

Design and Technology Progression

Design and Technology in EYFS

In EYFS children will have the opportunity to experience a range of creative opportunities and to develop key skills and techniques within the curriculum.

There will be a focus on developing fine motor skills and learning how to plan, design and produce the finished project. Children will have opportunities to learn simple cutting and joining techniques and use these techniques in model making and explore through construction kits. They will gain an understanding about food, following a recipe and will take part in cooking a range of different foods such as apple crumble or soup and then evaluating them. The children will be, where appropriate, included in whole school projects, workshops, events and competitions associated with Design and Technology.

Expressive arts and Design – Creating with materials

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.
- Share their creations, explaining the process they have used.

PSED – Managing self

- Understanding the importance of healthy food choices.

Physical Development – Fine motor skills

- Use a range of small tools, including scissors, paintbrushes and cutlery.

Designing

KS1

- Work in a range of contexts
- Use pictures and words to convey what they want to design/make
- Use templates and mock ups to convey what they want to design/make
- Create designs that are purposeful and functional
- Create designs that are appealing and aesthetic
- Record ideas and add drawings to help explain
- Describe models and drawings of ideas and intentions

KS2

- Develop designs, thinking about aesthetics and appeal
- Develop designs, thinking about function and ensuring they are fit for purpose
- Talk to others about ideas
- Plan sequence of actions and decide on tools/material
- Record ideas with annotated sketches/diagrams
- Use cross-sectional and exploded diagrams
- Use prototypes and computer-aided designs to generate, discuss, develop, communicate and model ideas

Making

KS1

- Describe what they are making, saying what they need to do next
- Select materials and say why they are using them
- Select techniques and say why they are using them
- Select and name the tools needed to work the materials
- Work safely and hygienically

KS2

- Prepare templates/prototypes using a computer where appropriate
- Cut slots and internal shapes
- Select appropriate tools for specific purposes to perform practical tasks accurately
- Use tools with accuracy
- Select materials and components according to functional properties and aesthetic qualities
- Plan the stages of the making process
- Work safely and hygienically

Evaluating (before, during and after)

KS1

- Explore how existing products have been made and how they achieve their purpose
- Talk about their design as they develop and identify good and bad points
- Say what they like and do not like about items they have made and attempt to say why
- Say how closely their finished product meets the design criteria and how well it meets the needs of the user

KS2

- Investigate a range of products
- Analyse a range of products
- Research the needs of the user and purpose of product
- Identify strengths/weakness of their designs during the making
- Evaluate how the end product could be improved in relation to the criteria
- Discuss how well the product meets the user-criteria (using correct technical vocabulary)
- Consider the views of others in improving their own work

Structures

Year 1 / 2

- Explore different structures
- Join materials using glue/tape
- Cut along different types of lines
- Cut out shapes accurately including using templates
- Investigate and explore how to make structures stronger
- Test structures for stability

Year 3 / 4

- Explore structures related to theme
- Explore/recreate ways to join/fasten
- Measure/mark accurately to 1cm
- Cut accurately to 1cm (1mm)
- Strengthen frames with diagonal struts
- Make structures more stable with a wide base
- Build shell or frame structures

Year 5 / 6

- Explore structures related to theme
- Join materials appropriately
- Cut strip wood accurately to 1mm
- Use bradawl to mark holes
- Use hand drill to drill tight and loose fit holes
- Experiment with frameworks to support
- Stiffen and reinforce complex structures

Mechanisms

Year 1 / 2	Year 3 / 4	Year 5 / 6
<ul style="list-style-type: none">• Look at examples of sliders• Investigate sliders• Experiment with sliders to make things move• Cut out sliders accurately• Experiment with joining techniques• Plan and design slider linked to theme	<ul style="list-style-type: none">• Look at examples of levers or linkages• Investigate levers or linkages• Use cutting and joining skills• Investigate fixed and loose pivots• Plan and design product• Create product connected to theme	<ul style="list-style-type: none">• Look at examples of cams / gears• Investigate cams / gears• Work outside on a group cams / gears test• Experiment with cams / gears• Plan and design product• Create product connected to theme

Food Technology

Year 1 / 2	Year 3 / 4	Year 5 / 6
<ul style="list-style-type: none">• Develop a vocabulary using taste, smell, texture, feel• Group familiar food products• Explain where food comes from• Cut, peel, grate, chop a range of ingredients• Measure and weigh food items using non-statutory measures• Understand the need for a balanced diet• Talk about what makes a healthy meal	<ul style="list-style-type: none">• Develop sensory vocabulary / knowledge• Analyse taste, texture, smell, appearance of foods (savoury)• Follow instructions / recipes• Join/combine range of ingredients• Explore seasonality of vegetables and fruit• Investigate fruits / vegetables through topics in geography• Understand the principles of a healthy and varied diet	<ul style="list-style-type: none">• Prepare food looking at ingredient properties / sensory features• Weigh and measure using scales• Select and prepare foods for a purpose• Use a range of cooking techniques• Know where and how ingredients are grown and processed• Consider influence of chefs• Apply the principles of a healthy and varied diet

Textiles

Year 1 / 2	Year 3 / 4	Year 5 / 6
<ul style="list-style-type: none">• Cut out shapes using a template/drawing• Decorate fabrics by attaching items• Join fabrics using glue and tape• Colour fabrics using a range of techniques	<ul style="list-style-type: none">• Practise and compare sewing stitches.• Investigate ways of opening and closing pencil cases.• Sew embellishments to pieces of fabric.• Design a pencil case.• Make and evaluate a pencil case based on a design.	<ul style="list-style-type: none">• Investigate and analyse items made using textiles: the materials used and how they are made.• Explore some ways in which textiles are joined and decorated.• Design an item made using textiles, and draw pattern pieces.• Use pattern pieces to measure, mark and cut fabric; to sew design elements according to a design.• Join fabric pieces by hand sewing.• Sew hems on an item made using textiles; to add design details.

Electrical Systems

Year 1 / 2

Year 3 / 4

Year 5 / 6

- Look at range of electrical systems and link to theme
- Use knowledge from science unit to plan how to use electrical systems
- Create structure using skills
- Incorporate a circuit into a model
- Test model