

# Subject Knowledge and Skills Progression Map

<b>Year 1</b>	<b>Knowledge</b>	<b>Skills</b>
<b>Autumn 2</b>	<ul style="list-style-type: none"> <li>➤ To know that wheels move because they are attached to an axle</li> <li>➤ To know that wheels and axles are used in everyday life, not just in cars.</li> </ul>	<ul style="list-style-type: none"> <li>➤ To design a vehicle that includes functioning wheels, axles and axle holders.</li> <li>➤ To make a moving vehicle with functioning wheels and axles.</li> </ul>
<b>Spring 2</b>	<ul style="list-style-type: none"> <li>➤ To know some features that would appeal to the client (a mouse) and create a suitable design.</li> <li>➤ To know that a design is important to support the making of a structure.</li> <li>➤ To know that some changes may need to be made if a feature doesn't work in the making process.</li> </ul>	<ul style="list-style-type: none"> <li>➤ To make stable structures, which will eventually support the turbine, out of card, tape and glue.</li> <li>➤ To make functioning turbines and axles that are assembled into the main supporting structure.</li> </ul>
<b>Summer 2</b>	<ul style="list-style-type: none"> <li>➤ To know a range of places that fruits and vegetables grow.</li> <li>➤ To know basic characteristics of fruit and vegetables.</li> </ul>	<ul style="list-style-type: none"> <li>➤ To safely use a knife to cut and prepare fruits.</li> <li>➤ To combine different fruits to create a new flavour.</li> <li>➤ To use a variety of kitchen utensils such as a masher, blender, peeler and knife safely and accurately.</li> </ul>

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Year 2	Knowledge	Skills
Autumn 2	<ul style="list-style-type: none"> <li>➤ To know 2 pieces of fabric can be joined in a variety of ways.</li> <li>➤ To know the strongest way to join 2 pieces of fabric is by sewing them together.</li> <li>➤ To know you need to thread a needle and the thread must have a knot at the end to secure it.</li> </ul>	<ul style="list-style-type: none"> <li>➤ To sew a running stitch with regular-sized stitches.</li> <li>➤ To use a running stitch to join the two pieces of fabric together.</li> <li>➤ To accurately cut fabric to make a pouch from a template.</li> <li>➤ To decorate a pouch to make it visually appealing.</li> </ul>
Spring 2	<ul style="list-style-type: none"> <li>➤ To know the correct terms for levers, linkages and pivots.</li> <li>➤ To know which materials would be best used to make their design and be fit for purpose.</li> </ul>	<ul style="list-style-type: none"> <li>➤ To join materials together to construct a monster.</li> <li>➤ To evaluate two designs and choose the one which fits the design criteria</li> </ul>
Summer 2	<ul style="list-style-type: none"> <li>➤ To know the main food groups and identify which foods belong in which groups.</li> <li>➤ To know basic food hygiene skills when preparing food.</li> </ul>	<ul style="list-style-type: none"> <li>➤ To safely use kitchen utensils during food preparation.</li> <li>➤ To describe taste, smell and textures of the given food.</li> <li>➤ To choose what foods work well together for the desired piece of food.</li> </ul>

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Year 3	Knowledge	Skills
Autumn 2	<ul style="list-style-type: none"> <li>➤ To know definitions for key terms, such as lever, linkage system and pivot.</li> <li>➤ To know that a thumbnail sketch is a small, rough, quick sketch.</li> <li>➤ To know that a pneumatic toy uses compressed air to create movement.</li> </ul>	<ul style="list-style-type: none"> <li>➤ To draw accurate diagrams with correct labels, arrows and explanations.</li> <li>➤ To create thumbnail sketches.</li> <li>➤ To create an appropriate equipment and materials to build a working pneumatic system.</li> </ul>
Spring 2	<ul style="list-style-type: none"> <li>➤ To know that fruits and vegetables grow in different countries based on their climates.</li> <li>➤ To know that seasonal fruits and vegetables grow in a given season.</li> </ul>	<ul style="list-style-type: none"> <li>➤ To safely use kitchen utensils to cut, chop, peel and mash ingredients.</li> <li>➤ To mix ingredients together to make a tart base.</li> <li>➤ To design and label the components of a tart.</li> </ul>
Summer 2	<ul style="list-style-type: none"> <li>➤ To know what 'information design' is and understand its impact.</li> <li>➤ To know what could happen if we had no signage, posters, or written communication in public places of interest.</li> </ul>	<ul style="list-style-type: none"> <li>➤ To assemble an electric poster, including a functional simple circuit with a bulb, following a demonstration.</li> <li>➤ To mount the poster using corrugated card and explain why it is important to be mounted.</li> </ul>

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Year 4	Knowledge	Skills
Autumn 2	<ul style="list-style-type: none"> <li>➤ To know the features, benefits and disadvantages of a range of fastening types.</li> <li>➤ To know the purpose of fastenings and how they are applied to materials.</li> </ul>	<ul style="list-style-type: none"> <li>➤ To make a template of a design.</li> <li>➤ To use a variety of stitch techniques.</li> <li>➤ To identify which stitch techniques works best for the design and fastening.</li> </ul>
Spring 2	<ul style="list-style-type: none"> <li>➤ To know that micro:bit is a small, programmable computer that helps people learn about coding and digital making.</li> <li>➤ To know key functions in the program editor such as loops.</li> <li>➤ To know the name and use of key tools used in Sketchpad (CAD) software.</li> </ul>	<ul style="list-style-type: none"> <li>➤ To write a program that displays a timer on a micro:bit.</li> <li>➤ To use research to inform design criteria.</li> <li>➤ To identify where the errors are, if testing is unsuccessful, by comparing the codes.</li> </ul>
Summer 2	<ul style="list-style-type: none"> <li>➤ To know a structure needs supports to ensure its stability.</li> <li>➤ To know a design must be done before making a successful structure.</li> <li>➤ To know that a pavilion is a flexible open air structure that can be used for shelter among many other things.</li> </ul>	<ul style="list-style-type: none"> <li>➤ To join materials together effectively.</li> <li>➤ To use appropriate materials for creating a structure.</li> <li>➤ To add cladding to the structure, securing its strength.</li> <li>➤ To use a variety of materials to experiment making structures.</li> </ul>

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<b>Year 5</b>	<b>Knowledge</b>	<b>Skills</b>
<b>Autumn 2</b>	<ul style="list-style-type: none"> <li>➤ To know the process of beef production.</li> <li>➤ To know that nutritional value describes the amount of carbohydrates, fats, proteins and energy that can be used during digestion.</li> </ul>	<ul style="list-style-type: none"> <li>➤ To prepare surfaces and ingredients for cooking.</li> <li>➤ To safely prepare ingredients using chopping, peeling and cutting skills.</li> <li>➤ To safely navigate and use equipment to cook, such as a hob.</li> </ul>
<b>Spring 2</b>	<ul style="list-style-type: none"> <li>➤ To know different types of fabrics are suitable for stuffed toys, like felt, fleece, or cotton.</li> <li>➤ To know about stuffing options such as polyester fiberfill or recycled materials.</li> <li>➤ To know what shapes would work best for the parts of the bear using a design template.</li> </ul>	<ul style="list-style-type: none"> <li>➤ To use a blanket stitch to join pieces of materials together.</li> <li>➤ To cut fabric using a template neatly and precisely.</li> <li>➤ To use applique or decorative stitches to make a design more appealing.</li> <li>➤ To thread a needle with yarn or thread.</li> </ul>
<b>Summer 2</b>	<ul style="list-style-type: none"> <li>➤ To know the basic circuit components (battery, bulb, switch, motor) and their functions.</li> <li>➤ To know how electricity flows in a simple circuit to power devices.</li> <li>➤ To know how to design devices that serve a specific purpose.</li> </ul>	<ul style="list-style-type: none"> <li>➤ To create physical prototypes (Doodlers) to test and iterate on designs.</li> <li>➤ To identify issues with circuit configurations and suggesting improvements.</li> <li>➤ To create clear and concise instructions for assembling circuits.</li> </ul>

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<b>Year 6</b>	<b>Knowledge</b>	<b>Skills</b>
<b>Autumn 2</b>	<ul style="list-style-type: none"> <li>➤ To know CAD is abbreviated for Computer-Aided Design.</li> <li>➤ To know and understand basic programming concepts.</li> <li>➤ To know the names and functions of key tools in Tinkercad.</li> </ul>	<ul style="list-style-type: none"> <li>➤ To write and understand basic programming concepts.</li> <li>➤ To use CAD software to make a 3D design digitally.</li> <li>➤ To identify and fix errors in coding.</li> </ul>
<b>Spring 2</b>	<ul style="list-style-type: none"> <li>➤ To know the steps involved in designing and building a structure, from initial concept to final product.</li> <li>➤ To know different materials (e.g., wood, metal, cardboard) and tools (e.g., saws, hammers, glue) used in construction.</li> </ul>	<ul style="list-style-type: none"> <li>➤ To create a variety of detailed purposeful plans and designs that are labelled.</li> <li>➤ To construct and join materials effectively, including a base to support the structure.</li> <li>➤ To use measuring tools accurately to cut and assemble materials.</li> </ul>
<b>Summer 2</b>	<ul style="list-style-type: none"> <li>➤ To know how to assemble components, follow instructions, and use tools safely.</li> <li>➤ To know the importance of precision in measurements and assembly.</li> <li>➤ To know the parts of the structure and the terminology such as: axel, dowel, jelutong, etc...</li> </ul>	<ul style="list-style-type: none"> <li>➤ To tools like saws and cutters with varying degrees of precision.</li> <li>➤ To accurately measure and cut materials with correct tools.</li> <li>➤ To follow instructions and diagrams to assemble complex structures.</li> </ul>