



# Bury and Whitefield

## JEWISH PRIMARY SCHOOL

### Design Technology

### Progression Map

*This knowledge should be used to recap and revisit learning from previous years, during 'Flashback' time. This will enable stronger schema to be built, allowing our children to remember key facts.*

#### Our Curriculum Celebrates

Resilience

Creativity

Critical Thinking

Curiosity

Challenge

Culture

## Designing

EYFS	Year 1 & Year 2	Year 3 & Year 4	Year 5 & Year 6
<ul style="list-style-type: none"> <li>To choose the right resources to carry out their own plan.</li> <li>To use one-handed tools and equipment, for example, making snips in paper with scissors.</li> <li>To develop their own ideas and then decide which materials to use to express them</li> <li>To develop their own ideas and then decide which materials to use to express them</li> </ul>	<p><b>Understanding contexts, users and purposes</b></p> <ul style="list-style-type: none"> <li>To work confidently within a range of contexts – imaginary, home, school, story based, gardens, playgrounds, local community</li> <li>To state which products they are designing and making</li> <li>To state the purpose and user</li> <li>To say how their products will work</li> <li>To use simple design criteria to help develop their ideas</li> </ul> <p><b>Generating, developing, modelling and communicating ideas</b></p> <ul style="list-style-type: none"> <li>To generate ideas drawing on own experience</li> <li>To use knowledge of existing products to come up with new ideas</li> <li>To develop and communicate ideas by talking and drawing</li> <li>To model ideas by exploring materials, components and construction kits and by making mock ups</li> <li>To use information and communication technology where appropriate to develop their ideas</li> </ul>	<p><b>Understanding contexts, users and purposes</b></p> <ul style="list-style-type: none"> <li>To work confidently within a range of contexts – home, school, leisure, culture</li> <li>To describe the purpose of their products</li> <li>To indicate the design features of their products that will appeal to intended users</li> <li>To explain how particular part of their product work</li> <li>To gather information about the needs and wants of particular individuals and groups</li> <li>To develop their own design criteria and use these to inform their ideas</li> </ul> <p><b>Generating, developing, modelling and communicating ideas</b></p> <ul style="list-style-type: none"> <li>To share and clarify ideas through discussion</li> <li>To model their ideas using prototypes and pattern pieces</li> <li>To use annotated sketches, cross sectional drawings and exploded diagrams to develop and communicate ideas</li> <li>To generate realistic ideas, focusing on the needs of the user</li> <li>To make design decisions that take account of the availability of resources</li> </ul>	<p><b>Understanding contexts, users and purposes</b></p> <ul style="list-style-type: none"> <li>To work confidently within a range of contexts – home, school, leisure, culture, enterprise, industry and the wider environment</li> <li>To describe the purpose of their products</li> <li>To indicate the design features of their products that will appeal to intended users</li> <li>To explain how particular part of their product work</li> <li>To carry out research, using surveys, interviews, questionnaires and web-based resources</li> <li>To identify the needs, wants, preferences and values of particular individuals and groups</li> <li><i>To develop a simple design specification to guide their thinking</i></li> </ul> <p><b>Generating, developing, modelling and communicating ideas</b></p> <ul style="list-style-type: none"> <li>To share and clarify ideas through discussion</li> <li>To model their ideas using prototypes and pattern pieces</li> <li>To use annotated sketches, cross sectional drawings and exploded diagrams to develop and communicate ideas</li> <li>To generate innovative ideas, drawing on research</li> <li>To make design decisions, taking account of constraints such as time, resources and cost</li> </ul>

## Making

EYFS	Year 1 & Year 2	Year 3 & Year 4	Year 5 & Year 6
<ul style="list-style-type: none"> <li>To choose the right resources to carry out their own plan.</li> <li>To use one-handed tools and equipment, for example, making snips in paper with scissors.</li> <li>To develop their small motor skills so that they can use a range of tools competently, safely and confidently</li> <li>To safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function</li> </ul>	<p><b>Planning</b></p> <ul style="list-style-type: none"> <li>To plan by suggesting what to do next</li> <li>To select from a range of tools and equipment, explaining their choices</li> <li>To select from a range of materials and components according to their characteristics</li> </ul> <p><b>Practical skills and techniques</b></p> <ul style="list-style-type: none"> <li>To follow procedures for safety and hygiene</li> <li>To use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components</li> <li>To measure, mark out, cut and shape materials and components</li> <li>To assemble, join and combine materials and components.</li> <li>To use finishing techniques, including those from art and design</li> </ul>	<p><b>Planning</b></p> <ul style="list-style-type: none"> <li>To begin to select tools and equipment suitable for the task and explain their choice in relation to the skills and techniques they will be using</li> <li>To begin to select materials and components according to functional properties and aesthetic qualities</li> <li>To order the main stages of making</li> </ul> <p><b>Practical skills and techniques</b></p> <ul style="list-style-type: none"> <li>To follow procedures for safety and hygiene</li> <li>To use a wide range of materials and components, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components</li> <li>To measure, mark out, cut and shape materials and components with some accuracy</li> <li>To assemble, join and combine materials and components with some accuracy</li> <li>To apply a range of finishing techniques, including those from art and design, with some accuracy</li> </ul>	<p><b>Planning</b></p> <ul style="list-style-type: none"> <li>To select tools and equipment suitable for the task and explain their choice in relation to the skills and techniques they will be using</li> <li>To select materials and components according to functional properties and aesthetic qualities</li> <li>To produce appropriate lists of tools, equipment and materials they need</li> <li>To formulate step-by-step plans as a guide to making</li> </ul> <p><b>Practical skills and techniques</b></p> <ul style="list-style-type: none"> <li>To follow procedures for safety and hygiene</li> <li>To use a wider range of materials and components, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components</li> <li>To accurately measure, mark out, cut and shape materials and components</li> <li>To accurately assemble, join and combine materials and components with some accuracy</li> <li>To accurately demonstrate a range of finishing techniques, including those from art and design</li> <li>To use techniques that involve a number of steps</li> <li>To demonstrate resourcefulness when tackling practical problems.</li> </ul>

## Evaluating

EYFS	Year 1 & Year 2	Year 3 & Year 4	Year 5 & Year 6
<ul style="list-style-type: none"> <li>To share their creations, talking about the process they have used</li> <li>To comment on their design saying what they like about it</li> </ul>	<p><b>Own Ideas and Products</b></p> <ul style="list-style-type: none"> <li>To talk about their design ideas and what they are making</li> <li>To make simple judgements about their products against design criteria</li> <li>To suggest how their products can be improved</li> </ul> <p><b>Existing products</b></p> <p><b>To explore:</b></p> <ul style="list-style-type: none"> <li>What products are</li> <li>Who and what products are for</li> <li>How products work and are used</li> <li>Where products might be used</li> <li>Which materials products are made from</li> <li>What they like and dislike about products</li> </ul>	<p><b>Own Ideas and Products</b></p> <ul style="list-style-type: none"> <li>To identify the strengths and areas for development in their ideas and products</li> <li>To consider the views of others, including intended users to improve their work</li> <li>To refer to their design criteria as they design and make</li> <li>To use their design criteria to evaluate their completed products</li> </ul> <p><b>Existing Products</b></p> <p><b>To investigate and analyse:</b></p> <ul style="list-style-type: none"> <li>How well products have been designed and made and how well they work and achieve their purpose</li> <li>Why materials have been chosen</li> <li>What methods of construction have been used</li> <li>How well products meet user needs and wants</li> <li>Who designed and made the products</li> <li>Where and when products were designed and made</li> <li>Whether products can be recycled or reused</li> </ul> <p><b>Key events and individuals</b></p> <ul style="list-style-type: none"> <li>To know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products</li> </ul>	<p><b>Own Ideas and Products</b></p> <ul style="list-style-type: none"> <li>To identify the strengths and areas for development in their ideas and products</li> <li>To consider the views of others, including intended users to improve</li> <li>To critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make</li> <li>To evaluate their ideas and products against their original design specification</li> </ul> <p><b>Existing Products</b></p> <p><b>To investigate and analyse:</b></p> <ul style="list-style-type: none"> <li>How well products have been designed and made and how well they work and achieve their purpose</li> <li>Why materials have been chosen</li> <li>What methods of construction have been used</li> <li>How well products meet user needs and wants</li> <li>Howe much products cost to make</li> <li>How innovative products are</li> <li>What impact products have beyond their intended purpose</li> </ul> <p><b>Key events and individuals</b></p> <ul style="list-style-type: none"> <li>To know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.</li> </ul>

## Technical Knowledge

EYFS	Year 1 & Year 2	Year 3 & Year 4	Year 5 & Year 6
<ul style="list-style-type: none"> <li>• To know how things work, use construction kits and understand how to connect different parts</li> <li>• To name some different tools and equipment used</li> </ul>	<p><b>Making products work</b></p> <ul style="list-style-type: none"> <li>• To know about the simple working characteristics of materials and components</li> <li>• To know about the movement of simple mechanisms such as levels, sliders, wheels and axels</li> <li>• To know how freestanding structures can be made stronger, stiffer and more stable</li> <li>• <i>To know that a 3D textiles product can be assembled from 2 identical fabric shapes</i></li> <li>• <i>To know that food ingredients should be combined according to their sensory characteristics</i></li> </ul>	<p><b>Making products work</b></p> <ul style="list-style-type: none"> <li>• To know how to use learning from science and maths to help design and make products that work</li> <li>• To know that materials have both functional properties and aesthetic qualities</li> <li>• To know that materials can be combined and mixed to create more useful characteristics</li> <li>• To know that mechanical and electrical systems have an input, process and output.</li> <li>• To know how mechanical systems such as levers and linkages or pneumatic systems create movement</li> <li>• To know how simple electrical circuits and components can be used to create functional products</li> <li>• To know how to program a computer to control their products</li> <li>• To know how to make strong, stiff shell structures</li> <li>• To know that a single fabric shape can be used to make a 3D textiles product</li> <li>• To know that food ingredients can be fresh, pre-cooked and processed</li> </ul>	<p><b>Making products work</b></p> <ul style="list-style-type: none"> <li>• To know how to use learning from science and maths to help design and make products that work</li> <li>• To know that materials have both functional properties and aesthetic qualities</li> <li>• To know that materials can be combined and mixed to create more useful characteristics</li> <li>• To know that mechanical and electrical systems have an input, process and output.</li> <li>• To know how mechanical systems such as cams or pulleys or gears create movement</li> <li>• To know how more complex electrical circuits and components can be used to create functional products</li> <li>• To know how to program a computer to monitor changes in the environment and control their products</li> <li>• To know how to reinforce and strengthen a 3D framework</li> <li>• <i>To know that a 3D textiles product can be made from a combination of fabric shapes</i></li> <li>• <i>To know that a recipe can be adapted by adding or substituting one or more ingredients</i></li> </ul>

### Cooking and Nutrition

EYFS	Year 1 & Year 2	Year 3 & Year 4	Year 5 & Year 6
<ul style="list-style-type: none"> <li>• To choose the right resources to carry out their own plan.</li> <li>• To use one-handed tools and equipment, for example, using a knife to chop fruit</li> <li>• To start to talk about where different foods come from</li> </ul>	<p><b>Where food comes from</b></p> <ul style="list-style-type: none"> <li>• To know that all food comes from plants or animals</li> <li>• To know that all food has to be farmed, grown elsewhere (e.g. home) or caught</li> </ul> <p><b>Food preparation, cooking and nutrition</b></p> <ul style="list-style-type: none"> <li>• To know how to name and sort foods into the 5 groups on the eatwell plate</li> <li>• To know that everyone should eat at least 5 portions of fruit and vegetables a day</li> <li>• To know how to prepare simple dishes safely and hygienically, without using a heat source.</li> <li>• To know how to use techniques such as cutting, peeling and grating</li> </ul>	<p><b>Where food comes from</b></p> <ul style="list-style-type: none"> <li>• To know that food is grown (e.g. tomatoes, wheat and potatoes), reared (e.g. pigs, chickens and cattle) and caught (e.g. fish) in the UK, Europe and the wider world.</li> </ul>	<p><b>Where food comes from</b></p> <ul style="list-style-type: none"> <li>• To know that food is grown (e.g. tomatoes, wheat and potatoes), reared (e.g. pigs, chickens and cattle) and caught (e.g. fish) in the UK, Europe and the wider world.</li> <li>• To know that seasons may affect the food available</li> <li>• To know how food is processed into ingredients that can be eaten or used in cooking</li> </ul>

**Vocabulary**

EYFS	Year 1 & Year 2	Year 3 & Year 4	Year 5 & Year 6
<p>Join, sew, stick, glue, wheel, pull, push, cut, fold, join, make, draw, shapes, taste, fruit, vegetable, healthy</p>	<p>Pattern, mark out, decorate, running stitch, needle, fabric, template, quality, suitable, features, dye, overstitch, design, fray, mock-up, seam, axel, fixed, free, design, make, cutting, joining, hacksaw, vice, dowel, body, shaping, mechanism, lever, slider, slot, pivot, guide/bridge, masking tape, fastener, pull, push, down, straight, work, design, evaluate, purpose, cut, fold, join, fix, weak, strong, structure, underneath, thicker, thinner, straight, curved, shapes, fruit, vegetables, soft, juicy, crunchy, sticky, smooth, sharp, crisp, sour hard, flesh, skin, seed pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, tasting, arranging</p>	<p>Fastening, compartment, zip, finishing technique, function, prototype, back stitch, felt, woven, pinning, embroidery, back stitch, blanket stitch, cross stitch, user, fault, toggle switch, insulator, conductor, battery holder, crocodile clip, series circuit, connection, push-to-make switch, push-to-break switch, innovative, appealing, control box, input device, output device, system, system, input, process, output, linear, rotary, reciprocating, innovative, appealing, shell, structure, net, marking out, material, joining, three dimensional, stiff, assemble, prism, vertex, capacity, scoring, adhesives, reduce, reuse, recycle, corrugating, laminating, texture, taste, appearance, preference, greasy, moist, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested</p>	<p>Specification, tacking, working drawing, clasp, pinking shears, design criteria, hem, reinforce, stem stitch, satin stitch, tie dye, annotate, evaluate, innovation, functionality, renewable, authentic, chain stitch, parallel circuit, monitor, flowchart, design specification, reed switch, tilt switch, light dependent resistor, interface control, micro switch, latching switch, pulley, gear, driver, follower, rotation, motor, belt, spindle, motor, circuit, switch, ratio, transmit, annotated drawings, exploded diagrams, functionality, reinforce, triangulation, stability, temporary, permanent, prototype, innovation, functional, design brief, ingredients, yeast, dough, wholemeal, unleavened, baking soda, spice, herbs, carbohydrate, sugar, fat, protein, vitamins, nutrients, gluten, allergy, intolerance, savoury, seasonality, pour, mix, kneed, whisk, beat, combine, fold, rubbing in</p>