



D and T Knowledge and Skills Progression – Creativity



	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Generation of ideas	Develop their own ideas and explore a variety of resources, including blocks and construction kits to create 'small worlds' and objects linked to their interests.	Create collaboratively, share ideas and use a variety of resources to make products inspired by existing products, stories or their own ideas, interests or experiences.	Design criteria are the explicit goals that a project must achieve. Create a design to meet simple design criteria.	Ideas can be communicated in a variety of ways, including written work, drawings and diagrams, modelling, speaking and using information and communication technology. Generate and communicate their ideas through a range of different methods.	Design criteria are the exact goals a project must achieve to be successful. These criteria might include the product's use, appearance, cost and target user. Develop design criteria to inform a design.	Annotated sketches and exploded diagrams show specific parts of a design, highlight sections or show functions. They communicate ideas in a visual, detailed way. Use annotated sketches and exploded diagrams to test and communicate their ideas.	A pattern piece is a drawing or shape used to guide how to make something. There are many different computer-aided design packages for designing products. Use pattern pieces and computer-aided design packages to design a product.	Design criteria should cover the intended use of the product, age range targeted and final appearance. Ideas can be communicated in a range of ways, including through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Develop design criteria for a functional and appealing product that is fit for purpose, communicating ideas clearly in a range of ways.
Structures	Different materials can be used for construction. They have different properties. Make simple structures using a range of materials.	Different materials have different properties and can be used for different purposes. Construct simple structures and models using a range of materials.	Different materials can be used for different purposes, depending on their properties. For example, cardboard is a stronger building material than	Structures can be made stronger, stiffer and more stable by using cardboard rather than paper and triangular shapes rather than squares. A broader base will also make a structure more stable. Explore	Shell structures are hollow, 3-D structures with a thin outer covering, such as a box. Frame structures are made from thin, rigid components, such as a tent frame. The rigid frame gives the	A prototype is a mock-up of a design that will look like the finished product but may not be full size or made of the same materials. Shell and frame structures can be strengthened by gluing several	Various methods can be used to support a framework. These include cross braces, guy ropes and diagonal struts. Frameworks can be built using lolly sticks, skewers and bamboo	Strength can be added to a framework by using multiple layers. For example, corrugated cardboard can be placed with corrugations running alternately vertically and horizontally.

			paper. Plastic is light and can float. Clay is heavy and will sink. Construct simple structures, models or other products using a range of materials.	how a structure can be made stronger, stiffer and more stable.	structure shape and support. Diagonal struts can strengthen the structure. Create shell or frame structures using diagonal struts to strengthen them.	layers of card together, using triangular shapes rather than squares, adding diagonal support struts and using 'Jinks' corners (small, thin pieces of card cut into a right-angled triangle and glued over each joint to straighten and strengthen them). Prototype shell and frame structures, showing awareness of how to strengthen, stiffen and reinforce them.	canes. Build a framework using a range of materials to support mechanisms.	Triangular shapes can be used instead of square shapes because they are more rigid. Frameworks can be further strengthened by adding an outer cover. Select the most appropriate materials and frameworks for different structures, explaining what makes them strong.
Use of ICT	Seek support from adults to use digital devices to create a digital record of their creations	Digital devices can be used to share information about creations with others. Use digital devices to take digital images or recordings of their creations to share with others.	Computer-aided design is when computers are used to help design products. It has advantages over paper design in that it will show how finished products will look. Different colours and textures can also be trialled. Use design software to create a	Computer software can be used to help design or plan a product. Advantages include identifying and solving problems before the product is made and experimenting with different materials and colours. Labels can be added to designs for clarity. Use design software to create a simple labelled design or plan.	A program is a set of instructions written to perform a specified task on a computer. Write a program to make something move on a tablet or computer screen.	Remote control is controlling a machine or activity from a distance. Computers can be used to remotely control a device, such as a light, speaker or buzzer. Write a program to control a physical device, such as a light, speaker or buzzer.	Equipment and devices can be controlled by pressing buttons on a control panel, such as on a washing machine or microwave. Link a physical device to a computer or tablet so that it can be controlled (such as changing motor speed or turning an LED on and off) by a program.	Computer monitoring uses sensors as a scientific tool to record information about environmental changes over time. Computer monitoring can also log data from sensors and record the resulting information in a table or graph. Use a sensor to monitor an environmental variable, such as temperature, sound or light.

			simple plan for a design.					
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