DT Progression Grid – Skills and Experiences

Alfriston Primary School

	Reception	Years 1+2	Years 3+4	Years 5+6
Design	Talk about design ideas Draw a picture/ take a photo of their design	Talk about realistic ideas for their design (use previous experiences) Draw labelled pictures Simple verbal or written explanations Model ideas Consider purpose and appeal for audience	Use different information sources when designing. Consider purpose, audience, appearance. Consider conservation of materials. Discussion, annotated sketches, lists, CAD* (foldify) Plan a sequence of actions Assemble and rearrange a range of materials and components to model ideas	Use a number of different sources to collect design ideas. Consider appearance, purpose, safety and reliability. Consider cost and availability of materials. Discussion, annotated sketches, scale drawings, cross sectional drawings, CAD** (Tinkercad), exploded diagrams, prototypes Develop step by step plans and modify them as appropriate through discussion, drawing and modelling Apply knowledge of different techniques to express ideas and feelings
Make	Shape using scissors **Joining** – glue, treasury tags, sticky tape, split pins, string **Tools –** scissors, hole punch	Mark out and cut accurately with scissors Demonstrate a range of shaping techniques – tearing, folding, cutting, curling **Joining** – **temporary**: treasury tags, split pins, blue tac, paper fastener **fixed:** glue, sellotape, staples	Mark out and cut accurately using standard measures **Simple techniques -** Joining, Shaping, Finishing **Tools** – saws, needles, knives …but with greater accuracy and control	Mark out and cut accurately using standard measures and refine with appropriate tools Show understanding of qualities of materials to choose appropriate tools to cut and shape **Accuracy in techniques -** Joining, Shaping, Finishing

	Materials – papers, card, fabric, wool, string, construction kits, pipe cleaners, straws **Sewing** – plastic binca with wool and large plastic needles – over sewing	**Tools** – (close supervision) saws, needles, stapler hole punch Cut out template shapes **Sewing** – running stitch	**Materials** – Be aware of functional qualities and conservation **Sewing** – backstitch	**Tools** – saws, knives, drills, glue guns, hammers …but with greater accuracy and control **Materials** –Be aware of functional and aesthetic qualities and cost, availability of materials **Sewing** – blanket stitch
Technical Knowledge	**Mechanisms** - Split pins and hole punches to make simple moving parts **Structures** – junk modelling **Textiles** - Over sewing	**Mechanisms** - Wheels and axles – construction kits with free running wheels, models with cotton reel wheels; Simple levers and sliders, simple pop ups; hinges **Structures** - stable, free standing – tearing, folding, cutting, rolling, curling joining paper/ card / combine materials to strengthen **Textiles**- Joining with material – cut out template shape, over sewing, running stitch, glue, staple, tape	**Mechanisms** – levers, linkages; pneumatics **Structures** - Shell (nets, giftboxes, lunchboxes, packaging, party boxes...) – strengthen with diagonal struts **Electrical systems** – switches, bulbs, buzzers **Textiles** – running stitch, over sewing, backstitch, sew on buttons, make loops, simple applique	**Mechanisms** – pulleys, gears, cams **Structures** - Frame e.g. playground shelters, tents, gazebos, bird hide, playground equipment **Electrical systems** – switches, bulbs, buzzers, motors **Textiles** – blanket stitch, glue, press studs, Velcro, zips, buttons, computer aided design Show precision in techniques
Evaluating	3 stars and a wish!	Evaluate against design criteria	Evaluate against design criteria – purpose, appearance, conservation of materials	Evaluate their ideas, plans and products against design criteria – purpose, appearance, safety, reliability, cost, availability of materials

	Handling existing products before making	Evaluate and explore a range of existing products Suggest improvements and next steps Learn about and understand how key events and (diverse) individuals in design and technology have helped shape the world e.g. Wright brothers, Christopher Wren, Ole Kirk Christiansen (lego)	Evaluate, disassemble and analyse a range of existing products Consider the view of others to improve work Learn about and understand how key events and (diverse) individuals in design and technology have helped shape the world e.g. Thomas Edison, Graham Bell, Coco Chanel.	Test and evaluate their work as it develops, making adjustments as necessary Consider the view of others to improve work Learn about and understand how key events and (diverse) individuals in design and technology have helped shape the world e.g. Steve Jobs, Isambard Kingdom Brunel
Cooking and Nutrition	Learn about healthy eating Growing and cooking vegetables Prepare food linked to topics	Learn about a healthy diet Cut, peel, grate ingredients safely and hygienically Measure and weigh using cups and scales Understand where food comes from	Follow a recipe (savoury) Measure ingredients to the nearest gram Prepare, assemble or cook ingredients hygienically Learn about seasonality of food and how it is grown, reared, caught and processed e.g. spices used in curry, chocolate Research products – Which is the healthiest?	Create, prepare, cook, refine a variety of recipes (ingredients, methods, cooking times, temperatures) Measure accurately and calculate ratios of ingredients to scale up or down from a recipe Importance of correct storage and handling of ingredients (micro-organisms)

*http://www.foldifyapp.com/ - free Computer Aided Design (CAD)

**https://www.tinkercad.com/ - free Computer Aided Design (CAD) resource suitable for primary schools – use CAD in UKS2 to progress to KS3