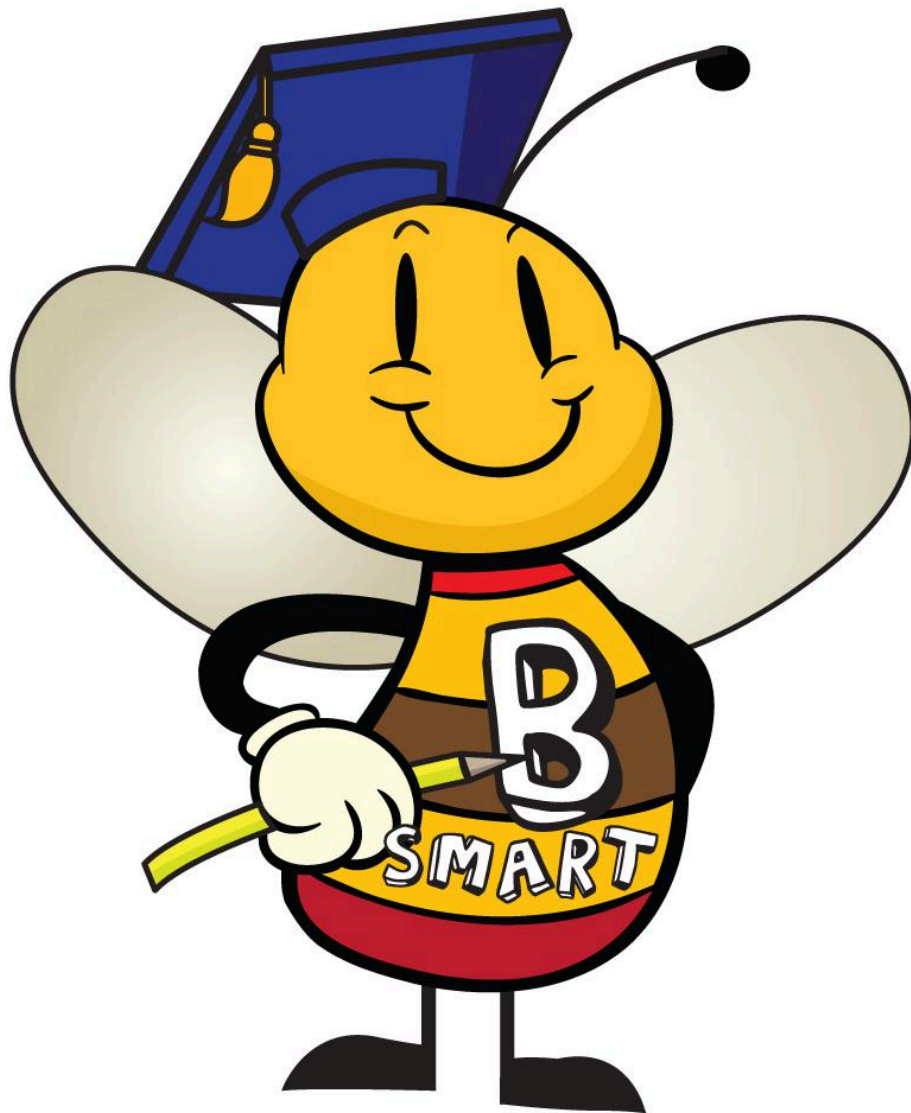


Design and Technology On Track Indicators



On Track Indicators - Reception

Autumn	Spring	Summer
STRUCTURES Exploration of Materials and Joining To make junk models	STRUCTURES Construction Using Toys To make a boat	TEXTILES Sewing and Textiles To make a blanket for an animal
KEY LEARNING <ul style="list-style-type: none"> To use their motor control to explore a range of activities To join materials using tape, glue, paperclips 	KEY LEARNING <ul style="list-style-type: none"> To use a range of construction kits to make models To build solid walls To make a boat 	KEY LEARNING <ul style="list-style-type: none"> To describe textures by the way that they feel To join fabrics using glue Use stitches to add detail to a piece of fabric To begin to use scissors confidently
MECHANISMS Model making and Christmas Crafts To make a sliding Santa chimney	To design and make a hanging egg decoration	COOKING AND NUTRITION To make a vegetable face
KEY LEARNING <ul style="list-style-type: none"> To construct with a purpose in mind To use their fine motor to make a Christmas cards with an up and down slider 	KEY LEARNING <ul style="list-style-type: none"> To make Mother's Day and Easter cards To handle tools safely To join materials using a variety of resources 	KEY LEARNING <ul style="list-style-type: none"> To know basic hygiene and safety To learn to safely cut a range of fruit and vegetables
VOCABULARY - join, glue, scissors, paperclips, cut	VOCABULARY - build, strong, float, sinking, waterproof, testing, tissue paper, scissors, scrunching, tearing	VOCABULARY - fabric, stitch, join, glue, scissors, safely, hygiene, cut

Ongoing - Offer opportunities to encounter and revisit key materials e.g. drawing media, paper, paint, cardboard and clay in order to continue to develop expertise as tools for expression and communication. Provide a range of joining materials (e.g stapler, masking tape, glue, string, thread, split pins, treasury tags, card strips) to support children working in both 2D and 3D.

EYFS FRAMEWORK

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

ELG

- 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

Physical Development

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

ELG

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

On Track Indicators - Year 1

Autumn	Spring	Summer
Structures To make a windmill	Mechanisms To make a moving story book	Food and Nutrition To make a smoothie
KEY LEARNING <ul style="list-style-type: none"> To know the purpose and user of the product To know and explain what tools and equipment they will use To know what is meant by a free standing structure To know and to demonstrate how to make a structure more stable To explain their thoughts about their product through an evaluation 	KEY LEARNING <ul style="list-style-type: none"> To know the purpose and user of their product To design a picture with moving parts To determine whether the slider is a side-to-side or up and down slider To label drawings to show which parts will move and in what direction Make a picture with parts that move as planned To explain their thoughts about the produce through an evaluation 	KEY LEARNING <ul style="list-style-type: none"> To know the purpose and user of their product To be aware of basic hygiene To know how to chop and slice To know the names of common fruits and vegetables To discuss explain their thoughts about the produce through an evaluation
VOCABULARY Materials, structure, free standing, stable, turbine, axle, split pin, evaluate	VOCABULARY Product, purpose, slider, side to side, up and down, split pin	VOCABULARY Purpose, user, equipment, smoothie, fruit, vegetables, chop, slice, hygiene, safety, taste, evaluate
National Curriculum Statements		
Design <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> explore and evaluate a range of existing products evaluate their ideas and products against design criteria Technical knowledge <ul style="list-style-type: none"> 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 		

On Track Indicators - Year 2

Autumn	Spring	Summer
Cooking and Nutrition To make a wrap	Mechanisms To make a moving monster	Textiles To make a pouch
KEY LEARNING <ul style="list-style-type: none"> To know the purpose and user of their product To know what equipment is suitable for each task To be aware of basic hygiene and safety rules To demonstrate the technical skills required to snip, chop and grate To explain their thoughts about their product through an evaluation 	KEY LEARNING <ul style="list-style-type: none"> To know the purpose and use of their product To know what type of mechanism has been used and how the monster moves To discuss their designs and evaluations 	KEY LEARNING <ul style="list-style-type: none"> To know the purpose and use of their product To demonstrate the ability to carry out a running stitch To demonstrate effective ways to secure fabric To explain their thoughts about their product through an evaluation
VOCABULARY Design, product, equipment, fruit, vegetables, balanced diet, snip, chop, grate, hygiene, safety, taste, evaluate	VOCABULARY Design, product, evaluate, equipment, mechanism, pivot, split pin	VOCABULARY Design, product, purpose, evaluate, materials, join, sew, stitch, fabric
National Curriculum Statements		
<p>Design</p> <ul style="list-style-type: none"> 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 <p>Make</p> <ul style="list-style-type: none"> 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 <p>Evaluate</p> <ul style="list-style-type: none"> explore and evaluate a range of existing products evaluate their ideas and products against design criteria <p>Technical knowledge</p> <ul style="list-style-type: none"> 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 		

On Track Indicators - Year 3

Autumn	Spring	Summer
Textiles To make a cushion	Mechanisms To make a pneumatic toy	Food and Nutrition To make a savoury tart
<p>KEY LEARNING</p> <ul style="list-style-type: none"> • To know the purpose and user of their product • To design their product before making • To demonstrate the ability to join using running stitch or over stitch • To know other effective ways to secure and join fabrics • To explain their thoughts about their product through an evaluation 	<p>KEY LEARNING</p> <ul style="list-style-type: none"> • To know the purpose and user for their chosen product • To know what a design criteria is • To know how to communicate ideas through a sketch • To know and explain what tools and equipment they will use • To know how a pneumatic mechanism works • To build a secure housing for their pneumatic mechanism • To explain their thoughts about their product through an evaluation against their design criteria 	<p>KEY LEARNING</p> <ul style="list-style-type: none"> • To know the purpose and user of their product • To know what a design criteria is • To be aware of basic hygiene and safety • To know the difference between sweet and savoury • To understand seasonality and how some ingredients are grown, harvested and produced • To roll, chop and slice vegetables • To explain their thoughts about their product and evaluate it against their design criteria
<p>VOCABULARY - design, product, purpose, running/over stitch, fabric, applique</p>	<p>VOCABULARY - design criteria, product, purpose, pneumatic, mechanism, syringe, balloon</p>	<p>VOCABULARY - design criteria, fruit, vegetable, hygiene, grown, seasonal, harvested, equipment</p>

National Curriculum Statements

<p>Design</p> <ul style="list-style-type: none"> • 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 <p>Make</p> <ul style="list-style-type: none"> • 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 <p>Evaluate</p> <ul style="list-style-type: none"> • 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 <p>Technical Knowledge</p> <ul style="list-style-type: none"> • 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
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On Track Indicators - Year 4

Autumn	Spring	Summer
Structures To make a pavilion	Electrical Systems To make a torch	Food and Nutrition To adapt a recipe
<p>KEY LEARNING</p> <ul style="list-style-type: none"> • To know the purpose and user of their product through a chosen design criteria • To know and explain what tools and equipment they will use • They build frame structures designed to support weight • They choose materials to clad their structure • They reinforce corners to strengthen their structure • They explain their thoughts about their product and evaluate against their design criteria 	<p>KEY LEARNING</p> <ul style="list-style-type: none"> • To know the purpose and user of their product through a chosen design criteria • To know and explain what tools and equipment they will use • To know the function of a switch • To know that a battery/cell stores power/electricity • To build a switch • To know how events and individuals have influenced our use of electricity - Edison, Swan • To explain their thoughts about their product and to evaluate against the design criteria 	<p>KEY LEARNING</p> <ul style="list-style-type: none"> • To know the purpose and user of their product • To be aware of basic hygiene and safety rules • To know the difference between sweet and savoury • To write the basic sections of a recipe • To adapt a sweet recipe to a savoury recipe • To demonstrate the ability to weigh, combine and shape ingredients • To explain their thoughts about their produce through an evaluation against their design criteria
<p>VOCABULARY - design, product, purpose, frame, structure, stable, corners, strengthen, cladding</p>	<p>VOCABULARY - design, product, purpose, battery, bulb, switch, power, circuit</p>	<p>VOCABULARY - design, product, purpose, sweet, savoury, adapt, recipe, ingredients, method, scales</p>

National Curriculum Statements

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

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

On Track Indicators - Year 5

Autumn	Spring	Summer
Cooking and Nutrition To adapt a bolognese recipe	Digital World Tinkercad To make an animal monitoring device	Textiles To design a soft toy
KEY LEARNING <ul style="list-style-type: none"> • To know the purpose and user for their product • Pupils research existing recipes to inform ingredient choices • To understand 'Farm to Fork' • To adapt a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients • To write an amended method for a recipe to incorporate the relevant changes to ingredients • To be aware of basic hygiene and safety rules • To make their recipe • To explain their thoughts about their product through an evaluation making references to taste and aroma 	KEY LEARNING <ul style="list-style-type: none"> • To know the purpose and user for their product • To generate multiple housing ideas using building bricks. • To understand what a virtual model is and the pros and cons of traditional and CAD modelling. • To place and manoeuvre 3D objects, using CAD. • To program to monitor the ambient temperature and coding an (audible or visual) alert when the temperature rises above or falls below a specified range. • To understand what a virtual model is and the pros and cons of traditional vs CAD modelling • To evaluate their work against the design criteria 	KEY LEARNING <ul style="list-style-type: none"> • Pupils know the purpose and user for their product • To design a stuffed toy, considering the main component shapes required and creating an appropriate template • To create a 3D stuffed toy from a 2D design. • To measure, mark and cut fabric accurately and independently . • To use blanket stitch to join fabric • To evaluate their product against their original design
VOCABULARY - farm to fork, recipe, nutritional value, ingredients, taste, aroma	VOCABULARY - design brief, CAD, housing, ambient, device, monitor, coding, alert	VOCABULARY - intended user, design brief, template, blanket stitch

National Curriculum Statements

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

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

On Track Indicators - Year 6

Autumn	Spring	Summer
Cooking and Nutrition To make a 3 course meal	Mechanical Systems To make a pop up book	Steady Hand Game Electrical Systems
<p>KEY LEARNING</p> <ul style="list-style-type: none"> To know the purpose and user of their product To research the needs of the user to inform the design criteria To be aware of basic hygiene and safety rules To select recipes that meet the design criteria To cost their recipes To demonstrate the technical ability required to produce the recipe To explain their thoughts about their recipes referring to taste, aroma and visual appeal - through taste testing 	<p>KEY LEARNING</p> <ul style="list-style-type: none"> To know the purpose and user of their product and to research ideas To produce a suitable plan for each page of the book To assemble the components necessary and hide the moving parts of the book To know slider, lever, pivot, pop up, layers and spacers To use appropriate materials and captions to illustrate the story To test their product with the intended audience To evaluate the product against the design brief 	<p>KEY LEARNING</p> <ul style="list-style-type: none"> To know the purpose and user of their product and to research ideas To explain simply what is meant by form (shape of a product) and function (how a product works) Identify the components of a steady hand game To design a steady hand game of their own and communicate their ideas using diagrams and annotated sketches To create a secure base for their game with neat edges that relates to their design To make and test a functional circuit and assemble it within the case To evaluate the product against the original design
<p>VOCABULARY - bridge method, balance, cross-contamination, equipment, farm to fork, flavours, ingredients</p>	<p>VOCABULARY - paper based mechanisms, slider, lever, pop up, pivot, split pin, layers, spacer</p>	<p>VOCABULARY - assemble, base, buzzer, circuit, bulb, bulb holder, battery pack, exploded diagram</p>
National Curriculum Statements		
<p>Design</p> <ul style="list-style-type: none"> 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 <p>Make</p> <ul style="list-style-type: none"> 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 <p>Evaluate</p> <ul style="list-style-type: none"> 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 <p>Technical Knowledge</p> <ul style="list-style-type: none"> 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 		

