

Design and Technology Progression of Skills, Knowledge and Vocabulary

Design and Technology Progression of Knowledge

Strand	Year 3	Year 4	Year 5	Year 6
Designing	Know that products are designed for a user and purpose. Know that products can be improved through evaluation.	Know that design decisions are influenced by user needs and function.	Know that research can inform and improve design decisions.	Know that successful products meet specific design criteria and user requirements.
Structures	Know that products need secure joins to remain stable.	Know that structures can be strengthened through reinforcement and framing.	Know that shape, materials and tension affect stability and performance.	Know how structural features contribute to durability and function.
Mechanisms	Know that levers and sliders create movement.	Know that switches control electrical products.	Know that gears and cams transfer and change movement.	Know that cams, levers and linkages can be combined to create complex movement.
Electrical Systems	Know that many products use electricity.	Know the role of a battery, bulb and switch within a circuit. Know the difference between conductors and insulators.	Know how electrical components work together within a product.	Know how electrical systems can be incorporated into products for a specific purpose.
Textiles	Know that fabrics can be joined using sewing and glueing techniques.	Know that different materials have different properties and uses.	Know that material choice affects the quality and suitability of a product.	Know how different stitching techniques strengthen and improve a textile product.
Cooking & Nutrition	Know the main food groups and the importance of healthy eating. Know that foods grow in different seasons.	Know where foods come from and how food availability has changed over time.	Know that recipes can be adapted to improve flavour, texture or nutrition.	Know how ingredients contribute to a balanced diet and how dietary needs may influence food choices.
Evaluation	Know that products can be evaluated against their intended purpose.	Know that materials and construction methods affect success.	Know that testing helps identify improvements.	Know that functionality, durability and aesthetics contribute to successful design.

Design and Technology Progression of Skills

Strand	Year 3	Year 4	Year 5	Year 6
Designing	Identify a user and purpose. Produce simple annotated designs.	Design products for a specific user or need. Use research to inform designs.	Create detailed annotated designs and adapt them following testing.	Independently research, design and refine products using design criteria.
Making	Measure, mark out, cut and join materials accurately.	Select appropriate tools and materials and construct products safely.	Assemble components accurately and adapt products during construction.	Create products independently with increasing precision and quality.

Structures	Construct simple stable products.	Strengthen and reinforce structures.	Select suitable materials and test structural effectiveness.	Apply structural knowledge to create durable products.
Mechanisms	Create products using simple levers and sliders.	Incorporate electrical switches into products.	Build products using gears and cams.	Construct products combining cams, levers and linkages.
Electrical Systems	Identify electrical products and components.	Build a simple circuit.	Apply circuit knowledge when constructing products.	Select and use electrical components appropriately within designs.
Textiles	Use templates and running stitch to join fabric.	Select suitable materials for purpose.	Consider material properties when designing products.	Create patterns and use a range of stitches including running stitch, back stitch and blanket stitch.
Cooking & Nutrition	Chop, grate and prepare ingredients safely.	Follow and adapt recipes. Cook using heat safely.	Adapt recipes and evaluate nutritional value.	Prepare and cook healthy meals independently with increasing accuracy.
Evaluating	Discuss strengths and areas for improvement.	Evaluate products against design criteria.	Test products and use findings to improve designs.	Critically evaluate products and refine future designs.

Design and Technology Vocabulary Progression

Strand	Year 3	Year 4	Year 5	Year 6
Designing	design, user, purpose, annotate, template	design criteria, component, features, refine	research, prototype, adapt, modify, function	specification, criteria, user needs, aesthetic, refine
Making	measure, cut, join, glue, decorate	construct, reinforce, select, material, tool	assemble, technique, test, adapt, component	finish, durable, precision, quality, manufacture
Evaluating	evaluate, improve, compare, features, success	strengths, weaknesses, purpose, suitable, user	test, modify, effectiveness, improve, adapt	performance, functionality, criteria, aesthetic, refine
Structures	join, stable, shape, support, build	structure, reinforce, frame, stable, material	tension, stability, frame, adapt, material	durable, strength, function, purpose, evaluate
Mechanisms	lever, slider, mechanism, fold, score	switch, movement, circuit, control, component	gear, cam, follower, rotary, rotation	linkage, system, motion, mechanical, refine
Electrical Systems	electricity, power, device, light, energy	circuit, battery, bulb, switch, conductor, insulator	component, connection, function, current	electrical system, input, output, control, design
Textiles	fabric, stitch, running stitch, template, decorate	material, join, design, technique, finish	properties, suitability, construction, textile	pattern, seam, back stitch, blanket stitch, appliqué
Cooking & Nutrition	seasonality, hygiene, chop, grate, utensil, fruit, vegetable	ingredient, stock, simmer, boil, hob, flavour, season	recipe, adaptation, nutrition, texture, appearance, taste	dough, yeast, knead, proportion, preparation, pre-heat, dietary needs