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| **DIGITAL LITERACY** | **FOOD AND TEXTILE** | **TECHNOLOGICAL DEVELOPMENTS IN SOCIETY AND BUSINESS** | **CRAFT, DESIGN AND ENGINEERING** | **COMPUTING SCIENCE** |

**LEARNING AND TEACHING IN TECHNOLOGIES DEVELOPS THE FOLLOWING SKILLS:**

* Knowledge and understanding of the key concepts in the technologies
* Curiosity, exploration and problem-solving skills
* Planning and organisational skills in a range of contexts
* Creativity and innovation
* Skills in using tools, equipment, software, graphic media and materials
* Critical thinking through exploration and discovery within a range of learning contexts
* Discussion and debate
* Searching and retrieving information to inform thinking within divers learning contexts
* Making connections between specialist skills developed within learning and skills for work
* Evaluating products, systems and services
* Presentation and communication skills
* Awareness of sustainability.

This pathway supports practitioners’ understanding of progression within and through all levels of Technologies. It provides a framework for planning learning and teaching which ensures that learners are progressing within and across the levels of the experiences and outcomes for Technologies. The document helps practitioners to ensure sufficient breadth, challenge and application is offered to learners. The Pathway also supports staff in building their pupils’ understanding of Technologies. so that they can be actively involved in the planning and development of their own next steps and goals, in line with the principles of Curriculum for Excellence, Getting it Right for Every Child, and the United Nations Convention on the Rights of the Child.

The Falkirk Technologies pathway is arranged (in the same way as the experiences and outcomes and national benchmarks) according to the 5 **main organisers**:

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| **Digital Literacy** – sub-organisers | **Food & Textile Technology-** sub-organisers | **Craft, Design, Engineering & Graphics-** sub-organisers | **Computing Science -** sub-organiser |
| * Using digital products & services in a variety of contexts to achieve a purposeful outcome * Searching, processing & managing information responsibly * Cyber resilience & internet safety | * Food & textile | * Design & construct models/products * Exploring uses of materials * Representing ideas, concepts & products through a variety of graphic media * Application of engineering | * Understanding the world through computational thinking * Understanding & analysing computing technology * Designing, building & testing computing solutions |
| **Technological Developments in Society & Business** - sub-organisers | | * Awareness of technological developments (Past, Present & future), including how they work * Impact, contribution & relationship of technologies on business, the economy, politics & the environment | |

Learner progress within and across the breadth of the experiences and outcomes **is not linear** and this pathway will help practitioners plot the most appropriate pace and challenge for individuals, groups, and classes. This pathway helps schools to define **what** needs to be taught in Technologies. so that practitioners can decide **how** to make this learning as progressive, active and engaging as possible for their learners. **Please note that practitioners will not be able to “cover” all experiences and outcomes or their progression statements every session and should select those which they feel will help their learners’ progress in the most appropriate and effective way without leaving “significant gaps”.**

**Each section of this pathway is arranged to** give details of **what progress within each experience or outcome looks like.** The final column shows **the benchmarks which define how a pupil can demonstrate achievement of a level.**

Falkirk Progression Pathways will help all staff to improve attainment by:

1. Developing a shared understanding of what progression looks like – within and across levels – in line with the national benchmarks
2. Supporting the planning and delivery of consistent, high quality learning & teaching which meets the principles of curriculum design
3. Providing a focus for dialogue about planning, assessment, moderation, and tracking
4. Pulling key information & guidance into one flexible, adaptable document – easing workload, streamlining bureaucracy, and maximising resources

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| **FIRST LEVEL** | | | **TECHNOLOGIES** | | | |
| **Experiences and Outcomes** | | | **Progression** | | | **Benchmarks** |
| **Organiser – Digital Literacy** | **Using digital products and services in a variety of contexts to achieve a purposeful outcome** | I can explore and experiment with digital technologies and can use what I learn to support and enhance my learning in different contexts.  **TCH 1-01a** | **For a range of purposes across my learning & play I can/am able to:**   * With support, begin to open, edit & save files e.g. within “My documents” * With support, explore & experiment with digital technologies to collect, capture & combine sound, text & images e.g. Clips, Word, Book Creator, etc. * With support, extend the range of digital hardware & software I am able to use. * Use touch-screen and/or mouse/key board functions with increasing confidence to enhance my learning in different contexts e.g. space bar, enter/return, backspace, shift keys. * With support, begin to participate in collaborative communications with others online using safe platforms such as Glow e.g. class email, class Skype session, etc. | **For a range of purposes across my learning & play I can/am able to:**   * With support, use the main functions of familiar software to open, edit & save files from & to a specific location e.g. saving to “My Documents” & shared area. * Explore &experiment with digital technologies to collect, capture & combine sound, text, images & video e.g. PowerPoint, iMovie, etc.. * Begin to recognise & name the key components of digital technology I use frequently. * Extend & develop my use of a wider range of key board functions to enhance my learning in different contexts e.g. begin to use features such as “Esc” to switch between programmes. * Explore & experiment with ways to collaborate & communicate with others online using safe platforms such as Glow e.g. Word Online for creation of a shared document | **For a range of purposes across my learning & play I can/am able to:**   * Begin to use the main functions of software to open, edit & save files from & to existing & new folder locations * Explore & experiment with a wider range of digital technologies to collect, capture & combine text, images and video e.g. video within Sway, audio with Garage band in I-Movie * Identify the key components of frequently used digital hardware & software & begin to say whether these are input or output devices. * Identify & use most common key board functions & say what they do. * Use Glow & other safe digital platforms to communicate & collaborate with others e.g. saving a piece of work to Microsoft Teams area. | * Opens and saves a file to and from a specific location. * Uses digital technology to collect, capture, combine and share text, sound, video and images. * Identifies the key components of frequently used digital technology and whether it is a piece of hardware or software. * Communicate and collaborate with others using digital technology, for example, email, Glow or other platforms. |

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| **FIRST LEVEL** | | | **TECHNOLOGIES** | | | |
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| **Organiser – Digital Literacy** | **Searching, processing and managing information responsibly l** | Using digital technologies responsibly I can access, retrieve and use information to support, enrich or extend learning  in different contexts.  **TCH 1-02a**  **Links to:**  Literacy & English - Listening & Talking – Finding & using information  LIT 1-04a, LIT 1-06a  Reading – Finding & using information  LIT 1-14a  Reading – Understanding, analysing & evaluating  LIT 1-18a | **For a range of purposes across my learning & play I can/am able to:**   * With support, begin to independently access websites using a familiar browser e.g. begin to navigate the World Wide Web using refresh button, address bar, forward/back arrows & search engine e.g. Google, Bing, etc. * With support, begin to access & retrieve information from given sources * Talk about key words which should & should not be used when searching. * Begin to recognise that some online materials are not free for use e.g. watermarks on images. | **For a range of purposes across my learning & play I can/am able to:**   * With support, begin to identify & access the different functions of browsers & search engines e.g. scrolling through search results & pages, using the back button. * With support, begin to use browsers & search engines to access, retrieve & select information * Begin to independently recognise why certain key words should or should not be used as search words/terms. * Begin to recognise & talk about who “owns” or who created information online to help me decide whether I should use the information that I find e.g. beginning to understand the concept of copyright | **For a range of purposes across my learning & play I can/am able to:**   * Begin to navigate websites with increasing independence & consideration of results e.g. know how to use reader view in browser to retrieve information, understand & use the correct terminology for these navigation functions. * Begin to use browsers & search engines with increasing independence to access, retrieve & select information * Begin to recognise search results which are not reliable or appropriate. * Routinely recognise & avoid unsuitable search key words/phrases. * Recognise & talk about who “owns” or who created the information that I can access or find to help me decide whether & how I can use it e.g. pictures of people & events, other peoples’ stories, music, logos. | * Demonstrates an understanding of the different functions of a browser and search engine. * Recognises what should and shouldn’t be searched for on the Internet. * Demonstrates an understanding of the concept of ownership of material and ideas. |

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| **FIRST LEVEL** | | | **TECHNOLOGIES** | | | |
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| **Organiser – Digital Literacy** | **Cyber resilience and internet safety** | I can extend my knowledge of how to use digital technology to communicate with others and I am aware of ways to keep safe and secure.  **TCH 1-03a**  **Links to:**  Health & Wellbeing - Mental, social, emotional & physical wellbeing – Physical Wellbeing  **HWB 1-16a & 1-17a** | **For a range of purposes across my learning & play, I can/am able to:**   * Explore & learn how to use digital technologies which help us communicate with others e.g. co-writing class Tweets, beginning to use Conversation tool in Microsoft Teams. * With support, begin to explore & say how digital communication can hurt or endanger people including myself. * Begin to use, create & recall strong passwords & codes. * Talk about how I should & should not communicate online e.g. courteous, honest, kind. | **For a range of purposes across my learning & play, I can/am able to:**   * Explore appropriate online communities & begin to talk about how this form of digital technology can help people e.g. positive & negative impact of social media. * With support, begin to talk about the dangers of online communication & explore who can help or advise me. * Say what personal information I should keep private e.g. name, address, date of birth, passwords etc. * Say how I can help protect other peoples’ privacy and rights when I use digital technology e.g. get permission before sharing photographs, not sharing their personal information. | **For a range of purposes across my learning & play, I can/am able to:**   * Talk about how digital technologies affect my rights & responsibilities as a citizen. * Talk about the dangers of online communication & say who can help & advise me. * Create & use strong passwords & codes for different purposes across my learning & real life. * With support, explore & talk about how the things I do online are observed & can be traced back to me e.g. Yammer | * Demonstrates understanding of my rights and responsibilities as a digital citizen. * Demonstrates understanding of the potential dangers online and who to go to for advice and who to report a concern to. * Demonstrates an understanding of the need for strong passwords. * Explains the need to get a person’s permission before taking a picture or video of them. |

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| **FIRST LEVEL** | | | **TECHNOLOGIES** | | | |
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| **Organiser – Food and Textile** | **Food and Textile** | I can use a range of simple food preparation techniques when working with food  **TCH 1-04a**  I can use a range of tools  and equipment when working with textiles  **TCH 1-04b**  I am developing and using  problem solving strategies  to meet challenges with  a food or textile focus  **TCH 1-04c**  I can adapt and improve ideas and can express my own thinking in different ways  **TCH 1-04d** | **I can/am able to:**   * Use an increasing range of simple food preparation skills e.g. grating, mashing, and developing bridge & claw holds when slicing soft foods. * Use a ruler, tape measure & scissors when working with textiles * Use criteria to help me explore possible solutions during problem-solving activities * Identify resources to help me solve problems * Assess my ideas using success criteria | **I can/am able to:**   * Demonstrate increasing food preparation skills & techniques with a wider range of utensils e.g. graters, peelers, knives, juicers, mashers & measuring spoons. * Demonstrate increasing accuracy & skill when using a range of textile resources * Explore a few ideas when solving food or textile challenges or problems. * Carefully select & use resources to solve a problem * Assess against success criteria with increasing accuracy | **I can/am able to:**   * Apply simple food preparation techniques to prepare an increasing range of meals & snacks e.g. using all utensils proficiently & safely – including simple bridge & claw knife skills. * Use a range of equipment when working with textiles * Make knots & simple stitches using yarn & bodkins. * Use my knowledge to investigate a problem or challenge against success criteria * Explore & identify ideas to accurately solve a challenge or problem * Select & use appropriate resources to solve a problem * Accurately assess against original success criteria   **Links to HWB Food and Health, The Food experience HWB 1-29a, Developing Healthy Choices HWB 1-30a & b, Keeping Safe & Hygienic HWB 1-33a, The Journey of Food HWB 1-35a** | * Demonstrates a range of practical skills when preparing foods for example washing, using a peeler, juicing, grating, cutting, simple knife skills (claw grip/bridge hold) * Uses a range of equipment when working with textiles, for example, scissors, rulers/tape measures, bodkin and wool * Investigates a simple problem /challenge which includes given criteria * Explores and identifies a range of ideas to solve the challenge / problem * Selects and uses resources to make the solution/solve the problem * Assesses solution against original criteria |

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| **FIRST LEVEL** | | | **TECHNOLOGIES** | | | |
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| **Organiser – Technological Developments in Society and Business** | **Awareness of technological developments (Past, Present and Future), including how they work** | I can explore the latest technologies and consider  the ways in which they  have developed.  **TCH 1-05a**  **Links to:**  Social Studies - People, past events & societies  SOC 1-01a  People, society, economy & business  SOC 1-15a | **Through play & other activities I can/am able to:**   * Investigate & show how an example of existing technology has changed over time e.g. washing machines, transport, etc. * Talk about or show how & why these changes happened e.g. the invention of power supplies | **Through play & other activities I can/am able to:**   * Investigate & show how a broader range of familiar objects have changed over time e.g. telephones, cameras, etc. * Talk about or show what this technology might be like in the future | **Through play & other activities I can/am able to:**   * Investigate & show how a broadening range of existing technology has changed over time e.g. televisions, computers, etc. * Talk about or show how & why these changes happened & make appropriate predictions about how they might change in the future e.g. the invention of digital technologies | * Identifies changes to technologies for example, televisions and mobile phones. |

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| **FIRST LEVEL** | | | **TECHNOLOGIES** | | | |
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| **Organiser – Technological Developments in Society and Business** | **Impact, contribution, and relationship of technologies on business, politics, and the environment** | I can take appropriate action to ensure conservation of materials and resources, considering the impact of my actions on the environment.  **TCH 1-06a**  I understand how technologies help provide for our needs and wants, and how they can affect the environment in which we live.  **TCH 1-07a**  **Links to:**  Social Studies - People place & environment SOC 1-08a, SOC 1-09a, SOC 1-11a, SOC 1-12a & 1-12b & SOC 1-13a & 1-13b  People in society, economy & business SOC 1-16a, SOC 1-20a, | **I can/am able to:**   * Show or talk about how waste could be reduced e.g. in school & at home or by local businesses * Give examples of how waste materials could be re-used. * Say which bin each recyclable material should go in, * Describe how the people working in local services use technologies to provide what we need e.g. water, waste disposal, emergency help or support. * Give examples of how a broader range of local shops & businesses provide us with the things we want & need e.g. How does a local business make its products? What technology is part of a trip to the cinema or having a meal out? | **I can/am able to:**   * Talk about ways in which other resources could be saved or conserved e.g. water & electricity/power * Say or show how I could make less impact on my environment e.g. by picking up litter, using fewer single-use plastics, etc. * Explore an expanding range of ways in which our wants & needs are met by technologies e.g. how & where does our food come from, how does it get to our shops/homes; how does where we go on holiday affect the environment? | **I can/am able to**:   * Use my knowledge to identify ways in which energy & resources can be saved * Say or show how & where people impact on our environment by wasting materials & resources * Say which technologies are used by organisations & businesses in my local area & comment on how these affect our environment | * Identifies ways in which energy can be saved. * Understands how and where we waste materials and resources. * Demonstrates an understanding of how technologies, by meeting our needs and wants, affect the environment in which we live. |

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| **FIRST LEVEL** | | | **TECHNOLOGIES** | | | |
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| **Organiser – Craft, Design, Engineering and Graphics** | **Design and constructing models/product** | I can design and construct models and explain my solutions.  **TCH 1-09a**  **Links to** TCH 1-10a below  Numeracy & Maths - Number, money, measure – Measurement  MNU 1-11a & b  Expressive Arts – Art & Design  EXA 1-06a & 1-07a | **Through a range of play and activities I can/am able to:**   * Make increasingly appropriate choices about the materials & methods I use for my models & solutions. * Use familiar construction tools & methods with increasing skill & confidence * With support, begin to follow a simple design process i.e.  1. Read or consider the task or problem (introduction to a simple Design Brief) & the criteria I am given 2. Investigate how I could solve this problem – how have others done it? 3. Show that I have considered my ideas & how to construct my model or solution BEFORE building 4. Say what I think about my final solution | **Through a range of play and activities I can/am able to:**   * Select materials & construction methods which help me meet the criteria of a simple design brief * Use a broader range of construction tools & methods to help me design & build models & solutions * Share my thinking about my design solutions at various stages in my design process i.e. when I am investigating & researching; when I am considering all of the possible ways I could build; when I am justifying my solution & sharing it with others | **Through a range of play and activities I can/am able to:**   * Understand & follow simple criteria to solve a range of construction or design challenges i.e. use a design brief & show evidence of engaging with all stages of the design process. * Apply my joining & construction skills to solve increasingly challenging design tasks * Show that I have considered who my solution is for & where & how it will be used. | * Creates and justifies a solution to a given design challenge considering who is it for, where and how will it be used * Uses appropriate tools and joining methods to construct a model |

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| **Experiences and Outcomes** | | | **Progression** | | | **Benchmarks** |
| **Organiser – Craft, Design, Engineering and Graphics** | **Exploring uses of materials** | I can recognise a variety of materials and suggest an appropriate material for a specific use  **TCH 1-10a**  **Links to** TCH 1-09a above  Literacy & English – Listening & talking – Enjoyment & Choice LIT 1-01a  Creating Texts LIT 1-09a  Science – Materials – Properties & uses of substances SCN 1-15a  Expressive Arts – Art & Design EXA 1-02a | **Through a range of play and activities across my learning I can/am able to:**   * Recognise & name everyday materials such as wood, plastic, rubber, metal, stone, ceramic, paper, card, etc. * Describe some of the properties of these materials e.g. paper is thin, stone is usually heavy, etc. * Explore the things around me & say whether I think the materials used are suited to the ways they are being used | **Through a range of play and activities across my learning I can/am able to:**   * With support, begin to recognise sub-categories of familiar materials such as MDF/composite timber products, metal alloys, silicone & other “new” materials. * Explore & say why these new materials & technologies might be needed in the world around me e.g. recyclable, cheaper, stronger, longer-lasting, heat-resistant, etc. * Share my thoughts & opinions about the materials chosen to make the things around me * Share my thinking & the reasons for my choices when using materials | **Through a range of play and activities across my learning I can/am able to:**   * Expand my knowledge of materials through researching areas of personal or topical interest such as: natural materials, expensive materials, sustainable use of materials, etc. * Say what objects around me are made of & describe why I think the materials used were chosen * Apply my knowledge of materials & their properties to help me make decisions about how to make things * Evaluate how effective my choice of materials is when I make things. | * Identifies different materials * States the properties of materials (hard, soft…..) * Recognises different materials and why they have been selected for a task * Selects materials to use in a specific task |

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| **Organiser – Craft, Design, Engineering and Graphics** | **Representing ideas, concepts and products through a variety of graphic media** | I can explore and experiment with sketching, manually or digitally, to represent ideas in different learning contexts.  **TCH 1-11a**  **Links to** TCH 1-09a & TCH 1-10a above  Expressive Arts – Art & Design  EXA 1-02a & EXA 1-03a  Numeracy & Maths – Shape, position & movement – Properties of 2 shapes & 3 D objects - MTH 1-16a & MTH 1-16b  Angles, symmetry & transformation – MTH 1-19a | **Through play and a variety of experiences across my learning I can/am able to:**   * Explore & experiment with manual & digital sketching & drawing methods to represent my ideas i.e. begin to use rulers, protractors, compasses & digital tools to create more accurate shapes * Name & draw all basic 2 D shapes e.g. circles, squares, triangles, rectangles, diamonds & kites * Explore & experiment with ways to arrange shapes & colours for different purposes across my learning e.g. creating diagrams or displays | **Through play and a variety of experiences across my learning I can/am able to:**   * Represent & communicate my ideas for a simple design or product using manual and/or digital sketches * Name & use the primary & secondary colours within my designs. * Use manual & digital ways to represent pattern & texture in my designs * With support, begin to explore manual & digital ways to represent 3 D shapes | **Through play and a variety of experiences across my learning I can/am able to:**   * Represent ideas & concepts visually by arranging lines & shapes & using colour, pattern & texture for a range of purposes across my learning e.g. to design & create a poster, a scientific experiment/idea or a map * Explore & use an increasing range of manual & digital methods to represent 2 & 3 D shapes | * Creates manual and/or digital sketches to represent ideas. * Recognises 2D and 3D shapes and how they can be used to visually represent ideas/concepts. |

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| **FIRST LEVEL** | | | **TECHNOLOGIES** | | | |
| **Experiences and Outcomes** | | | **Progression** | | | **Benchmarks** |
| **Organiser – Craft, Design, Engineering and Graphics** | **Application of Engineering** | I explore and discover engineering disciplines and can create solutions.  **TCH 1-12a**  **Links to** TCH 1-09a & TCH 1-10a above  Literacy & English – Listening & Talking – Creating Texts – LIT 1-10a  Science – Planet Earth – Energy Sources & sustainability SCN 1-04a, Forces, electricity & waves – Forces SCN 1-07a & SCN 1-08a  Electricity SCN 1-09a | **Through play and a variety of experiences across my learning I can/am able to:**   * Explore moving (mechanical) toys & objects & share my thoughts about how they work * Make simple structures using construction kits & natural & man-made materials * Explore electronic toys, objects & appliances & share my thoughts about how they work * Explore how water & air can make things move * Apply my experiences of different engineering disciplines to create solutions to simple engineering problems * Say that machines & structures are designed by engineers & begin to talk about different kinds of engineering e.g. mechanical, electrical, structural, etc. | **Through play and a variety of experiences across my learning I can/am able to:**   * Design & create an object which has simple moving parts such as levers or wheels i.e. learning about mechanical engineering * Help to design & build a strong, stable structure indoors or out using the materials available i.e. learning about structural engineering * Apply my knowledge of water & wind power to design & make an object which moves or travels i.e. learning about the role of power in engineering - hydraulic & pneumatic * Give examples of how different types of engineering affect our lives | **Through play and a variety of experiences across my learning I can/am able to:**   * Study circuit boards, bulbs, buzzers & switches in the world around me i.e. learning about electrical engineering * Contribute to the creation of a simple electrical circuit * Explore & apply my understanding of everyday engineering problems by building & making things which solve specific problems such as: how to balance a see-saw; how to make tall structures stable; how to build strong bridges or containers, etc. * Design & create a solution to a given problem by applying my knowledge to include moving parts * Identify whether objects & structures would have been designed & made by mechanical, electrical & structural engineers | * Recognises and identifies different engineering disciplines. * Builds a solution to a specific task, which has moving parts. |

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| **Organiser – Computing Science** | **Understanding the world through computational thinking** | I can explore and comment on processes in the world around me making use of core computational thinking concepts and can organise information in a logical way  **TCH 1-13a**  **Link to:** Numeracy & Maths – Number Money & Measure – Patterns & relationshipsMTH 1-13a & b  Information Handling – Data & Analysis - MNU 1-20a & b & MTH 1-21a | **For a range of purposes across my learning I can/am able to:**   * With support, begin to recognise & follow individual steps within sequences of instructions for everyday tasks or processes e.g. how to make a jam sandwich. * Begin to identify & record individual steps within everyday processes e.g. using pictures/text, simple flow diagrams, written instructions. * With support, begin to make logical decisions in response to real-life situations e.g. IF you have money for the tuck shop, line up here. IF you don’t please sit down. * Explore & develop my ability to group & organise objects & information in a range of logical ways i.e. broadening my ability to make logical choices. | **For a range of purposes across my learning I can/am able to:**   * Begin to independently recognise & follow individual steps within sequences of instructions for everyday tasks or processes. * With support, say what the purpose or effect of each step in a process is. * Begin to notice & talk about how some processes involve repeating the same steps e.g. following directions for a task. * Begin to understand that an IF statement is used to make a decision or SELECTION. * Begin to understand that some decisions require more than one piece of information to be completed correctly e.g. you can take part in P.E. IF you have shorts AND gym shoes * Use my own & others’ criteria to collect & organise information in logical ways e.g. tree or branching diagram. | **For a range of purposes across my learning I can/am able to:**   * Follow & create individual steps within sequences of instructions (algorithms) including those where steps are repeated e.g. recipes, directions. * Say what the purpose or effect of each step in a process is. * Make use of logical thinking concepts for real life tasks by combining SELECTION (IF) with multiple conditions (AND, OR & NOT) e.g. IF you are having a school dinner please stand up, but NOT IF you are a blue OR green band. * Organise information in logical ways using my own & others’ criteria in a range of contexts & talk about how to organise e.g. noticing & showing that there are different ways to classify the same objects. | * Follows sequences of instructions/algorithms from everyday situations for example, recipes or directions, including those with selection and repetition. * Identifies steps in a process and describes precisely the effect of each step. * Makes decisions based on logical thinking including IF, AND, OR and NOT for example, collecting balls in the gym hall but NOT basketballs, line up if you are left-handed OR have green eyes. * Collects, groups and orders information in a logical, organised way using my own and others’ criteria (MNU 1-20a and b). |

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| **FIRST LEVEL** | | | **TECHNOLOGIES** | | | |
| **Experiences and Outcomes** | | | **Progression** | | | **Benchmarks** |
| **Organiser – Computing Science** | **Understanding and analysing computing technology** | I understand the instructions of a visual programming language and can predict the outcome of a program written using the language.  **TCH 1-14a**  **Links to** – Numeracy & Maths – Shape, position & movement MTH 1-17a  Ideas of chance & uncertainty – MNU 1-22a  I understand how computers process information.  **TCH 1-14b** | I can/am able to:   * Recognise, say or show what block code symbols mean. * Describe or show what a sequence of block code symbols will achieve * Begin to predict what a visual program will do when it runs e.g. predict from printed block code symbols what the outcome will be. * With support, talk about the purpose of the computer as a tool in everyday life. * Explore & talk about how computers take in & give out information. * Explore & talk about how computers help us find, store & process information. | **I can/am able to**:   * Recognise or show what fixed repetition block code symbols mean. * Begin to describe or show how selection & repetition affects the outcome of a sequence of block code symbols. * Predict what a visual program with fixed repetition (loop) will do when it runs e.g. predict from printed block code symbols what the outcome will be. * Begin to identify how computers take in information i.e. inputs to computer technology such as the keys on a keyboard, a voice to a microphone, or making a choice on a touch screen. * Begin to identify simple examples of computer outputs e.g. smart speaker answers, words or pictures on a screen or printed page. * Talk about or show how computers process & store information e.g. different programs, different drives & storage areas. | **I can/am able to:**   * Recognise or show what a selection block code symbol means. * Describe or show how selection & repetition affects the outcome of a sequence of block code. * Predict what a visual program with fixed repetition (loop) and selection (IF statement) will do when it runs e.g. predict from printed block code symbols what the outcome will be. * Identify different ways to input information into computers. * Describe a range of different outputs from computer technology * Describe how computers help us store & work with information. | * Demonstrates an understanding of the meaning of individual instructions when using a visual programming language (including sequences, fixed repetition and selection). * Explains and predicts what a program in a visual programming language will do when it runs for example, what audio, visual or movement effect will result. * Demonstrates an understanding that computers take information as input, process and store that information and output the results. |

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| **FIRST LEVEL** | | | **TECHNOLOGIES** | | | |
| **Experiences and Outcomes** | | | **Progression** | | | **Benchmarks** |
| **Organiser – Computing Science** | **Designing, building and testing computing solutions** | I can demonstrate a range of basic problem solving skills by building simple programs to carry out a given task, using an appropriate language.  **TCH 1-15a**  **Links to:** Numeracy & Maths, Angles, Symmetry & transformation  MTH 1-17a  Information Handling – Data & analysis – MNU 1-20a & b  Literacy & English – Listening & talking – Creating texts LIT 1-09a  Reading – Understanding, evaluating & analysing LIT 1-16a | **Through a variety of activities & play across my learning I can/am able to:**   * With support, begin to explore how block code can be used to build simple programs which carry out given tasks e.g. reading age appropriate block code tutorials in Hour of Code. * With support, begin to break tasks or problems down into smaller, more manageable parts to solve task e.g. using Scratch Junior to solve a given problem. * With support, observe & begin to evaluate simple block code sequences or programs to identify errors or improvements. | **Through a variety of activities & play across my learning I can/am able to:**   * Explore how to break down a range of problem solving tasks into smaller, more manageable parts e.g. using Scratch Junior to solve problems in various contexts. * Sequence instructions & build simple programs which solve a range of tasks or problems. * Begin to sequence instructions & build simple programs which use selection & fixed repetition (loop) in block code e.g. when a program is run & a choice of objects is selected, it beeps or changes colour. * Observe & evaluate simple block code sequences or programs to identify errors or improvements. | **Through a variety of activities & play across my learning I can/am able to:**   * Solve a range of basic problems by breaking them down into smaller more manageable parts. * Demonstrate & explain how the sequence of instructions in my programs will achieve the outputs required. * Build simple programs in a visual programming language (block code) which use selection & fixed repetition (loop) to solve or carry out a range of tasks. * Identify any errors (begin to debug) or suggest improvements. * Explain & evaluate whether a program carries out a given task. | * Simplifies problems by breaking them down into smaller more manageable parts. * Constructs a sequence of instructions to solve a task, explaining the expected  output from each step and how each contributes towards solving the task. * Creates programs to carry out activities (using selection and fixed repetition) in a visual programming language. * Identifies when a program does not do what was intended and can correct errors/bugs. * Evaluates solutions/programs and suggests improvements. |