Subject Progression

DT

EYFS - Reception

DT in the Early Years starts from Nursery where children learn to use talk to express their ideas, learn to listen to new information and work with others. They use their personal, social and emotional development to think ahead, plan and adjust their creations by reviewing them. DT sits within the Expressive Arts And Design area of the EYFS curriculum which is developed from children making progress from the Prime Areas Of Learning.

The Prime Areas Of Learning are: Communication and language, Physical development and Personal, Social and Emotional Development.

From EYFS to Reception children are able to:

EYFS- Nursery

Personal Social and Emotional Development:

• Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen or one which is suggested to them.

Physical Development • Use large-muscle movements to wave flags and streamers, paint and make marks. • Choose the right resources to carry out their own plan. • Use one-handed tools and equipment, for example, making snips in paper with scissors.

Understanding the World:

• Explore how things work.

Expressive Arts and Design:

• 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, in order 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. • Create closed shapes with continuous lines, and begin to use these shapes to represent objects.

Reception

Physical Development:

• Progress towards a more fluent style of moving, with developing control and grace. • Develop their small motor skills so that they can use a range of tools competently, safely and confidently. • Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor.

Expressive Arts and Design:

• Explore, use and refine a variety of artistic effects to express their ideas and feelings. • Return to and build on their previous learning, refining ideas and developing their ability to represent them. • Create collaboratively, sharing ideas, resources and skills.

Year 1

National Curriculum aims and Objectives

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

Cooking and Nutrition:

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

Technical knowledge: they are developed and talk about

- 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

Autumn (2 Days)	Spring (2 days)	Summer (2days)
Textiles/Sheet Materials - Local crafter Zoe Wright Textiles: • Colour fabrics using a range of techniques e.g. fabric paints, printing, painting • Cut out shapes which have been created by drawing round a template onto the fabric Sheet Materials: • Fold, tear and cut paper and card • Roll paper to create tubes • Cut along lines, straight and curved • Curl paper • Use a hole punch	**Construction - Famous designer Anthony Gormley** • Use a range of materials to create models • Observe a glue gun being used by an adult • Talk about how structures can be made stronger	**Food - Famous chef Mary Berry** • Develop a food vocabulary using taste, smell, texture and feel • Group familiar food products e.g. fruit and vegetables • Work safely and hygienically • Understand the need for a variety of foods in a diet • Understand where food comes from • Work with an adult to make food following a simple recipe
Design: Developing, planning and communicating ideas • Explain what they are making and which materials they are using • Select materials from limited range that will meet the design criteria • Select and name the tools needed to work the materials • Produce a mock-up with reclaimed materials • Use drawings to record ideas as them • Design a product for a given purpose • Select pictures to help develop ideas • Use drawings to record ideas as they are developed • Discuss their work as it progresses		Evaluate: Evaluating processes and products • Say what they like and do not like about items they have made and attempt to say why • Talk about their designs as they develop and identify good and bad points • Talk about the changes made during the making process • Explore and evaluate a range of existing products

Subject Progression

DT

Year 2

National Curriculum aims and Objectives

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

Cooking and Nutrition:

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

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

Autumn (2days)	Spring (2days)	Summer (2days)
Textiles/Sheet Materials – Famous designer Debbie Shore Textiles: • Join fabrics by using running stitch, glue, staples, over sewing, tape. • Decorate fabrics with buttons, beads, sequins, braids, ribbons. Sheet Materials: • Insert paper fasteners for card linkages. • Create hinges. • Use simple pop ups. • Investigate strengthening sheet materials. • Investigate joining temporary, fixed and moving.	**Construction - Famous designer Charles Rohlfs** • Attach wheels to a chassis using an axle. • Use a range of materials to create models with wheels and axles e.g. tubes, dowel, cotton reels. • Join appropriately for different materials and situations e.g. glue, tape. • Mark out materials to be cut using a template • Cut strip wood/dowel using hacksaw and bench hook • Investigate how structures can be made stronger, stiffer and more stable	**Food - Local chef Paul Ainsworth** • Cut, peel, grate, chop a range of ingredients • Work safely and hygienically • Understand the need for a variety of foods in a diet • Measure and weigh food items, non-statutory measures e.g. spoons, cups • Follow a recipe to make food with increasing independence
Design: Developing, planning and communicating ideas • Use pictures and words to convey what they want to design and make • Select appropriate technique • Explore ideas by rearranging materials. • Describe their models and drawings of ideas and intentions • Produce a mock up with kits/reclaimed materials or ICT. • Add notes to drawings to help explanations • Design a product from a detailed design criteria		Evaluate: Evaluating processes and products • Talk about their designs as they develop and identify good and bad points • Talk about changes made during the making process • Discuss how closely their finished products meet their design criteria • Explore and evaluate a range of existing products

Subject Progression

DT

Year 3

National Curriculum aims and Objectives

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

Cooking and Nutrition:

- 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

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

Autumn (2days)	Spring (2days)	Summer (2days)
Textiles/Sheet Materials - Famous designer William Morris Textiles: • Create a simple pattern • Understand the need for patterns Sheet Materials: • Cut slots • Cut internal shapes • Use lolly sticks/card to make levers and linkages • Create nets	**Construction - Local sculptor Barbara Hepworth** • Make structures more stable by giving them a wide base • Prototype frame and shell structures • Use glue gun with close supervision (one to one) • Choose materials based on their functional properties and aesthetic qualities	**Food - Famous chef Jamie Oliver** • Develop sensory vocabulary/knowledge using, smell, taste, texture and feel • Follow instructions • Make healthy eating choices from and understanding of a balanced diet • Join and combine a range of ingredients e.g. snack foods • Work safely and hygienically • Prepare and cook a range of predominately savoury dishes using a range of cooking techniques • Understand seasonality and know where and how ingredients are grown and captured
Design: Developing, planning and communicating ideas • Draw/sketch products to help analyse and understand how products are made • Think ahead about the order of their work and decide upon tools and materials • Record the plan by drawing (labelled sketches) or writing	• Communicate their ideas through discussion and add notes to drawings to help explanations • Design innovative, functional, appealing products that are fit for purpose that are aimed at particular individuals or groups	Evaluate: Evaluating processes and products • Identify the strengths and weaknesses of their design ideas • Decide which design idea to develop • Consider and explain how the finished product could be improved • Investigate and analyse a range of existing products

Subject Progression

DT

Year 4

National Curriculum aims and Objectives

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

Cooking and Nutrition:

- 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

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

Autumn (2days)	Spring (2 days)	Summer (2days)
Textiles/Sheet Materials - Famous designer Zandra Rhodes Textiles: • Prototype a product using J cloths • Use appropriate decoration techniques e.g. applique (glued or simple stitches) • Understand seam allowance • Join fabrics using running stitch, over sewing, back stitch • Explore fastenings and recreate some e.g. sew on buttons and make loops Sheet Materials: • Use linkages to make movement larger or more varied • Use and explore complex pop ups	**Construction - Famous crafter Will Kirk** • Measure and mark square selection, strip and dowel accordingly to 1cm • Create shell or frame structures, strengthen frames with diagonal struts • Incorporate a circuit with bulb or buzzer into a model • Choose materials based on their functional properties and aesthetic qualities	**Food - Local chef Michael Caines** • Analyse the taste, texture, smell, and appearance of a range of foods • Measure and weigh ingredient appropriately • Prepare and cook a range of predominately savoury dishes using a range of cooking techniques • Understanding a balanced diet • Understanding seasonality and know where and how ingredients are grown
Design: Developing, planning, and communicating ideas • Investigate similar products to the one to be made to produce own design criteria • Plan a sequence of actions to make a product • Develop more than one design or adaptation of an initial design	• Propose realistic suggestions as to how they can achieve their design • Design innovative, functional, appealing products that are fit for purpose that are aimed at particular individuals or groups • Produce annotated sketches • Make prototypes	Evaluate: Evaluating processes and products • Discuss how well the finished product meets the design criteria and how well it meets the needs of the user • Investigate and analyse a range of existing products

Subject Progression

DT

Year 5

National Curriculum aims and Objectives

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

Cooking and Nutrition:

- 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

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

Autumn (2days)	Spring (2days)	Summer (2days)
Textiles/Sheet Materials - Local designer Carolyn Saxby Textiles: • Understand pattern layout • Decorate textiles appropriately Sheet Materials: • Cut slots • Cut accurately and safely to a marked line • Join and combing materials with temporary, fixed or moving joints • Choose an appropriate sheet material for the purpose	**Construction - Local sculptor Henry Moore** • Use hand drill to drill tight and loose fit holes • Cut strip wood, dowel, square methods into a model control programme • Use a cam to make an up and down mechanism • Use a glue gun with close supervision	**Food - Famous chef James Martin** • Items to develop a sensory food vocabulary for use when designing • Weigh and measure using scales • Work safely and hygienically • Show awareness of a healthy / balanced diet • Understand how to feed now and in the future

Design: Developing, planning and communicating ideas • Investigate products and images to collect ideas and create own design criteria. Identify what does and does not work in the product •Plan the sequence of work using a storyboard/ story map. • Sketch and model alternative ideas. •Record ideas using annotated diagrams. • Develop one idea in depth.	• Use models, kits and drawings to help design ideas. •Make prototypes. • Use information found to inform decisions.	•Design innovate, functional and appealing products that are fit for purpose. These should be aimed at particular individuals or groups • When designing produce cross sectional and exploded diagrams	Evaluate: Evaluating processes and products • Use the design criteria to inform decisions about ways to proceed. • Make suggestions as how their or others designs could be improved. • Justify own decisions about materials and their methods of construction. • Investigate and analyse a range of existing products. •Identify what does and does not work in the product.

Subject Progression

DT

Year 6

National Curriculum aims and Objectives

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

Cooking and Nutrition:

- 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

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

Autumn (2 days)	Spring (2days)	Summer (2days)
Textiles/Sheet Materials - Famous designer Coco Chanel Textiles: • Create a 3D product using pattern pieces • Pin and tack fabric pieces. • Join fabric pieces together using the correct stitch- oversewing, back stitch, blanket stitch, or machine stitching. • Make quality products. • Use a craft knife to cut safely under 1:1 supervision.	Construction - Famous engineer Isambard Kingdom Brunel • Mark hole position accurately. • Build frameworks using a range of materials e.g. wood, card and corrugated plastic to support mechanisms. • Choose materials based on their functional properties and aesthetic qualities. • Apply their understanding of how to strengthen, stiffen more complex structures. • To understand how to use mechanical systems in their products e.g. gears, pulleys, cams, levers and linkages.	Food – Local chef Rick Stein •To prepare food products taking into account the properties of ingredients and sensory characteristics. •Understand how to feed themselves and others affordably now and for in the future.

Design: Developing, planning and communicating ideas

- Investigate products/images to collect ideas and create own design criteria.
- Sketch and model alternative ideas.
- Develop one idea in depth.
- Combine modelling and drawing to refine ideas.

- Record ideas using annotated diagrams.
- Draw plans which can be read/followed by someone else.
- Use models, kits and drawings to help formulate ideas.
- Give a report using correct technical vocabulary.
- Make prototypes.
- Use found information to inform decisions that are aimed at particular individuals or groups.
- Use a computer aided design to model ideas.
- Draw plans which can be read/followed by someone else.

Evaluate: Evaluating processes and products

- Reflect on their work using design criteria stating how well the design fits the needs of the user
- Investigate and analyse a range of existing products.