources required to develop an outcome. Revisit planning to include reviews of progress and identify implications for subsequent decision making. Brief development Describe the nature of an infranced outcome, explaining how it addresses the need or opportunity. Describe the infranced outcome, explaining how it addresses the need or opportunity. Describe the infranced outcome, explaining how it addresses the need or outcome. Outcome development and evaluation of an outcome. Outcome development and evaluation of an outcome. Outcome development and evaluation the test address the need or opportunity. Technological modeling Understand that there are in develop in used to report test a develop and test and development Insetting and the outcome and the result or potential outcomes and that outcome or fitness of purpose. Understand that there is a relationship between an interface and the softenmance properties in a technological product. Understand that there are netalonships tokewen the inputs, controlled transformance norques of technological outcome Outputs contring within simple technological systems. Characteristics of technological systems. Understand that technological toxic and changes solely and the environment and outputs occurring within simple technological systems. Characteristics of technological outcome Understand that technology to the reflect and changes solely and the environment and outputs occurring within simple technological systems. Characteristics of technological outcome Understand that technology to regulations and couples occurring within simple technological systems. Characteristics of technological outcome Understand that technology to reflect and changes solely and the environment and noreases pools scapability.	Shape Classify plane shapes and prisms by their spatial features. Represent objects with drawings and models.	Understanding about science Appreciate that science is a way of explaining the world and that science knowledge changes over time. Identity ways in which scientists work together and provide evidence to support their ideas. Investigating in science Build on prior experiences, working logether to share and examine their own and others' knowledge. Ask questions, find evidence, episore simple explanations. Physical Inquiry and Physics Concepts Explore, describe, and represent patterns and lends for everyday examples of physical phenomens, such as movement, forces, electricity and magnetism, liph, scand, wares and hat. For example, identify and describe everyday examples of sources of everys, not the motion of objects; identify and describe everyday examples of sources of everys, torms of energy, and everys handormations.	

[KANO]

Kano	Digital Technologies	s Progress Outcomes	Technology	Mathematics	Science	Social Science
Nano	Computational Thinking	Designing and Developing Digital Outcomes	- icciniology	wather allos	000100	
			Planning for practice Undertake planning that includes reviewing the effectiveness of past actions and resourcing, exploring implications for thure actions and accessing of resources, and consideration of stakeholder feedback, to enable the development of an outcome. Brief development Justify the nature of an interded outcome in relation to the need or opportunity. Describe the key attributes identified in stakeholder feedback, which will inform the development of an outcome and its evaluation.			
Level 4	PO3 - In sufferritic contexts and taking account of end-users, students decompose problems into step-by-step instructions to create adjustimus for computer programs. They use boyclat thinking to predict the behaviour of the programs, and they understand that develop and debug simple programs that use inputs, coptos. Sequence and teaction (repeating part of the adjustim with a loop). They understand that digital devices store data using just two states represented by binary digits (bits).	 t of end-users, instructions to instructions to instructions to updets and that having account of end-users, students is beingt in the approximation and testing digital content for a specific purpose, given updets and that in proteins. They independent of the approximation and the approximation approximation and the approximation approximation and the approximation approximation and the approximation approxi	Outcome development and evaluation Investigate a context to develop ideas for feasible outcomes. Undertake functional modeling that base accurator of absolution feedback in outcome that best addresses the key attributes hoorporating diskeholder feedback, evaluate the outcome's filmess for purpose in terms of how well it addresses the need or coportunity. Charlengical modelling are used to explore possibilities and to justify decision making and how prototyping can be used to justify refinement of technological andocumes. Charlengical products Understand that materials can be formed, nanjouldated, and/or transformed to enhance the	Shape Identity classes of two- and three-dimensional shapes by their geometric properties. Relate three-dimensional models to two-dimensional representations, and vice versa.	Investigating in science Build on prior experiences, working together to share and examine their own and others' knowledge. Physical inquiry and physics concepts Explore, describe, and represent patterns and trends for remyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light, scand, waves, and heat. For example, londity and describe to effect of directs (sontiat and non-contact) on the motion of objects; identify and describe everyday examples of sources of energy, forms of energy, and energy bandformations.	
			Times for purpose of a bernological product. Technological systems Understand how technological systems erolyc control to allow for the transformation of inputs to outputs. Characteristics of technology Understand how technological divergent expands human possibilities and how technology draws on knowledge from a wide range of disciplines.			
			Characteristics of technological outcomes Understand that technological outcomes can be interpreted in terms of how they might be used and by whom and that each has a proper function as well as possible alternative functions.			
Level 5	POI - In sutherstic contexts and taking account of and-users, studentd decompose problems to rents angle algorithms using the mere building blocks of programmic, sequence, algorithms, using the transfer. They implement these algorithms by creating the perators, and iteration. They debug simple algorithms and programs by identifying when things go worry with their instructions and correcting them, and they are able to explain with their instructions and how they fixed them. Students understand that digital divices represent data with binary digits and have ways of detecting errors in data strange and transmission. They evaluate the efficiency of algorithms, recognising that computers need to search and sort large annuals of data. They also evaluate user inferences in relations to their efficiency and usability. PDS - In authertic contexts and taking account of end-users, students independently decompose problems into algorithms, They usersion, allociton using comparative and logical diversements, indicates on different taba pass, and iteration. They determine when to use different types of control structures. Students document their programs, using an organical agronate hor complex types of data using binary digits, and they develop programs considering human-computer interaction (HCI) heuristics.	P03 - In authentic contexts, students follow a defined process to design develop, etcrs, test and exhaulte digital context to address there in vetter for exhaust. Bioin in factory immediate address and a strategies and the state of the s	Vianna of bress planning or practices Analyse their own and others planning practices to inform the selection and use of planning tools. Use these to support and usely planning decisions (including houre neighbor) to the management of resources that will be the development of an outcome through to completion. Self development Justify the nature of an intered outcome in relation to the need or opportunity. Describe specifications that relate they stakeholder feetback and that they inform the development of an outcome and its evaluation. Outcome development and evaluation Analyse their own and others' outcomes to inform the development of lass solid environments. Use the information gained to select and develop the outcome that best addresses the specifications. Evaluate the final outcome's titress for purpose against the brief. Decompletion completion makes in the protocal and social environments. Use the information gained to select and develop the outcome is the set for purpose against the brief. Decompletion completion makes in the protocal and social environments. Use the information gained to select and develop the outcome is therest for purpose against the brief. Decompletion completion makes in the protocal and social environments. Use the information gained to select and develop the outcome is the set for purpose against the brief. Decompletion of outcomes is therest for the protocal and social modelling. Understand how protoples generations relates and the protoples of outcomes. Characteristics of technological loweledge becomes conflict. Characteristics of technological loweledge becomes conflict. Characteristics are at the purpose in terms of time and context.	Shape Deduce the angle properties of intersecting and parallel lines and the angle properties of polycors and apy these properties. Create acountie nets for simple polyhodra and connect three-dimensional solids with different two-dimensional representations.		
Level 6	P06 - In authentic contexts and taking account of end-users, students determine and compare the "cost" (computational competibil) of while teathe algorithms for the same problem size. They understand the concept of compression coding for different media types, its typical uses, and how it enables which used technologies to function. Students use an iterative process to design, develop, document and test basic computer programs. The graph design principles and usability heuristics to their own designs and evaluate user interfaces in terms of them.	PQ4 - In sufferitic contexts, students investigate and consider possible solutions for a given context or issue. With support, they use an iterative process to design, develop, store and test digital outcomes, identifying and evaluating relevant social, ethicia and enti- user considerations. They use information form testing and apply appropriate tools, techniques, procedures and protocols to improve the quality of the outcomes and de ensure they are fit-for purpose and meet end-user requirements.	Understand the concept of malfunction and how "failure" can inform future outcomes.			



Kana	Digital Technologie	s Progress Outcomes	Tashaalamu	Mathamatian	Caianaa	Casial Calance
Kano	Computational Thinking	Designing and Developing Digital Outcomes	recrinology	Mauremaucs	Science	Social Science
	oompatational mining	beograng and bereiching bignar eutomice				
	P07 - In authentic contexts and taking account of end-users,	P05 - In authentic contexts and with support, students investigate a				
	students analyse concepts in digital technologies (for example,	specialised digital technologies area (for example, digital media, digital				
	information systems, encryption, error control, complexity and	information, electronic environments, user experience design, digital				
	tractability, autonomous control) by explaining the relevant	systems) and propose possible solutions to issues they identify. They				
	mechanisms that underpin them, how they are used in real world	independently apply an iterative process to design, develop, store and				
Lovel 7	applications, and the key problems or issues related to them.	test digital outcomes that enable their solutions, identifying, evaluating,				
Level /		prioritising and responding to relevant social, ethical and end-user				
	Students discuss the purpose of a selection of data structures and	considerations. They use information from testing and, with increasing				
	evaluate their use in terms of trade-offs between performance and	confidence, optimise tools, techniques, procedures and protocols to				
	storage requirements and their suitability for different algorithms.	improve the quality of the outcomes. They apply evaluative processes				
	They use an iterative process to design, develop, document and test	to ensure the outcomes are fit-for-purpose and meet end-user				
	advanced computer programs.	requirements.				
		P06 - In authentic contexts, students independently investigate a				
		specialised digital technologies area and propose possible solutions to				
	P08 - In authentic contexts and taking account of end-users,	issues they identify. They work independently or within collaborative,				
	students evaluate concepts in digital technologies (for example,	cross-functional teams to apply an iterative development process to				
	formal languages, network communication protocols, artificial	plan, design, develop, test and create quality, fit-for-purpose digital				
	intelligence, graphics and visual computing, big data, social	outcomes that enable their solutions, synthesising relevant social,				
	algorithms) in relation to how key mechanisms underpin them and	ethical and end-user considerations as they develop digital content.				
Level 8	how they are applied in different scenarios when developing real					
	world applications.	Students integrate in the outcomes they develop specialised				
		knowledge of digital applications and systems from a range of areas,				
	Students understand accepted software engineering methodologies	including: network architecture; complex electronics environments and				
	and user experience design processes and apply their key concepts	embedded systems; interrelated computing devices, hardware and				
	to design, develop, document and test complex computer programs.	applications; digital information systems; user experience design;				
		complex management of digital information; and creative digital				
		media.				

littleBits

Little Bits	Digital Technologies Prog	press Outcomes	Technology	Mathematics	Science	Social Science
	Computational Thinking	Designing and Developing Digital Outcomes				
Level 1						
			Planning for practice Develop a plan that identifies the key stages and the resources required to complete an outcome. Brief development Explain the outcome they are developing and describe the attributes it should have, taking account of the need or opportunity and the resources available. Outcome development and evaluation Investigate a context to develop ideas for potential outcomes. Evaluate these against the identified attributes; select and develop an outcome. Evaluate the outcome in terms of the need or opportunity.		Understanding about science Appreciate that scientists ask questions about our world that lead to investigations and that open-mindedness is important because there may be more than one explanation. Investigating in science	
Level 2	P01 - In authentic contexts and taking account of end-users, students participate in teacher-led activities to develor, manipulate, store, retrieve and share digital content in order to meet technological chalenges. In ordings, on they detrill vigital devices and their purposes and understand that humans make them. They know how to use some applications, they can identify the inputs and outputs of a system, and they understand that digital devices store content, which can be retrieved later.	P01 - In authentic contexts and taking account of end-users, students participate in teacher-led activities to develop, manipulate, store, retrieve and share digital content in order to meet technological challenges. In doing os, they identify digital devices and their purposes and understand that humans make them. They know how to use some applications, they can identify the inputs and outputs of a system, and they understand that digital devices store content, which can be retrieved later.	Technological modelling Understand that functional models are used to expire, test, and evaluate design concepts for potential outcomes and that prototyping is used to test a technological outcome for fitness of purpose. Technological products Understand that there is a relationship between a material used and its performance properties in a technological product. Technological systems Understand that ere are relationships between the inputs, controlled transformations, and outputs occurring within simple technological systems.	Local and through exploration, play, asking questions, and discussing simple models. Communicating in science Build their language and develop their understandings of the many ways the natural world can be represented. Physical inquiry and physics concepts Explore everyday examples of physical phenomena, such as movement, forces, electricity and near.		
			Characteristics of technology Understand that technology both reflects and changes society and the environment and increases people's capability. Characteristics of technological outcomes Understand that technological outcomes are developed through technological practice and have related physical and functional natures.		phenomena.	
Level 3	P02 - In authentic contexts and taking account of end-users, students give, follow and debug simple algorithms in computerised and non-computerised contexts. They use these algorithms to create simple programs involving outbust and sequencing logithing instructions one after the other) in age-appropriate programming environments.		Planning for practice Undertake planing to identify the key stages and resources required to develop an outcome. Revisit planning to include reviews of progress and identify implications for subsequent decision making. Bird development Describe the nature of an intervet outcome, explaining how it addresses the need or opportunity. Describe the key attributes that enable development and evaluation of an outcome. Outcome development and evaluation of an outcome. Nestingta a constant to develop a fast for potential dourbones. First and evaluate these against key attributes to select and develop an outcome to address the need or opportunity. Fealuate this outcome against the key attributes and how it addresses the need or opportunity. Understand that different forms of functional modeling are used to inform decision making in the development of technological products. Understand the relationship between the materials used and their performance properties in technological products. Understand the relationship between the materials used and their performance properties in technological products. Understand the technological systems are represented by symbolic language tools and understand there leage and contemporary contexts and that induced by technology in historical and contemporary contexts and that technological knowledge is validated by successful function. Characteristics of technological outcomes knowledge is validated by successful function. Characteristics of technological outcome reportions between the materials unclean and are influenced by technology in historical and contemporary		Understanding about science Appreciate that science is a way of explaining the world and that science knowledge changes over time. Identify ways inwich scientifists own Klogather and provide evidence to support their ideas. Investigating in science explanations. Communicating in science Begin to use a range of scientific symbols, conventions, and vocabulary. Physical inquiry and physics concepts Explore, describe, and represent patterns and trends for everyday expansion of the science science of the	

littleBits

Little Bits	Digital Technologies Prog	press Outcomes	Technology	Mathematics	Science	Social Science
	Computational Thinking	Designing and Developing Digital Outcomes				
			Planning for practice Undertake planning that includes reviewing the effectiveness of past actions and resourcing, exploring implications for future actions and accessing of resources, and consideration of stakeholder feedback, to enable the development of an outcome.			
Level 4	P03 - In authentic contexts and taking account of end-users, students decompose problems into step-by-step instructions to create algorithms for computer programs. They use logical thinking to predict the behaviour of the programs, and they understand that there can be more than one algorithm for the same problem. They develop and debug single programs that use inputs, outjuds, sequence and iteration regeating part of the algorithm with a loop). They understand that digital devices store data using just two states represented by binary digits (bits).	P02 - In authentic contexts and taking account of end-users, students make decisions about creating, manipulating, storing, retrieving, sharing and testing digital content for a specific purpose, given particular parameters, tools, and techniques. They understand that digital devices impact on humans and society and that both the devices and their impact change over time. Students identify the specific role of components in a simple input-process-output system and how they work together, and they recognise the 'control role' that humans have in the system. They can select from an increasing range of applications and file types to develop outcomes for particular purposes.	Brief development Audity the nature of an intended or outcome in reliable to the need or opportunity. Describe the key attributes identified in stakeholder feedback, which will inform the development of an outcome and its evaluation. Duccame development and evaluation of the stakeholder feedback, which will inform the development of an outcome and its evaluation. Investigate a context to develop ideas for feasible outcomes. Undertake functional modelling that takes acount of stakeholder feedback in order to select and overlap the outcome that these attracts the near or opportunity. Well it addresses the hey attractional modelling are used to explore possibilities and to justify decision maring and how prototyping can be used to justify relianment of technological outcomes. Duderstand how different forms of functional modelling product. Understand that materials can be formed, manipulated, and/or transformed to enhance the fitness for purpose of a technological product. Understand how technological adjections of inputs to outputs. Understand how technological adjections of inputs to outputs. Characteristics of technological products. Understand how technological adjections thuma possibilities and how technological adjections of inputs to outputs. Characteristics of technological divertees theoma or adjections. Detaretistics can be interpreted in terms of how they might be used and by whom and that each has a proper function as well as possibilities and how technological divertendin terms of how they might be used and by whom and t		Understanding about science Appreciate that science is a way of explaining the world and that science knowledge changes over time. Understand the science knowledge changes over time. Investigating in science Ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple explanations. Communicating in science Begin to use a range of scientific symbols, conventions, and vocabulary. Physical inquiry and physics concepts Explore, describe, and represent patterns and trends for everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light, sound, waves, and heat. For example, interfly and describe the effect of torose (contact and non-contact) on the motion of objects; kilently and describe veryday examples of sources of energy, forms of energy, and energy transformations.	
Level 5	P04 In authentic contexts and taking account of end-users, students decompose problems to create simple algorithms using the three building blocks of programing: sequence, selection, and teration. They implement these algorithms by creating programs that use inputs, outputs, asgumence, basic selection using comparative operators, and iteration. They debug simple algorithms and programs by dentifying when things go worng with their statuctions and correcting them, and they are able to explain why things went worng and how they fixed them. Students understand that digital devices represent data with binary digits and have ways of detecting errors in data storage and transmission. They evaluate the efficiency of algorithms. They adjust the they are been to associate the transmission they are able to explain the transmission. They evaluate the efficiency of algorithms, and programs to the stiff index to their efficiency and useful to implet the adjust the transmission. They evaluate the efficiency of algorithms, and programs to adjust the set operations and correcting that computes need to search and sort large amounts of data. They also evaluate user interfaces in adjust thirts. They use these algorithms to create programs with inputs, outputs, sequence, selection using comparative and logical operators and variables of different data types, and iteration. They determine when to use different types of control structures. Students document their programs, using an organised approach for testing and debugging. They understand how computers store more complex types of data using hinary digits, and they develop programs considering human-computer interaction (HO) heuristics.	P03 - In authentic contexts, students follow a defined process to design, develop, store, test and evaluate digital content to address given contexts or issues, taking into account immediate social, ethical and end-user considerations. They identify the key features of selected software and closes the most appropriate software and file types to develop and combine digital content. Students understand the role of operating systems in managing digital devices, security, and application software and are able to apply file management conventions using a range of storage devices. They understand that with storing data comes responsibility for ensuring security and privacy.	Planning for practice Analyse their own and there's planning practices to inform the selection and use of planning tools. Use these to support and justify planning decisions (including these relating to the management of resources) that this see the development of an outcome through to completion. Brief development Justify the nature of an intended outcome in relation to the need or opportunity. Describe specifications that reflect key stak-holder feedback and that will inform the development of an outcome and its evaluation. Outcome development and evaluation Analyse their own and others' outcomes to inform the development of ideas for feasible outcomes. Undertake ongoing functional modeling and reautation that best addresses the specifications. Evaluate the final duromes it thread and social environments. Use the information gained to select and develop the outcome that best addresses the specifications. Evaluate the final duromes it threads for purpose against the brief. Technological modelling Understand how revidence, reasoning refinement of outcomes is thread on be used to justify ongoing refinement of outcomes. Technological products Understand how materials are selected, based on desider performance ortheria. Characteristics of technological outcomes Understand how materials are selected, based on desider derformance ortheria. Characteristics of technological outcomes Understand the technological outcomes are fit for purpose in terms of time and context. Understand the concept of malfunction and how "failure" can inform future outcomes.		Understanding about science Understand that scientisk' investigations are informed by current scientific theories and aim to collect evidence that will be interpreted through processes of logical argument. Investigating in science Develop and carry out more complex investigations, including using models. Show an increasing awareness of the complexity of working scientifically, including recognition of multiple variables. Communicating in science Use a wider range of science vocabulary, symbols, and conventions. Physical inquity and physics concepts Identify and describe the patterns associated with physical phenomena found in simple everyday slubations involving movement, forces, electricity and magnetism, light, sound, waves, and heal. For example, lighting and describe energy changes and conservation of energy, simple electrical circuits, and the effect of contact and non- contact on the motion of objects.	

littleBits

Little Bits	Digital Technologies Progress Outcomes		Technology	Mathematics	Science	Social Science
Entro Dito	Computational Thinking	Designing and Developing Digital Outcomes	roomology	Mationaloo	000000	
Level 6		PO4 - In authentic contexts, students investigate and consider possible solutions for a given context or issue. With support, they use an lerative process to design, develop, store and test digital uncloness, leidning and evaluating the desard social, eitheal and end-user considerations. They use information from testing and agoly appropriate tools, techniques, procedures and protocols to improve the quality of the outcomes and to ensure they are fit-for-purpose and meet end-user requirements.	Planning for practice Critically analyse their wan and others' past and current planning practices in order to make informed selection and effective use of planning tools. Use these to support and justify ongoing planning that will see the development of an outcome through to completion. Brief development Justify the nature of an intended outcome in relation to the need or opportunity and justify specifications in terms of keys stakeholder feedback and wider community considerations. Outcome development and evaluation Outcland evaluate in considerations. Outcome development and evaluation Outcland evaluations: Constrained in the physical and adclate environments. Use the information gained to select, justify, and develop a final aucome. Evaluate this outcome's filmess for purpose against the brief and justify the realizations of subsystems for the design, development, and maintenance of technological systems. Outcarted technological systems. Understand the implications of subsystems for the design, development, and maintenance of technological systems. Characteristics of technology and the implications of this for maximism possibilites through outcarted practice.		Understanding about science Understand that scientists' investigations are informed by current scientific breveis and aim to collect evidence that will be interpreted through processes of logical argument. Investigating in science Develop and cary out more complex investigations, including using models. Communicating in science Use a vider range of science vocabulary, symbols, and conventions. Physical inquiry and physics concepts Investigate trends and relationships in physical phenomenia (in the areas of mechanics, electricity, electromagnetism, heat, tight and waves, and atomic and nuclear physics).	
Level 7		POS - In authentic contexts and with support, students investigate a specialised digital technologies area (for example, digital media, digital information, electronic environments, user operience design, digital systems) and propose possible solutions to issues they identify. They independently apply an iterative process to design, develop, store and test digital outcomes that enable their solutions, identifying, evaluating, providing and responding to relevant social, ethicia and end- user considerations. They use information metsing and, with increasing confidence, ophisme tools, technology, procedures and protocols to improve the quality of the outcomes. They apply evaluative processes to ensure the outcomes are fit-for-purpose and meet end-user requirements.	Outcome development and evaluation Critically adapte their own and others' outcomes and evaluative practices to inform the development of ideas for feasible outcomes. Undertake a critical evaluation that is informed by angoing everimentation and functional modelling, stateholder feedback, and trialling in the physical and social environments. Use the information gained to select, justify, and develop an outcome. Fixeduate this outcomes fitness for purpose against the herd, Lastify the evaluation, using feedback from stakeholders and demonstrating a critical understanding of the issue. Characteristics of technological outcomes Understand that technological outcomes are a resolution of form and function priorities and that malfunction affects how people view and accept outcomes.		Investigating in science Develop and carry out investigations that extend their science knowledge, including developing their understanding of the relationship between investigations and science innovedge, vocabulary, symbols, and convertions when evaluating accounts of the natural world and considies the wider implications of the methods of communication and/or representation employed. Physical inquiry and physics concepts Investigate physical phenomena (in the areas of mechanics, electricity, electromagnelism, light and vareas and atomic and inclear physical and produce qualitative and quanitative explanations for a variety of urifamiliar situations. Analyse data to deduce complex tends and relationships in physical phenomena.	
Level 8		PO6 - In authentic contexts, students independently investigate a specialised digital technologies area and propose possible solutions to issues they identify. They work independently or within collaborative, cross-functional teams to apply an iterative development process to plan, design, develop, test and create quality. (If cho purpose digital outcomes that enable their solutions, synthesising relevant social, ethical and end-user considerations and set by develop digital content. Students integrate in the outcomes they develop digital content. Students integrate in the outcomes they develop calcialed knowledge of digital applications and systems from a range of areas, including, network architecture; complex electronics environments and entebded systems; interrelable computing devices, hardware and applications, digital information, and creative digital media.			Investigating in science Develop and carry out investigations that extend their science knowledge, including developing their understanding of the relationship between investigations and science innoveldge, vocabulary, symbols, and convertions when evaluating accounts of the natural world and considies the wider implications of the methods of communication and/or representations of the methods of communication and/or representation employed. Physical inquiry and physics concepts Investigate physical phenomena (in the areas of mechanics, electricity, electromagnetics), light and waves, and atomic and nuclear physics) and produce qualitative and quantitative explanations for a variety of complex situations. Analyse and evaluate data to deduce complex trends and relationships in physical phenomena.	



Makey Makey	Digital lechnologies	Progress Outcomes	Technology	Mathematics	Science	Social Science
Level 1	Composition and minimizing	beaging and beecidping bigital backines				
Level 2			Planning for practice Develop a plan that identifies the key stages and the resources required to complete an outcome. Brid development Explain the outcome they are developing and describe the attributes it should have, taking account of the need or opportunity and the resources available. Outcome developing and describe the attributes it should have, taking account of the need or opportunity and the resources available. Investigate a context to develop ideas for potential outcomes. Evaluate these against the identified attributes; select and develop an outcome. Evaluate the outcome it meres of the need or opportunity. Understand that functional models are used to explore, test, and evaluate design concepts for potential outcomes and that prototyping is used to test a technological products Understand that there is a relationships between a material used and its performance properties in a technological product. Understand that there are relationships between the inputs, controlled transformations, and outputs occurring within simple technological systems. Understand that there are relationships between the inputs, controlled transformations, and outputs occurring within simple technological systems. Characteristics of technology Understand that technology is purposelul intervention through design. Characteristics of technological outputs are a physical nature and a functional		Understanding about science Appreciate that scientists ask questions about our world that lead to investigations and that open- mindedness is important because there may be more than one explanation. Investigating in science Extend their experiences and personal explanations of the natural world through exploration, play, asking questions, and discussing simple models. Physical inquiry and physics concepts Explore everyday examples of physical rhenomena, such as movement, forces, electricity and magnetism, light, sound, waves, and heat. Chemistry and society Find out about the uses of common materials and relate these to their observed properties.	
Level 3	PO2 - In authentic contexts and taking account of end- users, students give, follow and debug simple algorithms in computerised and non-computerised contexts. They use these algorithms to create simple programs involving adputs and sequencing putting instructions on after the other) in age-appropriate programming environments.		nature: Planning for practice Undertake planning to identify the key stages and resources required to develop an outcome. Revisit planning to include reviews of progress and identify implications for subsequent decision making. Bird development Describe the nature of an intended outcome, explaining how it addresses the need or opportunity. Describe the key attributes that enable development and evaluation of an outcome. Ductome development and evaluation of an outcome. Outcome development and evaluation of an outcome. Describe the key attributes to select and develop an outcome to address the need or opportunity. Fieluate this outcome against the key attributes to select and develop an outcome to address the need or opportunity. Fieluate this outcome against the key attributes and how it addresses the need or opportunity. Fieluate this outcome against the key attributes and how it addresses the need or opportunity. Fieluate this outcome against the key attributes and how it addresses the need or opportunity. Evaluate this outcome against the key attributes and how it addresses the need or opportunity. Evaluate this outcome against the key attributes and that prototyping is used to test a technological advactme for fitness of purpose. Technological products Understand that there is a relationship between a material used and its performance properties in a technological product. Technological systems Chareteristics of technology <td></td> <td>Investigating in science Ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple explanations. Physical inquiry and physics concepts Explore, describe, and represent patterns and trends for everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light, sound, waves, and heaf. For example, identify and describe the effect of forces (contact and non-contact) on the motion of objects; identify and describe everyday examples of sources of energy, forms of energy, and energy transformations. Properties and changes of matter Group materials in different ways, based on the observations and measurements of the characteristic chemical and physical properties of a range of different materials.</td> <td></td>		Investigating in science Ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple explanations. Physical inquiry and physics concepts Explore, describe, and represent patterns and trends for everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light, sound, waves, and heaf. For example, identify and describe the effect of forces (contact and non-contact) on the motion of objects; identify and describe everyday examples of sources of energy, forms of energy, and energy transformations. Properties and changes of matter Group materials in different ways, based on the observations and measurements of the characteristic chemical and physical properties of a range of different materials.	



Makey Makey	Digital Technologies Computational Thinking	Progress Outcomes Designing and Developing Digital Outcomes	Technology	Mathematics	Science	Social Science
Level 4	PQ3 - In authentic contexts and taking account of end- users, students decompose problems into step-y-step instructions to croate algorithms for computer programs. They use logical thinking to predict the behaviour of the programs, and they understand that there can be more than one algorithm for the same product. They develop and debug simple programs that use inputs, outputs, sequence and iteration (researing part of the algorithm with a loop). They understand that digital devices store data using just two states represented by binary digits (bits).	P02 - In authentic contexts and taking account of end- users, students make decisions about creating, maniputaing, storing, retrieving, sharing and testing digital content for a specific purpose, given particular parameters, tools, and techniques. They understand that digital devices and their impact change over time. Students identify the specific role of components in a simple input-roces-study at system and how they work together, and they recognise the "control role" that humans have in the system. They can select from an increasing ange of applications and life hypes to develop outcomes for particular purposes.	Brief development Justify the nature of an intended outcome in relation to the need or opportunity. Describe specifications that reflect key stakeholder feedback and that will inform the development of an outcome and its evaluation. Outcome development and evaluation Analyse their own and others' outcomes is inform the development and evaluation Analyse their own and others' outcomes is inform the development of an outcome. Undertake ongoing functional modelling and evaluation that takes account of key stakeholder feedback and trialing in the physical and social environments. Use the information gained to select and develop the outcome that thest addresses the specifications. Evaluate the final outcome's fitness for purpose against the brief. Understand how evidence, reasoning, and decision making in functional modelling contribute to the development of design concepts and how prototyping can be used to justify orgoing refinement of outcomes.		Investigating in science Ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple explanations. Physical inquiry and physics concepts Explore, describe, and represent patterns and trends for everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, fight, sound, waves, and heat. For example, identify and describe the effect of forces (contact and non-contact) on the motion of objects; identify and describe everyday examples of sources of energy, rome of energy, and energy transformations. Properties and changes of matter Group materials in different ways, based on the observations and measurements of the characteristic chemical and physical properties of a range of different materials.	
Level 5	 FO4 - In authentic contexts and taking account of end-users, studiets decompose problems to create simple algorithms using the three building blocks of programing: sequence, selection, and teration. They implement these algorithms by creating programs that use inputs, outputs, sequence, basic selection using comparative operators, and teration. They debug simple algorithms and programs by identifying when things go wrong with their instructions and correcting them, and they are able to explain why things went wrong and how they fixed them. Students understand that digital devices represent data with hiorary digits and have ways of delecting errors in data storage and transmission. They evaluate the efficiency of algorithms. They evaluate the efficiency of algorithms, reacognising that computes need to search and sort large amounts of data. They also evaluate user inteless in heldion to their efficiency and igorithms. They use these algorithms to create programs with inputs, outputs, sequence, selection using comparater types of control structures. Students independently decompose problems into algorithms. They use these algorithms intructures. Students document their programs, using an organised approach for testing and debugging. They understand how computers store mice comparks types of data using human-compute interaction (H) burnistics. 				Physical inquiry and physics concepts Identify and describe the patterns associated with physical phenomena found in simple everyday situations involving movement, forces, electricity and magnetism, light, sound, waves, and heat. For example, identify and describe energy changes and conservation of energy, simple electricial circuits, and the effect of contact and non-contact on the motion of objects.	

Merge

Merge	Digital Technologies	Progress Outcomes	Technology	Mathematics	Science	Social Science
	Computational Thinking	Designing and Developing Digital Outcomes	Technological modelling			
Level 1			Understand that functional models are used to represent reality and test design concepts and that prototypes are used to test technological outcomes. Technological systems Understand that technological systems	Position and orientation Give and follow instructions for movement that involve distances, directions, and half or quarter turns. Describe their position relative to a person or object.	Understanding about science Appreciate that scientists ask questions about our world that lead to investigations and that open-minidedness is important because there may be more than one explanation.	
Level 2	Level 2 POI In submit contact and balag account of and users, students participate in UL backer led activities to develop, manipulate, store, retireve and stard digital content in under to meet technological chalanges. In doing on, buy depth digital devices at their parposes are understard that have to use some applications, they can identify the inputs and outputs of a system, and they understand that digital devices store content, which can be retireed later. but the digital devices store content, which can be retireed later. but the digital devices store content, which can be retireed later. but the digital devices store content, which can be retireed later. but the digital devices store content, which can be retireed later. but the digital devices store content, which can be retireed later. but the digital devices store content, which can be retireed later. but the digital devices store content, which can be retireed later. but the digital devices store content, which can be retireed later. but the digital devices store content, which can be retireed later. but the digital devices store content, which can be retireed later. but the digital devices store content, which can be retireed later. but the digital devices store content, which can be retireed later. but the digital devices store content, which can be retireed later. but the digital devices store content are the digital devices store content. but the digital devices store content are the digital devices store content. but the digital devices store content are the digital devices store content. but the digital devices store content are the digital devices store content. but the digital devices store content are the digital devices store content. but the digital devices store content are the digital devices store content. but the digital devices store content are the digital devices store content. but the digital devices store content are the digital devices store content. but the digital devices store content are the digital devices store content. but	Understand that isomological agents faite space, controlled transformations, and dudputs. Understand that functional models are used to explore, test, and evaluate design concepts for potential outcomes and that prototyping is used to test a concepts for potential extremes and that prototyping is used to test a Understand that there are evaluationing bahreen the inputs, controlled transformations, and outputs occurring within simple technological systems.		Paperson in a comma de la parameter and con la la contra		
					Physical inquiry and physics concepts Explore everyday examples of physical phones, aich an inversion, function, so that materinari, function, so that materinari, function, so that materials and magnetism. In physical phonesen. Properties and changes of matter Observe, describe, and compare physical and chemical properties of communications and changes of matter Observe, describe, and compare physical and chemical properties of communications and changes that occur when materials are mixed, heated, or cooled. Observe, describe, and compare physical and chemical properties of common materials and relate these to their observed properties. Understanding about science	
Level 3			Technological modelling Understand that different forms of functional modelling are used to inform direction making in the development of inclusive/period constantiation for the used by the development of the development further development. Characteristics of technology Understand that technology both reflects and charges society and the environment and increases people's capability.		Approxial that science is a way of explaining the work and that science knowledge changes over time. Interligiting in science: The science is a science of the science is a science of the science is a science of the science. Communicating in a class call of a science of the science is science of the 	

Merge

Merge	Digital Technologies Computational Thinking	Digital Technologies Progress Outcomes Computational Thinking Designing and Developing Digital Outcomes		Mathematics	Science	Social Science
Level 4		P02 - In auffertic contexts and taking account of end-users, students make decisions account of a students make decisions to constrain, manipulating, storing, retrieving, students and testing digital context for a product of the digital divices inpact on humanis and society and that both the divices and their impact drange over time. Students identify the specific role of components in a simple input-process-output system and how they work bugsther, and hay recognise the "control with" that humans have in the system and how they work bugsther, and hay recognise the "control with" that humans have in the system of how they outcomes for particular purposes.	Technological modeling Ubdentand how different forms of functional modeling are used to explore possibilities and to justify decision making and how prodopping can be used to justify referement of technological advances. Characteristics of technology Ubdentand how technological development expands human possibilities and how technology draws on knowledge from a web range of disciplines.		Understanding advance Approxisite that science is a way of explaining the larder ad the science knowledge changes over time. Identify ways in which scientists work together and provide evidence to support their ideas. Margin and advance in the science knowledge changes over time. Build on prior experience, working together to build an idea and the science knowledge. Adv.gestions, find evidence, explore simple node, and carry out approxibite histophilas investigations to devise simple explanations. Communication fit is science Big in to use a range of discrements in the pursois te environments, and vocabulary. Engage with a range of science the and registing together to build here test are constructed. Ling processes Pecoprise that there are life processes common to all lines things things and that these cocar in different ways. Explain how long things are suited to their particular trabulat and how the regulate the advances, build and human-induced. Communication Explain how long things are suited to their particular trabulat and how they regund to environmental changes, both natural and human-induced. Devisition and approxipates. Begin to youp parts. Begin to youp parts. <tr< td=""><td>Understand how exploration and innovation create opportunities and challenges for people, places, and environments. Understand that events have causes and effects.</td></tr<>	Understand how exploration and innovation create opportunities and challenges for people, places, and environments. Understand that events have causes and effects.
Level 5	F04 - In sufferific contexts and taking account of end-users, students decompose problems to create simple algorithms using the three building block of programing: programm that usin (rpds, totakit, sequence, basic selection using comparish programm, that usin (rpds, totakit, sequence, basic selection using comparish programm, that usin (rpds, totakit, sequence, basic selection using comparish programm, that using the selection of the selection using comparish the selection of the selection of the selection of the selection of selection of the selection of the selection of the selection of selection of the selection of the selection of the selection of selections, recognizing that compares need to assoch and soch targe incomes of data. They due setup in that scharge are duration to the selection is the discovery of selections, recognizing that compares need to assoch and soch targe incomes of data. They due setup is the selection of the selection of the selection of the unsubles of different data basies, and tenders. They due them adoptions to use althous unsubles of different data basies, and tenders. They due these adoptions to use different types of control structures. Students document their program, using an organised approach for testing and basing the selection of the selection of the selection of the selection of the unsubles of different data basics and testing accompares of the testing and basing different data basics and testing accompares considering trans-compare interaction (PG) heuristics.	PG3 - In adhentic contexts, students follow a defined process to design, develop, store, test and evaluate digital context to address given contexts or issues, taking into account aelected software and choose her most appropriate software and file types to develop and combine digital context. Students understand the role of operating systems in managing digital devices, security, and applications adhere and are able to apply file management conventions using a marge of alonge devices. They understand the wild wild privately account evaluation software and are able to apply file management conventions using a marge of alonge devices. They understand the wild wild privately account evaluation and privately account of alonge devices.	Technological modelling Understand how evidence, reasoning, and decision making in functional modelling contribute to the development of design concepts and how prototyping can be used to justify orgoing refinement of outcomes.		Newsigning in science Develop and carry cot more complex investigations, including using model. Show an increasing assumemess of the complexity of working scientification, including recognition of multiple variables. Develop and carry cot more complex investigations. Including using model. Develop and carry cot more complex investigations. Including using models. Develop and carry cot more complex investigations. Data and the control of the investigation methods. Apply their understandings of science to evaluable bit popular and scientific tests (including visual and numerical iteracy). Lip and the large of science couldauling winds. Describe the bit popular and scientific tests (including visual and numerical iteracy). Lip consea Identify the key structural features and functions towned in the large couldant level. Describe the basic processes by which genetic information is passed from one generation to the next. Earth genetic Investigate the composition, structures, and futures of the processer, and atmosphere. Investigate the composition, structures of the populare, hydrosphere, and atmosphere. Investigate the composition, structures, and futures of the populare, hydrosphere, and atmosphere. Investigate the composition, structures of the processer Investigate the composition, structures of the populare and failer to particle structures o	Understand how people's management of resources impacts on environmental and social sustainability. Understand how the ideas and actions of people in the past have had a significant impact on people's lives.
Level 6					Investigating in science Develop and carry cat more complex investigations, including using models. Show an investigation was a the complexity of working scientification, including recognition of multiple variables. Begin to evaluate the subality of the investigation methods chosen. Communication in science Use a water range of electrice to evaluate the subality of the investigation conventions. Apply their understanding of useries to evaluate the subality of the investigation and numerical iteracy). Life processe Relate key shuchtral features and functions to the life processes of partian, animals, and micro-againest and investigate environmental factors that affect these processes. Earth oppoints Develop an understanding of how the googhene, hydroghene, attractions the order of New Zealand. Life processe Develop an understanding of how the googhene, hydroghene, attractions the order of New Zealand. Newstigate the esternal and internal processes the User and hoses and the effect of files contained Earth. Proceeding of processes Develop an understanding of how the googhene, hydroghene, attractions and the effect of files on Earth. Proceeding of physical phenomena and concepts to programs Investigate the distanctions between the scient, inter and Bayesia concepts Develop an understanding of how the googhene, interprograms Develop an understanding of how the googhene, attractions and physica concepts Develop an understanding of how the googhene, interprograms Develop and relationships in physical phenomena and concepts by equating and solving agreedons and problems and and inclusions, electrochy, electromaphene, and toxing options and problems Develop an understanding of how and advector approace file. Develop an understanding of physical phenomena and concepts by equating and solving agreedons and problems that relate to straightforward stations. Demonstrate an understanding of physical phenomena and concepts by equating and solving agreedons and problems that relate to straightforward stations. Demonstrate an u	Decography Understand that makes and an environmental taxes approximate the strategister of the strategister processes that create spacing tarteries. Understand how people interact with makeral and cutural environments and that this interaction has consequences.

MPRGP[°]

Merne	Digital Technologies	Progress Outcomes	Technology	Mathematics	Science	Social Science
morgo	Computational Thinking	Designing and Developing Digital Outcomes	loomology	manomatoo		00012 0010100
Level 7					Communicating in science Use accepted science knowledge, vocabulary, symbols, and conventions when evaluating accounts of the nutural word and consider the wider implications of the methods of communication and/ or representation employed. If processe Explore the diverse ways in which animals and plants carry out the file processes. Excloyp Explore ecological distribution patterns and explain possible causes for them the explants. Excloyp Stephers ecological distribution patterns and explain possible causes for them activity on Earth. Physical index complex the full convertses. Physical plants and plants and plants and plants and plants. Physical plants and plants and plants and plants and plants and plants and plants. Physical plants and	Beography Understand how the processes that shape natural and cultural environments change over time, vary in scale and from place to place, and create spatial patterns. Understand how people's perceptions of and interactions with natural and cultural environments (Birr and have changed over time.
Level 8					Investigating in science Investigating investigations and scientific theories and models. Investigating investigations investigations investigations investigations and scientific theories and models. Investigating investigations investig	

⊙micro:bit

Micro:bit	Digital Technologies Progress Outo	comes	Technoloay	Mathematics	Science	Social Science
Level 1	Computational Thinking	Designing and Developing Digital Outcomes				
Level 1	Compositoria miniorig	Lesging and Leverging Ligital valuaties	Planning for practice Develop a plan that identifies the key stages and the resources required to complete an outcome. Brief development Explain the outcome they are developing and describe the attitudes is should have, taking account of the need or opportunity and the resources available. Duccome development and evaluation Investigate a context to develop ideas for potential outcomes. Evaluate these against the identified is attitudes; site and develop autocomes. Evaluate the neutocome is terms of the need or opportunity. Technological modelling Understand that functional models are used to keys at the evaluate design concepts for potential outcomes and that prototyping is used to kest a technological outcome for fitness of purpose. Technological products Understand that there is a relationship have have in prototyping is used to kest a technological opticat. Technological systems Understand that technological systems have inputs, controlled transformations, and outputs. Characteristics of technology Understand that technological systems have inputs, controlled transformations, and outputs. Characteristics of technology Understand that technological systems have inputs, controlled transformations properties in a technological outcomes Market outputs.		Understanding about science Appreciate that scientists ask questions about or world that lead to investigations and that open-minidedness is important because there may be more than one explanation. Investigating in science Extend their experiences and personal explanations of the natural world frough explanation, play, asking questions, and discussing simple models. Communicating in science Build their language and develop their understandings of the marry ways the natural world can be represented. Physical indigrid and physics concepts Explore everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light, sound, waves, and heat. Chemistry and society Find out about the uses of common materials and relate these to their observed properties.	
Level 3	PQ2 - In suffectic contexts and taking account of end users, students give, follow and debug simple algorithms in computerial and non-computerial contexts. They use these algorithms to create simple programs involving outputs and sequencing jouting instructions one after the other) in age-appropriate programming environments.		Physical nature and a functional nature. Planning for parcitic Understake planning to identify the key stages and resources required to develop an outcome. Revisit planning to include reviews of progress and identify implications for subsequent decision making. Biel development Describe the nature of an interded outcome, explaining how it addresses the need or opportunity. Describe the nature of an interded outcome, explaining how it addresses the need or opportunity. Describe the way athictus that enable development and evaluate these against key athibutes to select and develop an outcome to address the need or opportunity. Describe the addresses and convolution is address the need or opportunity. Describe the addresses and convolution is address the need or opportunity. Describe and develop an outcome to address the need or opportunity. Describe and develop an outcome to address the need or opportunity. Describe the addresses and new it addresses the need or opportunity. Describe the addresses and outcome is address the need or opportunity. Describe the addresses and new its addresses the need or opportunity. Describe the addresses and new its addresses the need or opportunity. Describe the addresses and new its addresses the need or opportunity. Understand that there is a relationship between a material used and its performance properties in a technological product. Characteristics of technology. Understand that technological outcomes are recognisely and the environment and increases popule's capability. Characteristics of technological outcomes the physical and functional nature.		Investigating in science Ask questions, find evidence, explore simple molesis, and carry out appropriate investigations to develop simple explanations. Physical inquiry and physics concepts Explore, decorba, and represent patterns and transfi for everyday scamples of physical physical physical and non- contact) on the motion of objects, identify and describe every data does have dired for forces (contact and non- contact) on the motion of objects, identify and describe everyday scamples of sources of energy, forms of energy, and energy transformations. Properties and changes of matter Group materials in different ways, based on the observations and measurements of the characteristic chemical and physical properties of a range of different materials.	
Level 4	POS - In authentic contexts and taking account of and-users, students decompose problems into take-to-stap instructions to create algorithms for computer programs. They use logical thinking to protect the behaviour of the programs, and they understand that there can be more than one algorithm for the same problem. They device and dedug and programs that use programs that use sequence and iteration (repealing part of the algorithm with a loop). They understand that digital devices store data using just two states represented by binary digits (bits).	P02 - In authentic contexts and taking account of end- users, students make decisions about creating, manipulating, science, activation, stanting and testing digital content for a specific purpose, given particular parameters, tooks and testingues they understand that digital devices impact on humans and sociely and that both the devices and their impact change over time. Students identify the specific role of components in a simple input process-output system and how they work together, and they recognise the "control role" that humans have in the system. They can select from an increasing range of applications and file lypes to develop outcomes for particular purposes.	Planning for practice Understand planning to identify the key stages and resources required to develop an outcome. Revisit planning to include reviews of progress and identify implications for subsequent decision making. Bef development Describe the nature of an intended outcome, explaining how it addressases the need or opportunity. Describe the nature of an intended outcome, explaining how it addressases the need or opportunity. Describe the key attributes that enable development and evaluation of an outcome. Mutcome development and evaluation Investigate a context to develop ideas for potential outcomes. That and evaluate approximation is a planning to be applied and the subsect and develop an outcome to address the need or opportunity. Evaluate this outcome approximation and evaluation Inderstand that functional models are used to bacplan need on a potential outcome shows an how it addressase the need or opportunity. Understand that functional models are used to bacplan need on the subsect outcome approximation to address and how it addressase the need or opportunity. Understand that there is a relationship between a material used and its performance properties in a technological product. Technological spetems Understand that there are relationship between there in the subscript outcome Characteristics of technology Understand that technological outcome fact a changes such yand the evaluation increases people's capability. Characteristics of technology Inderstand that technological outcomes are functional products Characteristics of technology Inderstand that technological outcomes are negatively as a classification		Investigating in science Ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple explanations. Physical inquiry and physica concepts electricity and magnetism, light sound, waves, and host. For example, leaded is physical phenomena, such as movement, forces, electricity and magnetism, light sound, waves, and host. For example, leaded by and discorbe the direct of forces (contact and non- contact) on the motion of objects, identity and describe everyday examples of sources of energy, forms of energy, and energy transformations. Properties and changes of matter Group materials in different ways, based on the observations and measurements of the characteristic chemical and physical properties of a range of different materials.	

○micro:bit

Micro:bit	Digital Technologies Progress Outcomes		Technology	Mathematics	Science	Social Science
	Computational Thinking	Designing and Developing Digital Outcomes	Planning for practice			
			vianing for practice Undertake planning that includes reviewing the effectiveness of past actions and resourcing, exploring implications for future actions and accessing of resources, and consideration of stakeholder feedback, to enable the development of an outcome.			
Level 5	PO4 - In authentic contexts and taking account of end-users, students decompose problems to create simple algorithms using the three building blocks of programing: sequence, selection, and terration. They implement the adjoint here you compare that use injust outputs, sequence, back celection using comparative compared with their instructions during and comparative grammary and terration. They debug simple algorithms and program by identifying when this gas overage with their instructions and correcting them, and they are able to explain why things went wrong and how they fixed them. Students understand that digital devices represent data with binary digits and have ways of detecting errors in data storage and transmission. They evaluate the efficiency of adjorithms. They call be adjorithms they are adjored to adjorithms, recogning that computers need to search and sort large amounts of data. They also evaluate user proferms in dia gorithms. They call be adjorithms to the efficiency of adjorithms. They call be adjorithms to the efficiency of adjorithms, devalues adjorithms. They call be adjorithms to the efficiency of adjorithm. They call be adjorithms to adjore them programs with ingle, duputs, sequence, selection using comparative and logical gorators and variables of different data types, and theration. They determine the to be different types of control studues. Students document their programs, using an cognistic adjorshors the develop understand have complex syste of data using huary display and they are considering human-computer interaction (HCI) heuristics.	P03 - In auftentic contexts, students follow a defined process to design, develop, store, test and evaluate digital content to address when contexts or lesses, taking into account immediate social, efficial and end-user considerations. They divertify the key features of selected software and choose the most appropriate software and the types to develops and continue dipital content. Students understand the role of operating systems in managing digital contents. Addresses sourch yan adjunction software and are able to apply file management conventions using a roung of storage devices. They understand that with storing data comes responsibility for ensuring security and privacy.	Bield development Bield development Justify the nature of an infended outcome in reliation to the need or opportunity. Describe the key attributes identified in stakeholder feedback, which will inform the development of an outcome and its exatiation. Outcome development and evaluation investigate a context to develop loss for lossible outcomes. Undertake functional modelling that takes account of takeholder feedback, which will inform the development of an outcome and its account of takeholder feedback, which will induce the state of the state darkers the key attributes, incorporating stakeholder feedback, evaluate the outcome's times for purpose in terms of how well raddresses the need or opportunity. Technological modeling are used to explore possibilities and to justify decision making and how prototyping can be used to justify reference to technological automes. Technological products Understand how technological stemes mellor, control to allow for the transformation of inputs to outputs. Characteristics of technology Understand how technological development aparade human possibilities and how technological darkers		Investigating in science Develop and carry out more complex investigations, including using models. Physical inquiry and physics concept Identify and describe the patterns associated with physical phonema found in simple everyday shuatons involving movement, forces, electricity and magnetism, light, sound, waves, and heat. For example, identify and describe energy charges and conservation of energy, simple electrical circuits, and the effect of contact and non-contact on the motion of objects.	
			Characteristics of technological outcomes Understand that technological outcomes can be interpreted in terms of how they might be used and by whom and that each has a proper function as well as possible alternative functions.			
Level 6	POG -in authentic contexts and taking account of end-users, students determine and compare the "cost" (computational complexity) of two iterative algorithms for the same problem size. They understand the concept of compression coding for different media types, its typical uses, and how it enables widely used technologies to function. Students use an iterative process to design, develop, document and test basic computer programs. They apply design principles and usability heuristics to their own designs and evaluate user interfaces in terms of them.	PO4 - In authentic contexts, students investigate and consider possible solutions for a given context or issue. With support, they use in iterative process to design, develop, store and test digital automesis, identifying and evaluating relevant social, ethicial and end-user considerations. They use information from testing and poly appropriate tools, technique, procedures and protocols to improve the quality of the outcomes and to ensure they are the 'o-purpose and meet end-user requirements.	The second		Investigating in science Develop and carry out more complex investigations, including using models. Physical inquiry and physics concepts Investigate trends and relationships in physical phenomena in the areas of means, electricity, electromagnetism, heat, light and waves, and atomic and nuclear physics).	
Level 7		Pub - in authentic contexts and with subjort, students meetings a specialised digital berchoolses are of to example, digital media, digital information, electronic and process possible solutions to issue the leftiful random service and the solution to issue the leftiful responding break digital advormes the leftiful exects, size and the digital advormes the reads their solutions, identifying, exatating, prioritising and encoding the reads solution to issue and end-user considerations. They use information from testing and/ the increasing context social, efficient and end-user considerations. They use information from testing and/ the increasing context social, efficient and end-user considerations. They use information from testing and/ the increasing context social, efficient and end-user consolmes. They apply evaluative processes to ensure the outcomes are fif-for-purpose and meet end-user magraments.	Technological products Understand the concepts and processes employed in materials evaluation and the implications of these for design, development, maintenance, and disposal of technological products. Technological systems Understand the concepts of refundancy and reliability and their implications for the design, development, and maintenance of technological systems Charactericities of technological systems Understand that technological couldonnes Understand that technological couldonnes are a resolution of form and function priorities and that mailfunction affects how people view and accept outcomes.		Investigating in science Develop and carry out investigations that extent the science knowledge, including developing their understanding of the relationship between investigations and scientific theories and models. Physical inquiry and physics concepts Investigate physical phenomena (in the areas of mechanics, electricity, electromagnetism, light and waves, and atomic and nuclear physical and produce qualitative and quantitative explanations for variety of infamiliar shaultons. Analyse data to deduce complex trends and relationships in physical phenomena.	
Level 8		FV0- In authentic contexts, students independiently intestigate a specialised digital technologies area and propose possible solutions to issues they identify. They work independiently or within calaboarhae, cross- functional teams to apply an iterative development field-organes digital outcomes that enable their solutions synthesising relaxen social, efficial and end-user considerations as they develop digital content. Suddenator integrate in the outcomes they develop specialised knowledge digital applications and systems from a range of areas, including network architecture, complex electronics environments and embedded systems; interrelated computing devices, hardware and opplications; digital information; and creative digital indication; and creative digital indication; and creative digital indication; and creative digital indication; and creative digital context digital indication; and creative digital indication; and creative digital indication; and creative digital context digital indication; and creative digital indication; and c	Technological products Understand the concepts and processes employed in materials development and evaluation and the implications of these for design, development, maintenance, and disposal of technological products. Technological systems Understand operational parameters and their role in the design, development, and maintenance of technological systems.		Investigating in science Develop and carry out investigations that extend their science knowledge, including developing their understanding of the relationship between investigations and scientific theories and models. Physical inquiry and physics concepts Investigate physical phenomera (in the mass of machinac), exclicitly, electromagnetism, ight and waves, and atomic and nuclear physical and produce qualitative and quantitative explanations for a variety of complex situations. Analyse and evaluate data to deduce complex trends and relationships in physical phenomera.	

ozoboť:

AOPO ALIGNMENT

Ozobot	Digital Technologies Progress Outcomes		Technology Mathematics		Science	Social Science
020001	Computational Thinking	Designing and Developing Digital Outcomes	lecinology	Wathematics	0000000	
	P01 - In authentic contexts and taking account of and-users, students use their decomposition skills to break down simple non-computerised tasks into precise, unambiguous, step-by-step instructions (algorithmic thinking). They give these instructions, identify any errors in them as they are followed, and correct them (simple debugging).		Planning for practice Outline a general plan to support the development of an outcome, identifying appropriate steps and resources. Brief development Describe the outcome they are developing and identify the attributes it should breat tables occurs and the processor of the poor of a report table.		Understanding about science Appreciate that scientists ask questions about our world that lead to junctifications and that ename inderdence is important because them must be	
Level 1			Neve, taking account on the need or opportunity and the resources avalable. Outcome development and evaluation Investigate a context to communicate potential outcomes. Evaluate these against attributes; select and develop an outcome in keeping with the identified attributes. Technological modelling Understand that functional models are used to present reality and test design concepts and that prototypes are used to test technological outcomes.	Position and orientation Give and follow instructions for movement that involve distances, directions, and hair or quarter turns. Describe their position relative to a person or object.	more than one explanation. Investigating in science Extend their experiences and personal explanations of the natural world through exploration, play, asking questions, and discussing simple models. Physical inquiry and physics concepts Explore everyday examples of physical phenomena, such as movement, forces, electricity and mannetism libit, sund, wares and heat	
			Technological systems Understand that technological systems have inputs, controlled transformations, and outputs. Characteristics of technology	eecuncity and magnetism, tight, sound, waves, Seek and describe simple patterns in physical ph		
			Understand that technology is purposeful intervention through design.			
			Planning for practice Develop a plan that identifies the key stages and the resources required to complete an outcome.			
	P01 - In authentic contexts and taking account of end-users, students use their decomposition skills to break down simple non-computerised tasks into precise, unambiguous, step-by-step instructions (algorithmic thinking). They give these instructions, identify any errors in them as they are followed, and correct them (simple debugging).	DO1 In authentic contexts and taking account of and	Brief development Explain the outcome they are developing and describe the attributes it should have, taking account of the panel or constructive and the resources available	Measurement Create and use appropriate units and devices to measure leasth area volume and capacity weight (mace) turn	Investigating in science Build on prior experiences, working together to share and examine their own and	
		users, students participate in teacher-led activities to develop, manipulate, store, retrieve and share digital	Outcome development and evaluation	(angle), temperature, and time.	Ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple explanations.	
Level 2		content in order to meet technological challenges. In doing so, they identify digital devices and their purposes and	Investigate a context to develop ideas for potential outcomes. Evaluate these against the identified attributes; select and develop an outcome. Evaluate the	Shape Sort objects by their spatial features, with justification.	Physical inquiry and physics concepts	
		use some applications, they can identify the inputs and outputs of a system, and they understand that digital	oucome in terms of the need of opportunity. Technological modelling	Position and orientation Create and use simple maps to show position and	Explore, describe, and represent patients and trends for everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light, sound, waves, and heat. For example, identify and describe the effect of	
		devices store content, which can be retrieved later.	Understand that functional models are used to explore, test, and evaluate design concepts for potential outcomes and that prototyping is used to test a technological outcome for fitness of purpose.	direction. Describe different views and pathways from locations on a map.	forces (contact and non-contact) on the motion of objects; identify and describe everyday examples of sources of energy, forms of energy, and energy transformations.	
			Technological systems Understand that there are relationships between the inputs, controlled transformations, and outputs occurring within simple technological systems.			
			Planning for practice			
			Undertake planning to identify the key stages and resources required to develop an outcome. Revisit planning to include reviews of progress and identify implications for subsequent decision making.		Investigating in science Build on prior experiences, working together to share and examine their own and charge" leagueded	
			Brief development Describe the nature of an intended outcome, explaining how it addresses the need	Measurement	Ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple explanations.	
	PO2 - In authentic contexts and taking account of end-users, students give, follow and debug simple algorithms in computerised and non-computerised contexts. They use these algorithms to		or opportunity. Describe the key attributes that enable development and evaluation of an outcome.	Use linear scales and whole numbers of metric units for length, area, volume and capacity, weight (mass), angle, temperature, and time	Physical inquiry and physics concepts Evolute describe and represent patterns and trends for everyday examples of	
Level 3	create simple programs involving outputs and sequencing (putting instructions one after the other) in age-appropriate programming environments.		Outcome development and evaluation Investigate a context to develop ideas for potential outcomes. Trial and evaluate	Position and orientation	physical phenomena, such as movement, forces, electricity and magnetism, light, sound, waves, and heat. For example, identify and describe the effect of	
			these against key attributes to select and develop an outcome to address the need or opportunity. Evaluate this outcome against the key attributes and how it addresses the need or opportunity.	Use a co-ordinate system or the language of direction and distance to specify locations and describe paths.	forces (contact and non-contact) on the motion of objects; identify and describe everyday examples of sources of energy, forms of energy, and energy transformations.	
			Technological modelling			
			making in the development of technological possibilities and that prototypes can be			
			used to evaluate the fitness of technological outcomes for further development.			

ozoboť:

Ozobot	Digital Technologies Progress Outcomes		Technology	Mathematics	Science	Social Science
	Computational Ininking	Designing and Developing Digital Outcomes				
Level 4	P03 - In authentic contexts and taking account of end-users, students decompose problems into step-by-step instructions to create algorithms for computer programs. They use logical thinking to predict the behaviour of the programs, and they understand that there can be more than one algorithm for the same problem. They develop and debug simple programs that use inputs, outputs sequence and iteration (repeating and of the algorithm with a loop. They understand that digital devices store data using just two states represented by binary digits (bits).	PO2 - In authentic contexts and taking account of end- users, students make decisions about creating, manipulating, storing, retrieving, sharing and testing digital content for a specific purpose, given particular parameters, tooks, and techniques. They understand that digital devices impact on humans and society and that both the devices and their impact change over time. Students identify the specific role of components in a simple input-process-output system and how they work, together, and they recognise the "control role" that humans have in the system. They can select from an increasing range of applications and file types to device output purposes.	Technological systems Understand how technological systems employ control to allow for the transformation of inputs to outputs. Characteristics of technological outcomes Understand that technological outcomes can be interpreted in terms of how they might be used and by whom and that each has a proper function as well as possible alternative functions.	Measurement Use appropriate scales, devices, and metric units for length, area, volume and capacity, weight (mass), temperature, angle, and time. Convert between metric units, using whole numbers and commonly used decimals. Use side or edge lengths to find the perimeters and areas of rectangles, parallelograms, and triangles and the volumes of cuboids. Position and orientation communicate and interpret locations and directions, using commass directions, distances, and grid references.	Physical inquiry and physics concepts Identify and describe the patterns associated with physical phenomena found in simple everyday situations involving movement, forces, electricity and magnetism, light, sound, aveas, and heat. For example, leidnifty and describe energy changes and conservation of energy, simple electrical circuits, and the effect of contact and non-contact on the motion of objects.	
Level 5	 PO5 - In authentic contexts and taking account of end-users, students decompose problems to rereate simple adjortimus using the three building blocks of programing, sequence, selection, and terration. They implement these abjord blocks of programing sequence, backs calculation, and the set adjord blocks of programing sequence, backs calculation, and programs by identifying when things go wrong with their instructions and correcting them, and they are able to explain why things went wrong and how they fixed them. Students understand that digital devices represent data with binary digits and have ways of detecting errors in data storage and transmission. They valuate the efficiency of algorithms, recognising that computers need to search and sort large amounts of data. They also evaluate user interfaces in reliation to their efficiency and usability. PO5 - In authentic contexts and taking account of end-users, students independently decompose problems into algorithms. They use these algorithms to create programs with inputs, outputs, sequence, addection using comparative and logical operators and variables of different data types, and teation. They detemine when to use different types of control structures. Students document their programs, using an organised approach for testing and debugging. They understand how computers store more complex types of data using binary digits, and they develop programs considering human-computer interaction. 					

PRIMO

Cubatta	Digital Technologies Proc	aress Outcomes	Tochnology	Mathematics	Science	Social Science
Gubello	Computational Thinking	Designing and Developing Digital Outcomes	rechilology	iviau idilialies	SUBICE	Sucial Science
Level 1	P01 - In authentic contexts and taking account of end-users, students participate in teacher-led activities to develop, manipulate, store, retrieve and share digital content in order to meet technological challenges. In drain so, they identify digital devices and their purposes and understand that thumars make them. They know how to use one applications, they can identify the inputs and outputs of a system, and they understand that digital devices store content, which can be retrieved later.		Planning for practice Outline a general plan to support the development of a outcome, identifying appropriate steps and resources. Technological systems Understand that technological systems have inputs, controlled transformations, and outputs. Characteristics of technology Understand that technology is purposeful intervention through design.	Number strategies Use a range of counting, grouping, and equal-sharing strategies with whole numbers and fractions: Know the forward and backward counting sequences of whole numbers to 100. Equations and expressions Communicate and explain counting, grouping, and equal-sharing strategies, using words, numbers, and pictures. Communicate and explain counting, grouping, and equal-sharing strategies, using words, numbers, and pictures. Generalise that the next counting the numbers of depicts in a set tells how many. Create and continue sequential patterns. Order and compare objects or events by length, reax, volume and capacity, weight (mass), turn (angle), temperature, and there by direct comparison and/or counting whole numbers of units. Give and follow instructions for momenment that involve distances, afrections, and half or quarter tures. Describe their position relative to a person or object.	Understanding about science Appreciate that soleritists as duestions about our world that lead to investigations and that open-minidedness is important because there may be more than one explanation. Investigating in science Extend their experiences and personal explanations of the natural world through exploration, play, asking questions, and discussing primple models. Communicating in science Build their language and devolute the persentiation.	
Level 2		P01 - In authentic contexts and taking account of end-users, students participate in teacher-led activities to develop, manipulate, store, retrieve and share digital content in order to met storehoologic al challenges. In doing os, they denthy digital devices and their purposes and understand that humans make them. They know how to use some applications, they can identify the inputs and outputs of a system, and they understand that digital devices store content, which can be retrieved later.	Planning for practice Develop a plan that identifies the key stages and the resources required to complete an outcome. Technological systems Understand that there are relatoristic between the inputs, controlled transformations, and outputs occurring within simple technological systems.	Number strategies Use simple additive strategies with whole numbers and fractions. Number knowledge Know forward and backward counting sequences with whole numbers to at least 1000. Know forward and backward counting sequences with whole numbers to at least 1000. Know forward and backward counting sequences with whole numbers to at least 1000. Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols. Consumicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols. Create and use appropriate units and devices to measure length, area, volume and capacity, weight (mass), turn (angle), temperature, and time. Position and orientation Oreate and use simple maps to show position and direction. Describe different views and pathways from locations on a map.	Physical inquiry and physics concepts Explore everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, ingrit, sound, waves, and heat. Seek and describe simple patterns in physical phenomena.	
Level 3	P02 - In authentic contexts and taking account of end-users, students give, follow and debug simple algorithms in computerised and non-computerised contexts. They use these algorithms to create simple programs involving outputs and sequencing (putting instructions one after the other) in age-appropriate programming environments.					



Raspberry Pi	Digital Technologies Progress Outcomes		Technology	Mathematics	Science	Social Science
Level 1	Computational Thinking	Designing and Developing Digital Outcomes				
Level 2		POT -In aufhentic contents and taking account of end-users, students participate in teacher-led achtrites to develop, maniputate, store, retrieve and stare digital content in order to meet technological calaneges. In doing to, hey lednift gidgital devices and their purposes and understand that humans make them. They know how to use some applications, they call heating the implicat devices and their purposes they understand that digital devices attree content, which can be extrained taker.	Planning for practice Develop a plan that identifies the key stages and the resources required to complete an outcome. Brief development Explain the outcome they are developing and describe the attributes it should have, laking account of the need or opportunity and the resources available.			
			Outcome development and evaluation Investigate a context to develop loads for predited automotics. Beautiste these against the is identified attributes; select and develop an outcome. Evaluate the outcome in terms of the need or opportunity. Evaluate the outcome in terms of the need or opportunity. Understand that functional models are used to explore, test, and evaluates design concepts for potential outcomes and that prototyping is used to test a technological product. Cechnological products Understand that there is a relationship between a material used and its performance properties in a technological product. Cechnological products Understand that there is a relationship between a material used and its performance properties in a technological product. Cechnological systems Understand that technological systems Censeling of the instruction terms of the material test of the instruction terms. Cechnological systems Description terms of the instruction terms of the material description terms of the instruction terms.			
			Understand that exclusions are projected and exclusion intervention intervention intervention intervention. Characteristics of technological outcomes Understand that technological outcomes are products or systems developed by people and have a physical nature and a functional nature.			
Level 3	P02 - In authentic contexts and taking account of end-users, students give, lotiou and obtaus simple algorithms in computerised and non-computerised contexts. They use these algorithms to create simple programs inviting audust and accencing batting instructions one after the other) in age-appropriate programming environments.		Pinning for practic Pinning for practic Undertake planning to identify the key stage and resources enquired to develop an outcome. Revisit planning to include reviews of progress and identify implications for subsequent diacions. Revisit planning to include reviews of progress and identify implications for subsequent diacions. Revisit development Describe the nature of an intended outcome, explaining how it addresses the need or opportunity. Describe the key attributes that enable development and availation of an outcome. Postone development and availation of an outcome. Technological modeling Understand that there is a relationship between the lay attributes of progress in a technological optione Understand that there is a relationship between an material used and its performance properties in a technological product. Technological systems Understand that there is a relationship between the Input, consider termological systems. Characteristics of technology Understand that there are relationships between the Input, consider termological systems. Characteristics of technology Understand that technology both relations and changes society and the environment and increases people's capability. Characteristics of technology			
Level 4	P03 - In authentic contexts and taking account of end-users, students decompose problems into lasp-by-tadp instructions to create algorithms for contracter programs. Take your existent that the predict he harhwise of the programs, and they understand that develop and debug relayed structure is replacible to the sequence and treation (preparing part of the algorithm with a loog). They understand that digit devices store data using just two states represented by binary digits (bibl).	P92. In adhetic contacts and taking account of end-scars, students mise decisions about creating, manpataling, storing, interleng, sharing and testing diplat content for a specific purpose, given particular granameters, took, and techniques, they understand that diplat devices impact on humans and society and that tooth the devices and their impact change over time. Students identify the specific role of components in a simple input- process-output speaking and they work bugstile, and they process-output speaking rung of agricultures and the types select from an increasing rung of agricultures and the types to develop outcomes for particular purposes.	Understand that lacknological aductomes are recognisable as fit for purpose by the relationship between their physical and functional natures. Pening for practice Understate planning that includes releaving the effectiveness of part actions and resourcing, exploring implications for thure actions and accessing of resources, and consideration of stakeholder between their bytes and the development of an automate Media development and an automate and the seatable of the seatable relations. Determed the context in the development of an automate and its evaluation. Determed the context in the development of an automate and the seatable of the seatable feedback, which we inform the development of an automate and the seatable of the seatable feedback in the seatable			



Raspberry Pi	Digital Technologies Progress Outcomes Computational Thinking Designing and Developing Digital Outcomes	Technology	Mathematics	Science	Social Science
Level 5	 POI - In authentic contents and billing account of end-sears, students docromose problems to create size principle algorithms size in processing principle algorithms size in processing principle algorithms size in processing principle algorithms and programs size principle and size size size size size size size size	Planning for practices Analyse their own and others' planning practices to inform the selection and use of planning tools. Use these to support and justify planning decisions (including those relating to the management of rescuess generations) and others' planning tools. Use these to support and justify planning decisions (including those relating to the management of rescuess generations). Asstify the nature of an intended outcome in relation to the need or opportunity. Describe specifications that reflect key stakeholder feedback and that will inform the development of an accome the valuation. 0 Outcome development and exclusions. Analyse their own and others' outcomes to inform the development of an accome the valuation. Outcome development and exclusions. Analyse their own and others' outcomes to inform the development of datas for fastelis accomes. Understand modelling and develop the outcome that best addresses the specifications. Feature the first outcome's fitness for purpose against the trief. 0 Bit development that best addresses the specifications. Feature the first outcome's fitness for purpose against the trief. 0 Developing can be used to justify organ investoring at functional modelling contribute to the development of design concepts and how proteining on the use is justify organ investoring at the standard to properties of adaptions. 0 Developing can be used to justify organ investoring at development of design concepts and how proteining and develop the outcome that best addresses the special systems. 0 Developing can be used to be propereve			
Level 6	POG - In authentic contexts and taking account of end-users, students determine and compare the "cost" (computation complexity) of two larsteve algorithms for the same problem also. They understand the concept of comparison costs of the sign events contain of the same contain of the same contain the subtract set and the same problem also. They understand the concept of a given contain of the same the subtract for a given contain of the same the subtract metal hypes, its typical uses, and how it enables widely used test basic compares (basic), develop, document and usability heuristics to their own designs and evaluate user interfaces in terms of them.	Planning for practice Planning for practice Critically analyses their own and others' past and current planning practices in northor make informed selection and effective use of planning book. Use these is support and pashy regime planning in planning in the will be the development of an outcome through the completion. Lastity the nature of an intended outcome in relation to the intender of coponning and columns. Under the development and evaluation Officially analyses their own and others' past inform the development of development. Officially analyses their own and others' automass to inform the development of development. Officially analyses their own and others' automass to inform the development of development. Officially analyses their own and others' automass to inform the development of development. Officially analyses their own and others' automass to inform the development. Officially analyses their own and others' automass. Officially analyses their own and others' automass. Officially analyses their own and others' automass. Difficially analyses their own and others' automass automassether own analysing firsk through techenological mod			



Raspberry Pi	Digital Technologies Computational Thinking	Progress Outcomes Designing and Developing Digital Outcomes	Technology	Mathematics	Science	Social Science
			Planning for practice Planning for practice Citically analyse their own and others' past and current glamming and management practices in order to develop and employ project management practices that will ensure the effective development of an outcome to completion. Brief development Justify the nature of an intended outcome in relation to the isses to be resolved and justify specifications in terms of key stakeholder freedback and			
Level 7	PD7. In sufficientic contents and taking account of end-same, substrates analyses concepts in digital technologies (fit example, inderimitial substrates), and the substrates of the substrates trates and the substrates of the substrates of the mechanisms that underpit here, how they are used in real world in applications, and the key problems or issues related to them, is substrate adioxas the purpose of a selection of data structure and storage requirements of these of the substrate againtman. If they use an intervent the substrate storage concerning and advanced computer programs.	contexts and taking account of end users, nexpts in digital technologies (for example, accryption, entro cottad, completely and account of the state of the state of the state of the state of the state of the state of the state of the state of the state of the end of the state o	wider community considerations. Diacone development and evaluation Critically analyse their own and others' outcomes and evaluation that is informed by organic specifications and evaluation that is informed by organic specifications and inclusion including, is deviced to the development of ideas for feasible outcomes. Undertake a environments, Use the information agrice to solid, tability and evelops an outcome. Schulable this accored by the evaluation, using feedback from diskenoldies and demonstrating a critical understanding of the asset. Justify the evaluation, using feedback from diskenoldies and demonstrating a critical understanding of the asset. Technological products			
			Understand the concepts and processes empiryed in materials evaluation and the implications of these for design, development, maintenance, and disposal of technological products. Technological systems Understand the concepts of redundancy and reliability and their implications for the design, development, and maintenance of technological systems.			
			Characteristics of technology Understand the implications of ongoing contestation and compiling priorities for complex and innovative decision making in technological development.			
			Characteristics of technological outcomes Understand that technological outcomes are a resolution of form and function priorities and that mailunction affects how people view and accept outcomes.			
			Planning for practice Critically analyse their own and others' past and current planning and magament practices in order to develop and employ project management practices that will ensure the efficient development of an outcome to completion.			
		As and taking account of end-uners, sausses the sight behaviory as a sausses the sight behaviory asausses the sight behaviory as a sausses the sight behaviory as a s	Brief development Justify the nature of an intended outcome in relation to the contrait and such as the bit resolved. Justify specifications in terms of key stakeholder feedback and write community considerations.			
Level 8	P08 - In suthertic contexts and taking account of end-sees, students evaluate concepts in digital technologies for example, formal language, networks communication protocios, artificia intelligence, graphics and visaal computing, lip data, social agoritming in relation to how key machanism underpin them and how they are applied in different scorarus when developing real world agoritations.		Outcame development and evaluations in order via the state of the stat			
			Technological modelling Understand the role of technological modelling as a key part of technological development, justifying its importance on monal, ethical, sustainable, cultural, patitical, economic, and historical grounds.			
	Students understand accepted software engineering methodologies and user experience design processes and apply their key concepts to design, develop, document and test complex computer programs.		Technological products Understand the concepts and processes employed in materials evelopment, maintenance, and disposal of technological products.			
		media.	Technological systems Understand operational parameters and their role in the design, development, and maintenance of technological systems.			
			Characteristics of technology Understand the implications of technology as intervention by design and how interventions have consequences, known and unknown, intended and unintended.			
			Characteristics of technological outcomes Understand how technological outcomes can be interpreted and justified as fit for purpose in their historical, cultural, social, and geographical locations.			



Roboblog	Digital Technologies Progress Out	comes	Technology	Mathematics	Science	Social Science
	Computational milliong	ceaging and beveruping bigital outcomes		Number strategies Use a rance of countino, croupino, and equal-styration strategies with whole numbers and fractions		
			Technological products Understand that technological products are marker from materials that have performance properties.	When the second se		
Level 1			Technological systems Understand that technological systems have inputs, controlled transformations, and outputs.	Equations and expressions Communicate and explain counting, grouping, and equal-sharing strategies, using words, numbers, and pictures.		
			Characteristics of technology Understand that technology is purposeful intervention through design.	Measurement Order and compare objects or events by length, zere, solume and capacity, weight (mass), turn (angle), temperature, and time by direct comparison and/or counting whole numbers of units.	Understanding about science Appreciate that scientists ask questions about our world that lead to investigations and that open-mindedness is important because there may be more than one explanation.	
				Position and orientation Give and foliow instructions for movement that involve distances, directions, and half or quarter turns. Describe their position relative to a person or object. New New Extratavises	Investigating in science Extend their experiences and personal explanations of the natural world through exploration, play, asking questions, and discussing simple models.	ļ
			Planning for practice Develop a plan that identifies the key stages and the resources required to complete an outcome.	Use simple additive strategies with whole unmbers and fractions.	Communicating in science Build their language and develop their understandings of the many ways the natural world can be represented.	
		P01 -In authentic contexts and taking account of end- users, students participate in teacher-led activities to develop manipulate store rotriave and text divital	Technological products Understand that there is a relationship between a material used and its performance properties in a technological product.	Know forward and backward counting sequences with whole numbers to at least 1000. Know the basic addition and subtraction facts.	Physical Inquiry and physics concepts Explore everyday examples of physical phenomena, such as movement, forcea, electricity and magnetism, light, sound, waves, and heat. Seek and describe simple patterns in physical phenomena.	
Level 2		content in order to meet technological challenges. In doing so, they identify digital devices and their purposes and understand that humans make them. They know how to	Technological systems Understand that technological systems have inputs, controlled transformations, and outputs.	Equations and expressions Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols.		
		use some applications, they can identify the inputs and outputs of a system, and they understand that digital devices store content, which can be retrieved later.	Characteristics of technology Understand that technology is purposeful intervention through design.	Measurement Create and use appropriate units and devices to measure knopft, area, volume and capacity, weight (mass), tum (angle), temperature, and time.		
			Characteristics of technological outcomes Understand that technological outcomes are products or systems developed by people and have a physical nature and a functional nature.	Position and orientation Create and use simple maps to show position and direction. Describe different views and pathways from locations on a map.		
			Undertake planning to identify the key stages and resources required to develop an outcome. Revisit planning to include reviews of progress and identify implications for subsequent decision making.		Understanding about science Appreciate that science is a way of explaining the world and that science knowledge changes over time.	
			Brief development Describe the nature of an intended outcome, explaining how it addresses the need or opportunity. Describe the key attributes that enable development and evaluation of an outcome.		identity ways in which scientists work ingenier and provide volvation to support their ideas. investigating in science Build on prior experiences, working together to share and examine their own and others' leowidedge.	
Level 3	PO2 - In authentic contexts and taking account of end-users, students give, follow and debug simple algorithms in computerised and non-computerised contexts. They use these algorithms to		Outcome development and evaluation Investigate a context to develop ideas for potential outcomes. Trial and evaluate these against key attributes to select and	Measurement Use linear scales and whole numbers of metric units for length, area, volume and capacity, weight (mass), angle, temperature, and time.	Ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple explanations. Communicating in science	
	create simple programs involving outputs and sequencing (putting instructions one after the other) in age-appropriate programming environments.		develop an outcome to address the need or opportunity. Evaluate this outcome against the key attributes and how it addresses the need or opportunity.	Position and orientation Use a co-ordinate system or the language of direction and distance to specify locations and describe paths.	Begin to use a range of scientific symbols, conventions, and vocabulary. Engage with a range of science tests and epin to question the purposes for which these tests are constructed.	
			Understand that there are relationships between thrups, controlled transformations, and outputs occurring within simple technological systems.		Physical industry and physics concepts Explore, describe, and represent patterns and trends for everytely examples of physical phonomena, such as movement, forces, electricity and magnetism, light, sound, waves, and heat. For example, identify and describe the effect of forces (contact and non-contact) on the motion of objects; identify and describe everytag examples of sources of energy. General contact and phone rearror under every transformations.	
			Characteristics of technological outcomes Understand that technological outcomes are recognisable as fit for purpose by the relationship between their physical and functional instarces.			
			Planning for practice Undertake planning that includes reviewing the effectiveness of past actions and resourcing, exploring implications for future actions and accessing of resources, and consideration of stakeholder feedback, to enable the development of an outcome		Understanding about science	
			Brief development Justify the nature of an intended outcome in relation to the need or opportunity. Describe the key attributes identified in		Appreciate that science is a way of explaining the world and that science knowledge changes over time. Identify ways in which scientists work together and provide evidence to support their ideas.	
	P03 - In authentic contexts and taking account of end-users, students decompose problems into step-by-step instructions to create algorithms for computer programs. They use logical thinking to		stakeholder feedback, which will inform the development of an outcome and its evaluation. Outcome development and evaluation	Measurement Use appropriate scales, devices, and metric units for length, area, volume and capacity, weight (mass), temperature, angle, and time.	Investigating in science Build on prior experiences, working together to share and examine their own and others' knowledge. Ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple explanations.	1
Level 4	predict the behaviour of the programs, and they understand that there can be more than one algorithm for the same problem. They develop and debug simple programs that use inputs, outputs, sequence and leration (repeating part of the algorithm with a loop). They understand that digital devices store date using hist than table normalized by binary divide thits).		Investigate a context to develop ideals for reasine outcomes, undertake functional modeling that takes account of stakeholder feedback in order to select and develop the outcome that best addresses the key attributes. Incorporating stakeholder feedback, evaluate the outcome's fitness for purpose in terms of how well it addresses the need or opportunity	Convert between metric units, using whole numbers and commonly used decimals. Position and orientation	Communicating in science Begin to use a range of selentific symbols, conventions, and vocabulary. Forease with a range of science truth can drawn for a writer the number of or which these tarks are constructed	
			Technological systems Understand how technological systems employ control to allow for the transformation of inputs to outputs.	Communicate and interpret locations and directions, using compass directions, distances, and grid references.	Physical inquiry and physics concepts Explore, describe, and represent patterns and trends for everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light,	
			Characteristics of technology Understand how technological development expands human possibilities and how technology draws on knowledge from a wide range of disciplines.		sound, waves, and heat. For example, identify and describe the effect of forces (contact and non-contact) on the motion of objects; identify and describe everyday examples of sources of energy, forms of energy, and energy transformations.	
			Characteristics of technological outcomes Understand that technological outcomes can be interpreted in terms of how they might be used and by whom and that each has a proper function as well as possible alternative functions.			
	PO4 - In authentic contexts and taking account of end-users, students decompose problems to create simple algorithms using the three building blocks of programing: sequence, selection, and iteration. They implement these algorithms by creating programs that use inputs, outputs, requeece, building decomposition context and therefore They define the decomposition of the decomposition				Investigating in science	
	algorithms and programs by identifying when things go wrong with their instructions and correcting them, and they are able to explain why things went wrong and how they fixed them.		Planning for practice Analyse their own and others' planning practices to inform the selection and use of planning tools. Use these to support		Develop and carry out more complex linestigations, including using models. Show an increasing awareness of the complexity of working scientifically, including recognition of multiple variables. Begin to evaluate the suitability of the investigative methods chosen.	
	Students understand that digital devices represent data with binary digits and have ways of detecting errors in data storage and transmission. They evaluate the efficiency of algorithms, recognising that computers need to search and sort large amounts of data. They also evaluate user		and justify planning decisions (including those relating to the management of resources) that will see the development of an outcome through to completion.	Shape	Communicating in science Use a wider range of science vocabulary, symbols, and conventions. Apple their understandards and provide the the overall conditional and provide the science of science of the	
Level 5	interfaces in relation to their efficiency and usability. P05 - In authentic contexts and taking account of end-users, students independently decompose		Justify the nature of an intended outcome in relation to the need or opportunity. Describe specifications that reflect key stakeholder feedback and that will inform the development of an outcome and its evaluation.	Deduce the angle properties of Intersecting and parallel lines and the angle properties of polygons and apply these properties.	nppri treti vuotesaatuungo oi autoise oi evaluate oon popual atu zunnine, teta (mobung voual atu numesta) tetas). Physical Inputy and physics concepts Kastifu and issertite the nattame secondate with helevel atuationation and atuationation in the secondate of the secondate	
	problems into algorithms. They use these algorithms to create programs with inputs, outputs, sequence, selection using comparative and logical operators and variables of different data types, and iteration. They determine when to use different types of control structures.		Technological systems Understand the properties of subsystems within technological systems.		being who describe the patient or described with profess phone who are strained and the str	
	Students document their programs, using an organised approach for testing and debugging. They understand how computers store more complex types of data using binary digits, and they develop programs considering human-computer interaction (HCI) heuristics.					
					Investigating in science Develop and carry out more complex investigations, including using models.	
	PO6 - In authentic contexts and taking account of end-users, students determine and commany the				Show an increasing awareness of the complexity of working scientification, including recognition of multiple variables. Begin to evaluate the suitability of the investigative methods chosen.	
Level 6	"cost" (computational complexity) of two iterative algorithms for the same problem size. They understand the concept of compression coding for different media types, its typical uses, and how it enables widely used technologies to function.		Technological systems		communicating in science Use a wider range of science vocubinger, symbolis, and conventions. Apply their understandings of science to evaluate both popular and scientific tosts (including visual and numerical literacy).	
LEVELD	- Students use an iterative process to design, develop, document and test basic computer programs. They apply design principles and usability heuristics to their own designs and evaluate user		Understand the implications of subsystems for the design, development, and maintenance of technological systems.		Physical inquiry and physics concepts Investigate trends and relationships in physical phenomena (in the areas of mechanics, electricity, electromagnetism, heat, light and waves, and atomic and nuclear ncheriority	
	interfaces in terms of them.				Demonstrate an understanding of physical phenomena and concepts by explaining and solving questions and problems that relate to straightforward situations. Itising physical	
					Investigate how physics knowledge is used in a technological or biological application.	

Smartivity®

Smartivity	Digital Technologies Progress Outcomes		Technology	Mathematics	Science	Social Science
	Computational Thinking	Designing and Developing Digital Outcomes				
Level 1				Shape Sort objects by their appearance.	Physical inquiry and physics concepts	
Level 2				Shape Sort objects by their spatial features, with justification. Identify and describe the plane shapes found in objects.	Explore everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light, sound, waves, and heat.	
Level 3				Shape Classify plane shapes and prisms by their spatial features. Represent objects with drawings and models.	Physical inquiry and physics concepts Explore, describe, and represent patterns and tends for everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, lipit, sound, waves, and heat. For example, identify and describe the effect of incres (contact and non-contact) on the motion of objects; identify and describe everyday examples of sources of energy, forms of energy, and energy traditionations.	
Level 4				Shape Identify classes of two- and three-dimensional shapes by their geometric properties. Relate three-dimensional models to two-dimensional representations, and vice versa.	Physical inquiry and physics concepts Explore, describe, and represent patterns and trends for everyday examples of physical phenomera, such as movement, forces, electricity and magnetium, light, suurd, waters, and heat. For example, identify and describe the effect of forces (contact and non-contact) on the motion of objects, identify and describe everyday examples of aucutes of every, forms of everya, and energy traditionations.	



Spop Circuito	Digital Technologie:	s Proaress Outcomes	Tachpology	Methomatica	Colongo	Capiel Calence
Shap Gircuits	Computational Thinking	Designing and Developing Digital Outcomes	lechnology	iviau ici ilaucs	Julence	Sucial Science
Level 1						
			Technological modelling Understand that functional models are used to explore, test, and evaluate design concepts for potential outcomes and that prototyping is used to test a technological outcome for fitness of purpose.		Understanding about science Appreciate that scientists ask questions about our world that lead to investigations and that open-mindedness is important because there may be more than one explanation.	
			Technological products Understand that there is a relationship between a material used and its performance properties in a technological product.		Investigating in science Extend their experiences and personal explanations of the natural world through exploration, play, asking questions, and discussing simple models.	
Level 2			Technological systems Understand that technological systems have inputs, controlled transformations, and outputs.		Communicating in science Build their language and develop their understandings of the many ways the natural world can be represented.	
			Characteristics of technology Understand that technology is purposeful intervention through design.		Physical inquiry and physics concepts Explore everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light, sound, waves, and heat.	
			Understand that technological outcomes are products or systems developed by people and have a physical nature and a functional nature.			
			Technological modelling Understand that functional models are used to explore, test, and evaluate design concepts for potential outcomes and that prototyping is used to test a technological outcome for fitness of purpose.		Understanding about science Appreciate that science is a way of explaining the workid and that science knowledge changes over time. Identify ways in which scientists work to movie evidence to support their ideas.	
			Technological products Understand that there is a relationship between a material used and its performance properties in a technological product.		Investigating in science Build on prior experiences, working together to share and examine their own and others' knowledge.	
Level 3			Technological systems Understand that there are relationships between the inputs, controlled transformations, and outputs occurring within simple technological systems.		Ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple explanations.	
			Characteristics of technology Understand that technology both reflects and changes society and the environment and increases people's capability.		Physical inquiry and physics concepts Explore, describe, and represent patterns and threads for everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light, sound, waves, and heat. For example, identify and describe eithe effect of forces (contact and non-contact) on the motion of objects, identify and describe everyday examples of sources of energy.	
			Characteristics of technological outcomes Understand that technological outcomes are recognisable as fit for purpose by the relationship between their physical and functional natures.		forms of energy, and energy transformations.	
					Investigating in science Build on prior experiences, working together to share and examine their own and others' knowledge.	
Level 4					Physical inquiry and physics concepts Explore, describe, and expension particular and trends for everyday examples of physical phenomena, such as movement, flores, electricity and magnetion, fairly, sound, waves, and heat. For example, identify and describe the effect of scores (source) and non-contact of the motion of discrib, treinity and outsche everyday examples of sources of every), on the motion of discrib, treinity and discribe the empty examples of sources of every).	

Strawbees.

Strawbees	Digital Technologies Progress Outcomes		Technology	Mathematics	Science	Social Science
	Computational Thinking	Designing and Developing Digital Outcomes	Planning for practice			
Level 1	P01 - In authentic contexts and taking account of end-users, students use their decomposition skills to break down simple non- computerised tasks into precise, unambiguous, step-by-step instructions (application) and the provide the situations, identify any errors in them as they are followed, and correct them (simple debugging).		Cuttine a general plan to support the determined on practice steps and resources. Brid development Describe the outcome they are developing and identify the attributes it should have, taking account of the need or opportunity and the resources available. Detorses development Investigate a context to communicate potential outcomes. Evaluate here against attributes: evaluation of the interest of the interest of the interest attributes: evaluation	Measurement Order and compare objects or events by length, area, volume and capacity, weight (imas), turn (angle), temperature, and time by direct comparison and/or counting whole numbers of units. Shape Sort objects by their appearance.	Understanding about science Appreciate that scientists ask questions about our world that lead to investigations and that open-	
Level 2		F01 -In aufhentic contents and taking account of end-users, students participate in teacher-led activities to develop, manipulate, store, retrieve and share digital content in order to meet technological calainegus. In dios, puby identify digital devices and their purposes and undestand that humans make them. They know how to use some applications, they callentify the ippuct and outputs of a system, and they undestand that digital devices are then and output of a system, retrieved later.	Planning for practice Develop a plan that identifies the key stages and the resources required to complete an outcome. Brief development Explain the outcome they are developing and discribe the attributes it should have, taking account of the need or opportunity and the resources analable. Develop a plan that loantifies the key stages of the plan the outcome in terms of the interview of the plan the resources analable. Develop and exclusion the plan the resources analable. Investigate a context to develop an outcome. Evaluate these against the identified attributes, select and develop an outcome. Evaluate the outcome in terms of the need or opportunity. Understand that functional media area and to paylone that, and evaluate design concepts for potential outcomes and that prototyping is used to test a technological outcome for fitness of purpose. Technological products Understand that there is a relationship between a material used and its performance properties in a technological product.	Shape Sort objects by their spatial features, with justification, identify and describe the plane shapes found in objects.	Innodeness is inportant because there may be more than one expansion. Instiguing in science: Eddend their experiences and personal explanations of the natural world through exploration, play, adving questions, and discussing simple models. Communicating in science Build their language and develop their understandings of the many ways the natural world can be represented. Physical Inquiry and physics concepts Explore everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light, sound, waves, and heat.	
Level 3	P02 - In authentic contexts and taking account of end-users, students give, follow and debug simple agorithms in computerised and non-computerised contexts. They use these algorithms to create simple programs involving outputs and acquencing (putting instructions one after the other) in age-appropriate programming environments.		Planning for practice Undertake planning to include reviews of progress and identify implications for autocome. Revisit planning to include reviews of progress and identify implications for autocome. Revisit planning to include reviews of progress and identify implications for autocome. Revisit planning to include reviews of progress and identify implications for autocome. The second sec	Shape Classify plane shapes and prisms by their spatial features. Represent objects with drawings and models.	Understanding about science Appreciate that science is a way of explaining the world and that science knowledge changes over time. Identify ways in which scientists work together and provide evidence to support their ideas. Investigating in science Build on prior experiences, working together to state and examine their own and others' knowledge. Ask questions, find evidence, explore simple models, and carry out appropriate investigations to develop simple explanations. Physical Inoquiry and physica concepts Explore, describe, and represent patterns and trends for everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light, sound, vaves, and the.T fore sample: identify and describe the effect of forces (contact and non-contact) on the motion of objects; identify and describe everyday examples of sources of energy, forms of energy, and energy transformations.	
Level 4	PO3 - In authentic contexts and taking account of end users, students iscompose prolemism in taking-by-step instructions to create algorithms for computer programs. They use logical thinking beneficial teahandward of the programs, and they undestand that there can be more than one algorithm for the same problem. They develop and deloging plot programs that use inputs, outputs, sequence and tention (researching part of the algorithm with a loop). They undestand the digid device start takes inputs, outputs, sequence and tention (researching part of the algorithm: with a loop). They undestand the digid device start for algorithm using the represented by thany delta (b). PO4 - In authentic context and taking account of end users, students decompose problems to create simple algorithms using the three builting blocks of programmics exequence, selection, and teration. They implement these algorithms by creating programs that by dentifying which thering so words with their instructions and correcting them, and they are due to acclain why things went words and how they finde them. Students understard that digital devices represent data with hingr, unglies and heaves of detecting repres in dias atorgae and transmission. They available the efficiency of algorithm, recogning allow computer serves of detecting repres in dias atorgae and transmission. They available the efficiency of algorithm, recogning allow evaluate user interfaces in relation to their efficiency and usability.	P02 - In authentic contexts and taking account of and users, dualent make decisions about creating, manipulating, storing, retrieving, straing and testing dipital content for a specific purpose, given particular parameters, tools, and tachniques. They understand that dipital devices impact on humans and sociely and that both the devices and their impact change over time. Students identify the specific role of components in a simple input- process-output system and how they work together, and they congriss the "control or left that humans have in the system. They are select from an increasing range of applications and the types to device poutcomes for particular purposes.	Technological modeling Understand how different forms of functional modeling are used to explore possibilities and to justify decision making and how protophysic can be used to justify refinement of technological worknows. Technological products Understand that materials can be formed, manipulated, and/or transformed to enhance the fitness for purpose of a technological product.	Share Identify classes of two- and three dimensional shapes by their geometric properties. Relate three-dimensional models to two-dimensional representations, and vice versa.	Investigating in science Build on prior experiences, working together to share and examine their own and others' knowledge. Physical inquiry and physics concepts Explore, describe, and represent patterns and trends for everyday examples of physical phenomena, such as movement, forces, electricity and magnetism, light, sound, waves, and her. For example, identify and describe the effect of forces (contact and non-contact) on the motion of objects, identify and describe everyday examples of sources of energy, forms of energy, and energy transformations.	
Level 5	POG - In authentic contexts and taking account of end users, budnets independently decompose profilems into algorithms. They use these algorithms to create programs with inputs, outputs, sequence, selection using comparative and logical operators and variables of different data bypes, and iteration. They determine when to use different types of control structures. Students document their programs, using an organised approach for testing and debugging. They understand how computers store more complex types of data using binary dipits, and they develop programs considering human-computer interaction (HC) heuristics.			Shape Deduce the angle properties of intersecting and parallel lines and the angle properties of properties. Create accurate nets for simple polyholds and connect three-dimensional solids with different two-dimensional representations.		

NEW ZEALAND STEAM RESOURCES CATALOGUE





Ph: +61 9532 5052 | orders@iworldaustralia.com.au | www.iworldaustralia.com.au