TGMS DESIGN & TECHNOLOGY PROGRESSION OF KNOWLEDGE & SKILLS

The following grid shows the targets and progressions across the school for the Design & Technology curriculum. The topics we cover in school are designed to address these targets in creative and interesting subject matter to inspire our children.

Topic	Year 3	Year 4	Year 5	Year 6
Design Process & Evaluation	✓ Follow the set criteria provided ✓ Identify what makes a product appealing ✓ Consider the target audience for an appealing product ✓ Suggest what went well with a design ✓ Investigate and analyse existing products	✓ Provide examples of criteria from known objects in conjunction with/without set criteria ✓ Annotate drawings to show meaning for a product ✓ Explain how their design would be appealing ✓ Select your favourite from 2 or more designs of products that have the same functionality ✓ Suggest how a design/prototype could have been better	✓ Set own criteria for products (group) ✓ Write a design brief ✓ Design a product in relation to criteria whilst being appealing ✓ Consider the views of the target audience when designing ✓ Consider how the target audience will use the function ✓ Explain fully how an element of the design could be improved ✓ Compare design/prototype to own design criteria	✓ Independently set criteria ✓ Make changes and develop designs to make them more appealing ✓ Develop design ideas in relation to how the target audience will use the product ✓ Adapt designs and recreate newly formed products after evaluating for improvements ✓ Critique their own and the design of others to improve
Structures		✓ Explain how a structure will be strong ✓ Improve designs by strengthening structures ✓ Explain why they would use a particular material	✓ Use triangles to form stiffened structures ✓ Reinforce structures and improve designs after making prototypes ✓ Consider how material properties would affect the quality of the product	✓ Use wooden struts to form stiffened structures ✓ Reinforce structures in a variety of ways ✓ Develop an awareness of how material properties affect the quality of the product
Food Technology	✓ Recognise the importance of a balanced diet ✓ Identify where food comes from ✓ Use a knife correctly ✓ Taste different foods ✓ Create simple dishes ✓ Understand the importance of food hygiene ✓ Wash hands ✓ Wear aprons and tie effectively ✓ Use equipment safely ✓ Read different scales ✓ Use ml/l to measure liquids ✓ Use g/kg measure to weigh	✓ Recognise the main food groups ✓ Classify food into food groups ✓ Blend ingredients ✓ Cook ingredients ✓ Follow a recipe ✓ Create a savoury dish ✓ Suggest improvements	✓ Present food effectively ✓ Select recipes to create a balanced meal ✓ Create a balanced meal ✓ Use scaling to double/treble a quantity ✓ Evaluate recipes against a given criteria	✓ Understand the impact of an unbalanced diet ✓ Create a recipe ✓ Produce recipes for a balanced meal ✓ Produce recipes for a two-course meal ✓ Evaluate the final recipe against a given criteria

Textiles	✓ Create pattern pieces directly from designs ✓ Select from different materials provided which would be most fit for the purpose ✓ Cut materials using scissors ✓ Sew materials using a running stitch ✓ Sew materials using cross-stitch		✓ Design pattern pieces to make duplicate items ✓ Create multiple pattern pieces for a single product ✓ Select appropriate methods to sew	✓ Design pattern pieces to make duplicate pieces ✓ Sew using a wide range of stitches ✓ Include embellishments, such as beads and sequins
Product Design	✓ Draw a basic design of a product that has a single function ✓ Use basic tools to cut and stick creating basic prototypes ✓ Build prototypes that show the size of the product ✓ Investigate how products have moving parts ✓ Create basic designs with levers ✓ Create basic designs with linkages and levers ✓ Use pulleys in design creating movement across or above ✓ Colour product ideas using pencils/pens	✓ Build prototypes that are appealing ✓ Create basic nets using paper ✓ Create simple circuits with buzzers, bulbs, resistors, motors and switches ✓ Create designs that have electronic components ✓ Paint products ✓ Use guides to increase accuracy when finishing products with pens/pencils and paint ✓ Discuss the height, width and depth of prototypes	✓ Design a product against own design brief ✓ Build prototypes that have a moving part ✓ Create basic moving products with Cams ✓ Sand and finish products ✓ Wrap products using fabrics, paper, card, plastics ✓ Use metric measurements when finding the length of products or designing prototypes ✓ Take accurate measurements from prototypes ✓ Take measurements of items affecting the design, e.g. size of a hand, item to be contained etc.	✓ Create products that are appealing to others rather than themselves ✓ Create nets of more complex shapes using paper ✓ Design products that require programming ✓ Investigate how gears affect mechanisms ✓ Create products including gear mechanism ✓ Produce products that require electrical circuits ✓ Link programmed circuits into ✓ Use a range of finishes including layering finishes with windows products/prototypes for a purpose ✓ Use scaling to make to-scale prototypes
Technical Drawing	✓ Produce simple pencil sketches with labels ✓ Label a diagram of a design	✓ Create a range of sketched ideas for the same product ✓ Draw a diagram of specific elements of a product and explain how they work	✓ Sketch ideas from differing perspectives ✓ Select elements of different design sketches to form a final design ✓ Create exploded diagrams to show all the individual components of a product ✓ Create isometric images of designs	✓ Produce multi-view (top, side, front, back) images ✓ Create cross-sectional diagrams to show the inner workings of a product
Computer-Aided Design			✓ Use CAD design in the planning stage for structures	✓ Create examples of programming for a purpose ✓ Programme sequences to create movement with LEGO models ✓ Explain how different components would be used within a design
Design History	✓ Research designers ✓ Investigate products that have shifted thinking in design		✓ Highlight the importance of key events in design that have developed new ways of thinking ✓ Use analysis from designers and the past to form own creative ideas	

Practical Skills	✓ Glue materials to one another ✓ Choose from a range of provided tools	✓ Use resources to create prototypes ✓ Cut wood using a saw ✓ Select tools based on their uses	✓ Shape wood pieces using files/sandpaper ✓ Select the type of glue to use ✓ Create wood joints in woodwork	✓ Angle wood pieces using files/sandpaper ✓ Develop an understanding of how to select glues ✓ Create a variety wood joints in woodwork ✓ Select from different joining laps when joining wood