

Design and Technology DISCIPLINARY knowledge progression overview

Disciplinary knowledge is the knowledge which helps us to learn and embed the substantive knowledge that we learn in DT. These are the ways in which children at Hollybrook think or work in their DT lessons by designing, making, reflecting and evaluating. Below is an overview of these and how they progress through our curriculum here at Hollybrook Schools.

The children know how to…

Disciplinary knowledge		EYFS	KS1	Lower KS2 (Y3 and 4)	Upper KS2 (Y5 and 6)
 Design		• Begin to make a simple design in order to create something	• Follow a design to create something. • Using a template to create a design. • Create a design for a specified audience labelling simple features e.g. materials or colour. • Generate and communicate ideas using sketching and modelling.	• Drawing and labelling a design using 2D and 3D shapes as well as material and colour. • Design and make a template from an existing product and applying individual design criteria. • Design a product within a given budget, drawing upon previous testing. • Give careful consideration to the target audience, designing own design criteria. • Test a paper template with accuracy and in keeping with the design criteria.	• Design a stable structure that is able to support weight. • Create a frame structure with a focus on triangulation. • Adapt a traditional recipe by removing, substitute or add additional ingredients. • Draw a design from three different perspectives • Model ideas through prototypes. • Write a recipe, explaining the key steps, method and ingredients.
 Make	Cut	• Hold and use scissors correctly to cut paper/card • Hold and use a knife for eating correctly	• Cut neatly different shapes using scissors • Slice food safely using the bridge grip.	• Cut a net to create the structure. • Use the claw grip to cut fruit/vegetables and dice • Select and cut fabrics with ease using fabric scissors. • Measure, mark, cut and assemble with increasing accuracy.	• Use a saw to cut wood and a jig to ensure consistent size • Cut and prepare food safely. • Measure, mark and cut components accurately using a ruler and scissors. •
	Join	• Join using glue and tape.	• Investigate joining techniques/materials together- use pipe cleaners to join. • Make linkages using card for levers and split pins for pivots.	• Join together different shapes to create strong structures. • Tie knots with greater independence. • Decorate fabric using appliqué. • Use appropriate equipment to cut and attach materials.	• Constructing a stable base for a game. • Accurately cut, fold and assemble a net. • Select appropriate materials based on the materials being joined and the speed at which the glue needs to dry/set.

	Sew	• Thread-fine motor control activities.	• Sew a running stitch to join fabric	• Sew cross stitch to join fabric. • Sew a running stitch to add embellishments and make pockets.	• Add fastenings to a material. • Select a stitch style to join fabric, working neatly by sewing small, straight stitches. •
	Construct	• Construct with a clear purpose using paper and paste • Construct props for the role play	• Make stable structures from card, tape and glue. • Create moving models that use levers and sliders. • Make functioning turbines and axles which are assembled into a main supporting structure.	• Construct a range of 3D geometric shapes using nets . • Create special features for individual designs. • Make facades from a range of materials.	• Use triangles to create truss bridges that span a given distance and support a load. • Assemble components accurately to make a stable frame.
 Reflect	Existing Products	• Look at a product and say what you like about it.	• Explore and evaluate a range of existing products.	• Investigate and analyse a range of existing products.	• Research independently, investigate and analyse a range of existing products.
 Evaluate		• When asked children can begin to talk about what they would do next time to improve • Begin to comment on others work – learning from others to support their evaluation	• Evaluate their design against the design criteria. • Testing a finished product, seeing whether it moves as planned and if not, explaining why and how it can be fixed.	• Evaluate a final product based on the effect, the accuracy of workmanship and performance. • Evaluate a range of food and electrical products. • Evaluating an end product and thinking of other ways in which to create similar items.	• Adapting and improving own work by identifying points strength and weaknesses. • Suggesting points for improvements own and work designed by others. • Testing and evaluating an end product against the original design criteria. • Deciding how many of the criteria should be met for the product to be considered successful. • Suggesting modifications for improvement. • Evaluating health and safety in production to minimise cross contamination.