

Progression in Design and Technology at Raughton Head CE Primary

We use Developmental Matters as Non-statutory curriculum guidance for the Early Years Foundation Stage.

3- and 4-year olds will be learning to:

Take part in simple pretend play, using an object to represent something else even though they aren't similar.
Begin to develop complex stories using small world equipment like animal sets, dolls and dolls houses, etc.
Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park.
Explore different materials freely, to develop their ideas about how to use them and what to make.
Develop their own ideas and then decide which materials to use to express them.
Join different materials and explore different textures.

Children in reception will be learning to:

Create using lots of different tools, materials and techniques.
Be allowed time to draw and make marks.
Talk about the process used when creating.

The EYFS profile is a statutory assessment of children's attainment. At the end of the Early Years Foundation Stage children should be able to:

Use a range of small tools, including scissors, paint brushes
Begin to show accuracy and care when drawing.
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
Make use of props and materials when role playing characters in narratives and stories.

The national curriculum for Art and Design aims to ensure that all pupils:

Key stage 1

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

When designing and making, pupils should be taught to:

Design

- design purposeful, functional, appealing products for themselves and other users based on design criteria
- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology

Make

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

Evaluate

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria

Technical knowledge

- build structures, exploring how they can be made stronger, stiffer and more stable
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

Cooking

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from.

Key Stage 2

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

When designing and making, pupils should be taught to:

Design

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Make

- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
- select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

Evaluate

- investigate and analyse a range of existing products
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- understand how key events and individuals in design and technology have helped shape the world

Technical knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products.

Cooking

- understand and apply the principles of a healthy and varied diet
- prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
- understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed

Pupils should be taught to:	Early Years		Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
	Class One		Class Two			Class Three		
	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Everyday products	Name and explore cups, plates and spoons.	Know that everyday products have a specific use and describe how they are used.	Name and explore more everyday products such as toothbrush, pencil. Know they have a specific purpose.	Explain how an everyday product could be improved such as making them hardwearing or attractive.	Explain how existing products benefit the user such as nail clippers or a cool box.	Investigate design features of a product.	Explain how the design of a product has been influenced by culture (i.e. chopsticks) or society.	Analyse how a product has significantly changed or improved people's lives, i.e. the Morrison bomb shelter.
Staying safe	Show understanding of safety with tools and equipment and listen to adults.	Know that rules keep us safe and use equipment that was designed for the task. Follow procedures such as washing hands.	Know that rules keep us safe from danger. Follow procedures such as washing hands.	Follow rules and know rules such as; washing hands, tying hair back and storing food correctly.	Use appliances safely with adult supervision i.e. electrical items.	Work safely with chemical products, know the symbols. Take safety precautions such as wearing gloves.	Explain safety features on a products such as child-safety caps on medicine and seatbelts.	Demonstrate how their product has taken into account the safety of the user, such as clear instructions for use.
Investigate (Design) Generate ideas	Explore tools and develop own ideas linked to their ideas, i.e. small world or construction.	Choose appropriate tools for tasks and create collaboratively.	Select appropriate tools and create a design to meet design criteria.	Select appropriate tools and explain why. Generate and communicate ideas through a range of methods.	Develop design criteria to inform a design and use tools safely.	Use annotated sketches and exploded diagrams to test and communicate ideas. Use tools safely.	Use pattern pieces and CAD to design a product. Name and select appropriate tools.	Develop design criteria for a functional and appealing product that is fit for purpose. Select tools and use safely and precisely.
Mechanisms	Explore, build and play with vehicles and ride on toys with wheels.	Explore, build and play with vehicles and ride on toys with wheels and axles.	Use wheels and axles to make a simple model. Know what an axle is for.	Use a range of mechanisms such as levers, sliders, linkages, gears, pulleys and cams.	Explore and understand the mechanisms from Year 2, describing them in more detail.	Use mechanical systems such as pneumatics.		Explain and use mechanical systems in their design brief.
Electricity	Explore battery powered objects using switches.	Understand that many items at home need electricity to work.					Computer programmes can control electrical circuits. Use electrical circuits and use programming.	
Structures	Make simple structures using a range of materials.	Construct simple structures using a range of materials.	Construct simple models by choosing materials specifically for their property.	Explore how a structure can be made stronger, stiffer and more stable by using card and triangular shapes.		Prototype shell and frame structures showing awareness of how to strengthen, stiffen and reinforce them. i.e. Jinks corners, diagonal support struts.	Build a framework using a range of materials to support mechanisms. Know support methods i.e. guy ropes.	Select appropriate materials and explain how to add strength i.e. triangular shapes.
Computing	Seek support from adults to use digital devices to create a digital record of their creations.	Use digital devices to take images to share with others.		Write a program to make something move.		Use a sensor to monitor an environmental variable.		
Materials/ Textiles	Explore and choose freely from a variety of materials when making.	Select appropriate materials when constructing or making.	Select and use a range of materials, beginning to explain their choices.	Select materials based on their properties. Use different methods of joining materials such as running stitch.		Choose from a range of materials. Hand sew a hem or seam using a running stitch.	Select and combine materials with precision. Combine stitches and fabrics to create a mixed media collage.	Choose the most appropriate material for the purpose. Pin and tack fabrics in preparation for more complex pattern work.

Food	Follow simple recipes with support. Help prepare healthy snacks. Explore where food comes from.	Follow a recipe using measurements and ingredients. Suggest healthy ingredients. Begin to identify the origins of some foods.	Measure and weigh food items using non-standard measures. Select healthy ingredients for a fruit or vegetable salad. Sort foods into groups – animal or plant source.	Prepare ingredients by peeling, grating, chopping and slicing. Describe the types of food needed for a healthy and varied diet and make a simple healthy meal. Identify origin of foods such as eggs, meats.	Prepare and cook a simple savoury dish. Identify the main food groups. Identify and name foods that are produced in different places.	Identify and use a range of cooking techniques to prepare a simple meal or snack. Design a healthy meal and say why it is healthy. Identify foods that are produced in UK and beyond.	Use an increasing range of preparation and cooking techniques to cook a sweet or savoury dish. Evaluate meals and consider if they are balanced. Describe what seasonality means and explain reasons why it is beneficial.	Follow a recipe that requires a variety of techniques and source the necessary ingredients independently. Plan a healthy daily diet, justifying why each contributes towards a balanced diet. Explain how organic produce is grown.
Significant designers	Begin to talk about important products.	Explore significant products.	Describe why a product is important.	Explain why a designer or inventor is important.	Describe how key events in design and technology have shaped the world.	Explain how and why a significant designer or inventor shaped the world.	Describe the social influence of a significant designer or inventor.	Present a detailed account of the significance of a favourite designer or inventor.
Evaluate, compare and contrast	Share their creations with others, compare to others and answer questions.	Adapt and refine their own work, describe what and how and compare with others.	Talk about their own and other's work, describe similarities and differences and offer support.	Explain how closely their product meets their design criteria and say what they could improve. Compare same/different products from the same/different brands.	Suggest improvements to their products and describe how to implement them, beginning to take the views of others into account. Compare two designers.	Identify what has worked well, what could be improved, taking others views into account. Create a comparison table to compare two products.	Test and evaluate products against a detailed design specification and make adaptations as they develop the product. Survey users in a range of focus groups and compare results.	Demonstrate modifications made to a product as a result of ongoing evaluation by themselves or others. Create a detailed comparative report about two or more products or inventors.