

## Design and Technology Year 1

<b>Recyclable Materials and Sheet Materials</b>	<b>Mouldable Materials</b>	<b>Construction</b>
---	----------------------------	---------------------

### Design Technology milestones

	1	2	3	4	5	6	7	8
<p style="text-align: center;"><b>Recyclable Materials &amp; Sheet Materials</b></p> <p style="text-align: center; font-size: small;">Example project ideas:</p> <p style="text-align: center; font-size: x-small;">Tower Car Building Jewellery box</p>	<p><b>Sensory exploration and basic cause-effect awareness.</b></p> <p><b>Design:</b> Begin to explore different textures of materials (e.g. cardboard, foil) using hands.</p> <p><b>Make:</b> Join simple materials using large glue sticks or tape with support.</p>	<p><b>Independent exploration and basic constructing.</b></p> <p><b>Design:</b> Choose from a selection of materials with adult prompting.</p> <p><b>Make:</b> Stick and stack objects to create a form (e.g. box tower or simple collage).</p> <p>Attempt to cut or tear paper/card with some success.</p>	<p><b>Purposeful creating and beginning to plan.</b></p> <p><b>Design:</b> Describe what they want to make using simple language.</p> <p><b>Make:</b> Select materials based on preference (e.g. colour, shape).</p> <p>Join materials in different</p>	<p><b>Planning and refining ideas with purpose.</b></p> <p><b>Design:</b> Draw a simple plan or picture of what they intend to make.</p> <p><b>Make:</b> Use tools like child-safe scissors and glue spreaders accurately.</p> <p>Cut shapes with more control and fit materials together with intent.</p>	<p><b>Simple design and making with clear purpose.</b></p> <p><b>Design:</b> Generate ideas based on a design brief (e.g. a toy car from recycled boxes).</p> <p><b>Make:</b> Use simple templates for cutting sheet materials.</p> <p>Select tools and materials</p>	<p><b>Purposeful designing and refining techniques.</b></p> <p><b>Design:</b> Use annotated sketches to plan and communicate ideas.</p> <p><b>Make:</b> Measure and cut sheet materials with increasing accuracy.</p> <p>Assemble using a wider range of joining</p>	<p><b>More complex construction and evaluation.</b></p> <p><b>Design:</b> Research and generate ideas for structures using recyclable materials.</p> <p><b>Make:</b> Score, cut and fold materials accurately to create 3D forms.</p> <p>Combine sheet and recycled</p>	<p><b>Problem-solving, innovation, and environmental consideration.</b></p> <p><b>Design:</b> Plan detailed models with measurements and step-by-step annotations.</p> <p><b>Make:</b> Create more precise and functional products using a variety of tools and techniques.</p> <p>Modify and adapt during the making</p>

	<p>Place objects together purposefully (e.g. stack, stick on).</p> <p><b>Evaluate:</b> Show preference for certain materials (e.g. enjoy crinkly vs. smooth).</p> <p><b>Technical Knowledge:</b> Notice differences in material properties when exploring (e.g. hard vs bendy).</p> <p>Safely handle recyclable materials with support (e.g. cardboard tubes).</p>	<p><b>Evaluate:</b> Respond to questions like "Do you like it?" or "What does it do?"</p> <p><b>Technical Knowledge:</b> Identify common materials (paper, cardboard, plastic).</p> <p>Understand that some materials can change shape (e.g. folding paper).</p>	<p>ways (stick, fold, tape).</p> <p><b>Evaluate:</b> Begin to say what worked well or what could change.</p> <p><b>Technical Knowledge:</b> Notice strong or weak parts of a model.</p> <p>Explore how materials can be made stronger (e.g. layering cardboard).</p>	<p><b>Evaluate:</b> Talk about what they like or would do differently next time.</p> <p><b>Technical Knowledge:</b> Understand how parts join or hold together (e.g. tabs, flaps).</p> <p>Identify when a material is suitable or not for a purpose (e.g. paper too floppy).</p>	<p>for specific tasks with increasing independence .</p> <p><b>Evaluate:</b> Say what worked well and what could be improved with reasoning.</p> <p><b>Technical Knowledge:</b> Understand different ways to join sheet and recycled materials.</p> <p>Know that some materials are more durable or waterproof than others.</p>	<p>methods (e.g. tabs, hinges).</p> <p><b>Evaluate:</b> Test their product and suggest practical improvements.</p> <p><b>Technical Knowledge:</b> Explain why certain materials are used (e.g. strong base, flexible lid).</p> <p>Recognise and use mechanisms (e.g. flaps, sliders from card).</p>	<p>materials for stronger structures.</p> <p><b>Evaluate:</b> Use design criteria to evaluate the success of the product.</p> <p><b>Technical Knowledge:</b> Understand how to reinforce or stiffen sheet materials.</p> <p>Explore sustainable choices and why materials are recycled.</p>	<p>process to improve results.</p> <p><b>Evaluate:</b> Evaluate their product against original intentions and user feedback.</p> <p><b>Technical Knowledge:</b> Understand and explain material properties and how they affect use.</p> <p>Investigate and compare the sustainability and environmental impact of materials.</p>
<p><i>Recyclable Materials and Sheet Materials</i></p>	<p><b>Soft</b></p> <p><b>Sticky</b></p> <p><b>Big</b></p> <p><b>Box</b></p>	<p><b>Cut</b></p> <p><b>Glue</b></p> <p><b>Fold</b></p> <p><b>Shape</b></p>	<p><b>Join</b></p> <p><b>Build</b></p> <p><b>Paper</b></p> <p><b>Strong</b></p>	<p><b>Plan</b></p> <p><b>Tape</b></p> <p><b>Flat</b></p> <p><b>Bend</b></p>	<p><b>Design</b></p> <p><b>Material</b></p> <p><b>Model</b></p> <p><b>Fit</b></p>	<p><b>Measure</b></p> <p><b>Template</b></p> <p><b>Join</b></p> <p><b>Recycle</b></p>	<p><b>Structure</b></p> <p><b>Support</b></p> <p><b>Reinforce</b></p> <p><b>Sustainable</b></p>	<p><b>Durable</b></p> <p><b>Prototype</b></p> <p><b>Adapt</b></p> <p><b>Environmental</b></p>

Core Vocab								
<p><b>Mouldable Materials</b></p> <p>Example project ideas:</p> <p>Bowl Pot Face Masks Animals Face</p>	<p><b>Sensory exploration and basic manipulation.</b></p> <p><b>Design</b> Explore and select from different materials (e.g. soft dough, clay) through touch.</p> <p><b>Make</b> Pat, squash, and poke mouldable materials with hands.</p> <p>Begin to press objects into dough to make simple impressions.</p> <p><b>Evaluate</b> React to the feel or shape of material (e.g. smile, look curious).</p> <p><b>Technical Knowledge</b> Notice soft vs. hard textures</p>	<p><b>Simple shaping and increasing independence</b></p> <p><b>Design</b> Choose tools or colours they want to use when working with dough.</p> <p><b>Make</b> Roll, squeeze, and flatten materials with control.</p> <p>Use basic tools (plastic knife, roller) to create lines or shapes.</p> <p><b>Evaluate</b> Show or tell what they made (e.g. "ball" or "cake").</p> <p><b>Technical Knowledge</b> Understand that materials can change shape.</p> <p>Start to differentiate</p>	<p><b>Purposeful shaping and combining.</b></p> <p><b>Design</b> – Begin to explain what they want to make before working.</p> <p><b>Make</b> Shape mouldable materials into familiar forms (e.g. snake, pancake).</p> <p>Join pieces by pressing or smoothing together.</p> <p><b>Evaluate</b> Comment on their model: "It's bumpy," "I like the shape."</p> <p><b>Technical Knowledge</b> Explore how to make materials</p>	<p><b>Simple planning and experimentation.</b></p> <p><b>Design</b> Draw or describe their model before they begin.</p> <p><b>Make</b> Use pinch, roll, and coil techniques for shaping.</p> <p>Begin to decorate models (e.g. paint, texture with tools).</p> <p><b>Evaluate</b> Say what they like or would change about their model.</p> <p><b>Technical Knowledge</b> Understand air-drying or baking makes materials harden.</p> <p>Use tools safely and</p>	<p><b>Simple construction and creative thinking.</b></p> <p><b>Design</b> Develop ideas through drawings or simple mock-ups.</p> <p><b>Make</b> Shape and join materials with improved accuracy (e.g. clay pot or dough figure).</p> <p>Use a variety of tools and textures (e.g. straws, stamps).</p> <p><b>Evaluate</b> Say how their model fits its purpose (e.g. "It's a plate for food").</p>	<p><b>Developing techniques and finishing skills.</b></p> <p><b>Design</b> Plan models for a specific function (e.g. plant pot, mask).</p> <p><b>Make</b> Combine shaping and joining techniques to create 3D forms.</p> <p>Refine details using tools (e.g. shaping facial features).</p> <p><b>Evaluate</b> Use criteria to judge success and suggest changes.</p> <p><b>Technical Knowledge</b></p>	<p><b>Structural integrity and creativity.</b></p> <p><b>Design</b> Develop annotated sketches or step-by-step plans.</p> <p><b>Make</b> Build 3D forms using slab or coil methods with more precision.</p> <p>Strengthen and support structures internally (e.g. armature or wire).</p> <p><b>Evaluate</b> Compare finished model with plan and assess function/form.</p> <p><b>Technical Knowledge</b></p>	<p><b>Refinement, problem-solving, and understanding materials.</b></p> <p><b>Design</b> Research and plan detailed designs using models, diagrams, or digital tools.</p> <p><b>Make</b> Create accurate and refined models that serve a purpose or theme.</p> <p>Solve problems in construction (e.g. cracks, breaks) by adjusting techniques.</p> <p><b>Evaluate</b> Gather feedback and use it to improve future work.</p> <p><b>Technical Knowledge</b> Explain the advantages and limitations of</p>

	Use tools like rollers and cutters with support.	between sticky, dry, or smooth textures.	stronger (e.g. layering clay).  Recognise that tools help make different effects.	appropriately for cutting, shaping, and patterning.	<b>Technical Knowledge</b> Identify properties of different mouldable materials.  Know that different techniques create different shapes (pinch, coil, slab).	Understand drying and hardening times for materials.  Use different finishing techniques (painting, glazing).	Understand structural differences in mouldable materials (e.g. clay vs. papier-mâché).  Choose appropriate tools/materials for strength and finish.	different mouldable materials.  Understand how environmental factors (e.g. drying time, temperature) affect materials.
<i>Mouldable Materials Core Vocab</i>	<b>Soft Touch Squash Poke</b>	<b>Roll Flat Shape Tool</b>	<b>Press Join Smooth Form</b>	<b>Pinch Coil Decorate Plan</b>	<b>Sketch Texture Purpose Build</b>	<b>Refine Layer Harden Detail</b>	<b>Structure Strengthen Support Precision</b>	<b>Evaluate Improve Environment Material</b>
<b>Construction</b>  Example project ideas:  House Bridge Car Windmill	<b>Early exploration</b>  <b>Design</b> Engage with materials through free play. Choose between two materials (e.g. blocks vs. cups).  <b>Make</b>	<b>Simple Assembly</b>  <b>Design</b> Choose materials based on colour or shape. Begin to group similar items together before building.  <b>Make</b>	<b>Constructing with purpose</b>  <b>Design</b> Say or draw what they want to build (e.g. "a house"). Choose materials with a specific goal.  <b>Make</b>	<b>Early structure building</b>  <b>Design</b> Plan a simple model through drawing or verbal explanation. Consider purpose in their design (e.g. "It's a bridge for cars").  <b>Make</b>	<b>Functional models</b>  <b>Design</b> Create a labelled plan for a product with a function (e.g. chair for a toy). Consider materials and their purpose	<b>Strengthening and improving</b>  <b>Design</b> Create a design with a clear purpose and audience (e.g. desk organiser). Include different materials and joining	<b>Mechanisms and Moving parts</b>  <b>Design</b> Plan a construction project that includes moving parts (e.g. windmill, drawbridge). Annotate design to show	<b>Independent construction with function</b>  <b>Design</b> Write or draw detailed plans with measurements and material choices. Consider audience, function, and mechanism in the design.

	<p>Stack, knock down, and join large blocks or soft construction toys. Use hands to press or slot pieces together with support.</p> <p><b>Evaluate</b> Show preference for certain materials (e.g. smile, repeat action). React to success (e.g. clapping when tower stays up).</p> <p><b>Technical Knowledge</b> Explore how objects fit together and balance. Recognise that different shapes behave differently when stacked.</p>	<p>Join simple parts using pegs, poppers, or slot-together pieces. Attempt to make towers, bridges, or shapes with support.</p> <p><b>Evaluate</b> Talk about what they made using simple words or gestures. Show a preference (e.g. "like this one better").</p> <p><b>Technical Knowledge</b> Understand that stable structures need wide bases. Explore how some materials are easier to join than others.</p>	<p>Use construction kits, stick materials, or card shapes to build. Try using glue, tape, or folding to join parts.</p> <p><b>Evaluate</b> Describe what worked well or what didn't (e.g. "It fell down"). Point out a part they like.</p> <p><b>Technical Knowledge</b> Begin to understand basic joining methods (tape, glue). Recognise different materials have different strengths.</p>	<p>Cut, shape, and join paper, card, and other light materials. Use tools (scissors, glue sticks) with some control.</p> <p><b>Evaluate</b> Explain how well their model matched their plan. Say what they would do differently next time.</p> <p><b>Technical Knowledge</b> Understand how folding, layering, or tabs can make joins stronger. Recognise the function of simple tools.</p>	<p>before building.</p> <p><b>Make</b> Use a variety of joining techniques (flaps, tabs, glue, tape). Begin to measure and mark materials before cutting.</p> <p><b>Evaluate</b> Describe how their model works and how to improve it. Compare with another model (e.g. "Mine is taller").</p> <p><b>Technical Knowledge</b> Understand that stability comes from strong joins and balanced weight. Recognise and use reinforcing techniques (e.g. cross braces).</p>	<p>methods in the plan.</p> <p><b>Make</b> Cut and assemble with accuracy. Combine materials to strengthen structure (e.g. layering, folding).</p> <p><b>Evaluate</b> Test their product against its intended purpose. Use peer feedback to suggest improvements.</p> <p><b>Technical Knowledge</b> Understand how structure and material affect strength and function. Identify how shapes (e.g. triangles in frames)</p>	<p>how parts move.</p> <p><b>Make</b> Use tools (e.g. hole punch, split pins) to create movement. Combine fixed and moving parts (e.g. wheels on a frame).</p> <p><b>Evaluate</b> Explain how movement works and suggest refinements. Use technical terms in self and peer evaluation.</p> <p><b>Technical Knowledge</b> Understand how levers, pivots, and axles allow movement. Recognise the need for accurate alignment in</p>	<p><b>Make</b> Measure, cut, and join materials accurately and independently. Use appropriate tools and techniques for different tasks.</p> <p><b>Evaluate</b> Evaluate against success criteria (function, stability, appearance). Suggest realistic changes based on testing and peer feedback.</p> <p><b>Technical Knowledge</b> Explain how structure, material, and design affect performance. Understand how to select tools and materials based on function.</p>
--	--	---	--	---	---	--	--	---

						strengthen builds.	moving models.	
<i>Constructi on Core Vocab</i>	<b>Tower Up Down</b>	<b>Join Shape Tall Wide</b>	<b>Stick Glue House Break</b>	<b>Plan Cut Bridge Join</b>	<b>Measure Flap Stable Strong</b>	<b>Design Structure Reinforce Shape</b>	<b>Wheel Pivot Axle Move</b>	<b>Frame Measure Tool Function</b>