Skills Progression Framework: Design and Technology

Knowledge & Skills Progression Grid

Year Group	Design	Make	Evaluate	Technical knowledge	Cooking and nutrition
EYFS / Reception	• Explore materials, tools and construction resources through play • Talk about what they want to make and what it will be used for • Begin to plan simple creations with support	• Use simple tools and joining materials safely with adult support • Build, assemble and join materials in different ways • Develop control when cutting, sticking, folding and constructing	• Talk about what they have made and whether it works as intended • Suggest simple changes to improve their model or product • Share ideas about what they liked or would do differently next time	• Explore how materials behave and can be changed • Notice basic properties of materials such as hard, soft, flexible and stiff • Use simple mechanisms in play, such as wheels, levers and hinges in toys	• Handle ingredients and tools safely with support • Talk about simple foods and healthy choices in familiar contexts • Follow simple steps to make a snack or prepare food for a purpose
Year 1	• Begin to generate ideas based on a simple design criteria • Use pictures, words and discussion to communicate what a product should do • Select from a small	• Use simple tools, equipment and techniques safely • Cut, join, shape and decorate materials to make a product • Assemble and finish a product so that it looks	• Say what they like and dislike about their work and that of others • Talk about whether their product is fit for purpose • Begin to evaluate	• Know that materials have different properties and uses • Begin to understand that products can be made from different materials for different purposes • Use simple mechanisms	• Use basic food preparation skills safely and hygienically with support • Understand that some foods are healthier than others • Follow simple

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Knowledge & Skills Progression Grid

	range of materials with guidance	neat and works in a basic way	against a simple success criterion	such as sliders, levers, wheels and axles in model-making	instructions to prepare a food product
Year 2	• Generate and communicate ideas using talk, drawings and templates • Decide what a product is for and who it is for • Use simple design criteria to guide decisions	• Select tools and materials more independently • Measure, cut, join, shape and assemble with increasing accuracy • Use simple finishing techniques to improve the appearance and function of a product	• Talk about how well products work in relation to the design criteria • Identify what went well and what could be improved • Compare their work with examples and suggest improvements	• Understand that structures need strength, stability and a suitable shape • Explore movement and control through simple mechanisms • Recognise that different materials and components are chosen for different jobs	• Use basic food preparation techniques safely and hygienically • Recognise the importance of a varied and balanced diet • Prepare simple dishes using fruit and vegetables or other suitable ingredients
Year 3	• Use research and discussion to develop ideas for a purpose • Generate design criteria that link to the intended user and function • Produce labelled sketches and simple exploded diagrams	• Select from a wider range of tools, materials and components • Measure, mark out, cut and join with growing accuracy • Construct products with increasing control over structure and finish	• Evaluate products against design criteria and intended purpose • Consider the views of users and suggest improvements • Test products and begin to recognise strengths and weaknesses	• Understand how levers, linkages and pneumatic systems create movement • Explore how shell and frame structures can be made stronger • Recognise that electrical or mechanical components can be combined in a product	• Understand that a healthy diet is made up of a variety of foods • Prepare and combine ingredients using simple cooking techniques • Apply basic food safety and hygiene routines more independently
Year 4	• Investigate existing products and use	• Use tools and equipment with	• Test, analyse and evaluate products	• Understand how mechanical systems such	• Understand where food comes from and

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	findings to inform design decisions • Develop detailed ideas and explain choices using design vocabulary • Create step-by-step plans and diagrams for making	increasing precision and safety • Measure, cut, shape and assemble materials accurately • Make products that combine functional and aesthetic qualities	against clear criteria • Identify ways to strengthen, improve or refine a design • Explain how materials, structures and mechanisms affect performance	as cams, axles and gears work • Explore how structures can be reinforced for stability and strength • Recognise the role of circuits and switches in simple electrical systems	how seasonal produce may be used • Use a wider range of preparation and cooking techniques safely • Combine ingredients with consideration for taste, texture and appearance
Year 5	• Carry out research to inform purposeful design solutions • Develop designs that show consideration of user needs and constraints • Produce detailed plans, labelled drawings and prototypes	• Select and combine materials and components appropriately • Use tools accurately and safely to make reliable products • Apply finishing techniques that improve quality and functionality	• Evaluate the success of products using user feedback and testing • Suggest specific improvements based on evidence • Compare commercial and class-made products critically	• Understand and apply knowledge of mechanical and electrical systems • Recognise how structures can be strengthened through bracing and triangulation • Apply knowledge of computing or control systems where appropriate	• Understand how ingredients work together in a recipe • Adapt recipes or combine ingredients to create a balanced dish • Demonstrate secure food hygiene, safety and preparation routines
Year 6	• Independently research, generate and refine design ideas for a clear purpose • Justify design decisions	• Use tools, materials and components with confidence and precision • Make high-quality products that meet	• Evaluate finished products against design brief, user need and success criteria • Analyse the	• Apply knowledge of structures, mechanisms, electrical systems and control • Explain how more	• Plan, prepare and cook a range of savoury dishes safely and hygienically • Select ingredients with

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Knowledge & Skills Progression Grid

	using evidence and prior learning • Produce accurate annotated plans and prototypes	design brief requirements • Refine work through testing, modification and improvement	effectiveness of materials, structure and mechanisms • Consider environmental impact, sustainability and product lifecycle	complex products work and why specific choices were made • Understand how technical knowledge supports purposeful design	awareness of seasonality, nutrition and cost • Explain how a balanced diet supports health and wellbeing

Cornerstones Big Ideas and Curriculum Alignment

- **Design and Technology links to the Big Ideas**
  - **Humankind**: Design and technology responds to human needs, preferences, health and safety.
  - **Processes**: Pupils follow a cycle of research, design, make, evaluate and improve.
  - **Creativity**: Children develop original solutions through sketching, modelling, prototyping and testing.
  - **Investigation**: Enquiry into existing products, materials and mechanisms supports informed design.
  - **Materials**: Pupils learn how different materials behave and why they are chosen for specific purposes.
  - **Nature**: Food, sustainability, seasonality and responsible use of resources are significant themes.
  - **Place and Space**: Products must often be designed for a specific user, environment or context.
  - **Comparison**: Evaluation includes comparing products against criteria, users' needs and alternative solutions.
  - **Significance**: Pupils understand the importance of design in solving practical problems and improving daily life.
  - **Change**: The subject helps pupils see how products, tools and systems improve over time through innovation.

Assessment Focus

- **EYFS and Key Stage 1**
  - Can the pupil generate simple ideas and talk about what a product is for?

Skills Progression Framework: Design and Technology

Knowledge & Skills Progression Grid

    - Can the pupil use tools and materials safely with increasing control?
    - Can the pupil explain whether their product works and how it could be improved?
- **Lower Key Stage 2**
    - Can the pupil research, plan and make products for a clear user and purpose?
    - Can the pupil use technical knowledge to support design and construction?
    - Can the pupil evaluate outcomes using criteria, testing and feedback?
- **Upper Key Stage 2**
    - Can the pupil design independently and justify their choices with evidence?
    - Can the pupil make high-quality products using precise practical skills?
    - Can the pupil evaluate effectiveness, sustainability and suitability with confidence?