

BOSTON WEST ACADEMY

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# DT KNOWLEDGE PROGRESSION OVERVIEW

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Y1-Y6



DT Year 1		
Throughout the year children will gain knowledge on how to design products that have a clear purpose and intended user. They will know how to make products, refining the design as work progresses. They will know how to cut, peel or grate ingredients safely and hygienically. Children will know how to measure and weigh using measuring scales and electronic scales. They will know how to assemble and cook ingredients.		
<b>Term 1/2</b> <b>Mechanical unit</b> Children will know how to use levers and sliders <b>Food</b> Children will know where certain food comes from. <b>Structures unit</b> Children will know strategies to build a strong structure Homes – Unit 1D	<b>Prior Learning:</b>  Children will know how to construct with a purpose in mind, using a variety of resources. Children will know how to explore different materials freely, in order to develop their ideas about how to use them and what to make. Children will know how to develop their own ideas and then decide which materials to use to express them. Children will know how to use a range of small tools, including scissors, paintbrushes and cutlery.	<b>Next Steps:</b> <b>Mechanical unit</b> Children will know how to use levers, sliders, wheels and axles Unit 2A Vehicles <b>Structures unit</b> Children will know about the structure of the Eiffel tower and Gustave Eiffel. Children will know about strengthening structures by adding triangles to strengthen corners. Children will know how to build a strong stable structure.
<b>Term 3/4</b> <b>Food</b> Children will know how to follow instructions given one step at a time. Children will know how to spread soft ingredients with a butter knife. Children will know how to mix, whisk, rub and knead Children will know how to crush soft fruit with a potato masher or fork.		<b>Food unit</b> Children will know how to follow simple instructions supported by an adult. Children will know how to use a peeler with support. Children will know how to use a grater to grate soft foods such as cheese and cucumber. Children will know how to use a table knife safely.
<b>Term 5/6</b> <b>Textiles unit</b> Children know how to sew with a big needle Children will know how to sew onto binka using a running stitch. Children will know how to thread through holes Children will know how to attach a bead or sequin using a running stitch.		<b>Textiles unit</b> Children will know how to thread smaller needles with the support of a needle threader Children will know how to use smaller needles to sew a running stitch and cross stitch on felt. Children will know how to attach beads, felt, sequins and buttons to add finer details
Throughout each unit the design, make, evaluate process should be followed.		
<b>Design</b>	<b>Make</b>  Children will know how to choose appropriately	<b>Evaluate</b>  Children will know how to evaluate their ideas

Children will know how to design products for a reason. Children will be able to tell people about their ideas.	from a variety of equipment and materials to meet a design brief.	and their final piece.
<b>Vocabulary</b>		
design Needle	equipment binka	evaluate thread
Levers	sliders	structure
Instructions	ingredients	mix
	whisk	rub
		knead
<b>DT Year 2</b>		
<p><b>Throughout the year children will gain knowledge on how to design products that have a clear purpose and intended user. They will know how to make products, refining the design as work progresses. They will know how to cut materials safely using tools provided. They will know how to measure and mark out to the nearest centimetre. They will know how to demonstrate a range of cutting and shaping techniques such as tearing, cutting and folding and curling along with a range of joining techniques such as gluing, hinges or combining materials to strengthen. They will know how to create products using levers, wheels and winding mechanisms. Children will know how to use the basic principles of a healthy varied diet to prepare dishes. Children will learn to understand where food comes from.</b></p>		
<b>Term 1/2</b> <b>Mechanical unit</b> Children will know how to use levers, sliders, wheels and axles Unit 2A Vehicles	<b>Prior Learning:</b> <b>Mechanical unit</b> Children will know how to use levers and sliders	<b>Next Steps:</b> <b>Mechanisms unit (use moving monsters unit 3c for guidance)</b> Children will know how to assemble simple pneumatic systems Children will know ways of using pneumatic systems in conjunction with simple levers to control movement
<b>Term 3/4</b> <b>Structures unit</b> Children will know about the structure of the Eiffel tower and Gustave Eiffel. Children will know about strengthening structures by adding triangles to strengthen corners. Children will know how to build a strong stable structure.	<b>Structures unit</b> Children will know strategies to build a strong structure Homes – Unit 1D Children will know how to build a shelter <a href="#">OL link</a>	<b>Structures unit</b> Children will know how to build a more complex structure – reinforced Roman fort Children will know how to build a lean to shelter <a href="#">OL</a> Children will know how to make a shelter using natural resources – celtic round house <a href="#">OL</a>
<b>Term 5/6</b> <b>Food unit</b> Children will know how to follow simple instructions supported by an adult. Children will know how to use a peeler with support. Children will know how to use a grater to grate soft foods such as cheese and cucumber. Children will know how to use a table knife safely.	<b>Food unit</b> Children will know where certain food comes from. Children will know how to follow instructions given one step at a time. Children will know how to spread soft ingredients with a butter knife. Children will know how to mix, whisk, rub and knead Children will know how to crush soft fruit with a potato masher or fork.	<b>Food unit</b> Children will know how to follow simple recipes with guidance from an adult Children will know how to use a knife to cut medium resistance food using a claw grip Children will know how to use a swivel peeler with adult supervision Children will know how to grate firmer foods such as carrots and apples

Throughout each unit the design, make, evaluate process should be followed.		
<b>Design</b>  Children will know how to design products for a reason.  Children will be able to tell people about their ideas.	<b>Make</b>  Children will know how to choose appropriately from a variety of equipment and materials to meet a design brief.	<b>Evaluate</b>  Children will know how to evaluate their ideas and their final piece.  Children will know how to take steps to improve their product.
<b>Vocabulary</b>		
Design    evaluate    product    Structure    strengthen    Levers    sliders    wheels    axles    Grate    peel		
<b>DT Year 3</b>		
<b>Throughout the year children will gain knowledge on how to design products with a purpose by identifying opportunities to design. They will know how to make products by working efficiently such as by carefully selecting materials. Children will know how to refine work and techniques as work progresses, continually evaluating the product design. They will know how to create a series and parallel circuit. Children will know how to choose suitable techniques to construct products or to repair items. They will know how to strengthen materials using suitable techniques. Children will know and apply the principles of a healthy and varied diet. They will know how to prepare and cook savoury dishes using a range of cooking techniques. Children will know about seasonality and know how and where a variety of ingredients are grown, reared, caught and processed.</b>		
<b>Term 1/2</b> <b>Food unit</b> Children will know how to follow simple recipes with guidance from an adult Children will know how to use a knife to cut medium resistance food using a claw grip Children will know how to use a swivel peeler with adult supervision Children will know how to grate firmer foods such as carrots and apples  <b>Textiles unit</b> Children will know how to thread smaller needles with the support of a needle threader	<b>Prior Learning:</b> <b>Food unit</b> Children will know how to follow simple instructions supported by an adult. Children will know how to use a peeler with support. Children will know how to use a grater to grate soft foods such as cheese and cucumber. Children will know how to use a table knife safely.  <b>Textiles Unit</b> Children know how to sew with a big needle Children will know how to sew onto binka using a running stitch.	<b>Next Steps:</b> <b>Food unit</b> Children will know how to follow simple recipes with guidance from an adult Children will know how to use a knife safely and cut medium resistance food using a claw grip and a bridge grip Children will know how to use a hand whisk Children will know how to snip with kitchen scissors (herbs, spring onions, lettuce and cabbage) with control  <b>Textiles unit</b> Children will know how to use smaller needles to attach materials

<p>Children will know how to use smaller needles to sew a running stitch and cross stitch on felt.</p> <p>Children will know how to attach beads, felt, sequins and buttons to add finer details</p>	<p>Children will know how to thread through holes.</p> <p>Children will know how to attach a bead or sequin using a running stitch.</p>	<p>Children will know how to attach sequins, beads and buttons with running and joining stitches</p> <p>Children will know how to sew a blanket stitch</p>
<p><b>Term 3/4</b></p> <p><b>Mechanisms unit (use moving monsters unit 3c for guidance)</b></p> <p>Children will know how to assemble simple pneumatic systems</p> <p>Children will know ways of using pneumatic systems in conjunction with simple levers to control movement</p>	<p><b>Mechanical unit</b></p> <p>Children will know how to use levers, sliders, wheels and axles</p> <p>Unit 2A Vehicles</p> <p><b>Electrical</b></p> <p>First unit</p> <p><b>Food unit</b></p> <p>Children will know how to follow simple instructions supported by an adult.</p> <p>Children will know how to use a peeler with support.</p> <p>Children will know how to use a grater to grate soft foods such as cheese and cucumber.</p> <p>Children will know how to use a table knife safely.</p>	<p><b>Mechanical unit – Use unit 5c for reference (<a href="#">Link to local history creating Mayflower boats bobbing along the sea cam toys</a>)</b></p> <p>Children know that many toys have mechanisms to allow moving parts</p> <p>Children know the purpose of cogs, levers, pullys and cams</p> <p>Children know that different shaped cams produce a different movement</p> <p><b>Electrical unit</b></p> <p>Unit 4c Torches</p> <p><b>Food unit</b></p> <p>See term 1/2 prior learning</p>
<p><b>Term 5/6</b></p> <p><b>Structures unit</b></p> <p>Children will know how to build a more complex structure – reinforced Roman fort (<a href="#">History x curricular link</a>)</p> <p>Children will know how to build a lean to shelter <a href="#">OL link</a></p> <p>Children will know how to make a shelter using natural resources – <a href="#">OL Link</a></p>	<p><b>Structures unit</b></p> <p>Children will know about the structure of the Eiffel tower and Gustave Eiffel.</p> <p>Children will know about strengthening structures by adding triangles to strengthen corners.</p> <p>Children will know how to build a strong stable structure.</p>	<p><b>Structures unit</b></p> <p>Children will know how to design and make a water collecting devise (<a href="#">History x curricular link Egyptian Shaduf</a>)</p>

Throughout each unit the design, make, evaluate process should be followed.		
<b>Design</b>  Children will know how to research with guidance, to inform the design of a functional and appealing product.  Children will know how to generate, develop, model and communicate their ideas through discussions and annotated sketches.	<b>Make</b>  Children will know how to select from a wide range of suitable materials and equipment, whilst making their product.	<b>Evaluate</b>  Children will know how to investigate and analyse a range of existing products to inform their designs.  Children will know how to use a design brief to evaluate a product and their own product.
<b>Vocabulary</b> research functional appealing product annotated Mechanism pneumatic system assemble levers Circuit parallel bulb buzzer motor Recipe claw grip swivel peeler grate Thread needle running/cross stitch attach Clove hitch knot		
<b>DT Year 4</b> Throughout the year children will gain knowledge on how to design products with a purpose by identifying opportunities to design. They will know how to make products by working efficiently such as by carefully selecting materials. Children will know how to refine work and techniques as work progresses, continually evaluating the product design. They will know how to create a series and parallel circuit. Children will know how to choose suitable techniques to construct products or to repair items. They will know how to strengthen materials using suitable techniques. Children will know and apply the principles of a healthy and varied diet. They will know how to prepare and cook savoury dishes using a range of cooking techniques. Children will know about seasonality and know how and where a variety of ingredients are grown, reared, caught and processed.		
<b>Term 1/2</b> <b>Structures unit</b> Children will know how to design and make a water collecting devise ( <a href="#">History x curricular link Egyptian Shaduf</a> )	<b>Prior Learning:</b> <b>Structures unit</b> Children will know how to build a more complex structure – reinforced Roman fort ( <a href="#">History x curricular link</a> ) Children will know how to build a lean to shelter <a href="#">OL link</a> Children will know how to make a shelter using natural resources – celtic round house <a href="#">OL Link</a>	<b>Next Steps:</b> <b>Structures unit</b> Children know how to reinforce a beam to improve it's strength Children know how to build a truss bridge structure (use doweling for final bridge, spaghetti, straws for mock ups) Children know about the influence of Isambard Kingdom Brunel ( <a href="#">History Victorians x curricular link</a> ) Children know how to add an electrical and mechanical system to a product Children know how to construct circuits with switches and other innovative combinations of electronics

<p><b>Term 3/4</b></p> <p><b>Textiles unit</b></p> <p>Children will know how to use smaller needles to attach materials</p> <p>Children will know how to attach sequins, beads and buttons with running and joining stitches</p> <p>Children will know how to sew a blanket stitch</p>	<p><b>Textiles unit</b></p> <p>Children will know how to thread smaller needles with the support of a needle threader</p> <p>Children will know how to use smaller needles to sew a running stitch and cross stitch on felt.</p> <p>Children will know how to attach beads, felt, sequins and buttons to add finer details</p>	<p><b>Textiles unit</b></p> <p>Children know when to use and apply a range of different stitching techniques previously learnt</p> <p>Children know how to sew a back stitch</p> <p>Children know how to create objects that employ a seam allowance (such as a bag)</p> <p>Children know how to join textiles with a combination of stitching techniques such as back stitch for seams and running stitch to add decoration</p>
<p><b>Term 5/6</b></p> <p><b>Electrical unit</b></p> <p>Unit 4c Torches</p> <p>To apply knowledge about electric circuits by designing and making a simple torch. While all the designing and making skills will be used, there will be a particular emphasis on defining a set of clear specifications for the torch by considering who will use it and the conditions under which it might be used. The children also consider how the torch can be controlled by designing and making their own switch.</p> <p><b>Food unit</b></p> <p>Children will know how to follow simple recipes with guidance from an adult</p> <p>Children will know how to use a knife safely and cut medium resistance food using a claw grip and a bridge grip</p> <p>Children will know how to use a hand whisk</p> <p>Children will know how to snip with kitchen scissors (herbs, spring onions, lettuce and cabbage) with control</p>	<p><b>Electrical (Science x curricular link)</b></p> <p>Children will know how to create a series circuit, parallel circuit and add an electrical system with either a bulb, buzzer or motor to a product (in science learning time)</p> <p><b>Food unit</b></p> <p>Children will know how to follow simple recipes with guidance from an adult</p> <p>Children will know how to use a knife to cut medium resistance food using a claw grip</p> <p>Children will know how to use a swivel peeler with adult supervision</p> <p>Children will know how to grate firmer foods such as carrots and apples</p>	<p><b>Electrical and Mechanical unit – refer to Unit 6c</b> (Fairground/WW1 spotlights)</p> <p><b>Food unit</b></p> <p>Children know how to follow simple instructions independently</p> <p>Children know how to cut high resistance food with a vegetable knife using the claw grip</p> <p>Children know how to thread vegetables onto a kebab stick safely</p> <p>Children know how to fold ingredient together carefully</p>
<p>Throughout each unit the design, make, evaluate process should be followed.</p>		

<p><b>Design</b></p> <p>Children will know how to research to inform the design of a functional and appealing product.</p> <p>Children will know how to generate, develop, model and communicate their ideas through discussions and annotated sketches.</p> <p>Children will know how to create step by step designs.</p>	<p><b>Make</b></p> <p>Children will know how to select from a wide range of suitable materials and equipment, whilst making their product</p> <p>Children will know how to make a product to a good standard, adapting and making improvements</p>	<p><b>Evaluate</b></p> <p>Children will know how to investigate and analyse a range of existing products to inform their designs.</p> <p>Children will know how to use a design brief to evaluate a product and their own product.</p> <p>Children know how key civilisations through history have shaped the world</p>
<p><b>Vocabulary</b></p> <p>functional   appealing   product</p> <p>Generate   model   annotated   adapt   improvements   analyse   investigate</p> <p>Attach   blanket stitch   claw grip   bridge grip   specific   grate   running/joining stitch</p>		



DT Year 5		
<p>Throughout the year children will gain knowledge on how to design with the user in mind, motivated by the service a product will offer. Children will make products through stages of prototypes, making continual refinements. Children will know that products are expected to have a high quality finish, using art skills where appropriate. Children will know how to use prototypes, cross sectional drawings to represent designs. Children will know how to cut materials with precision and refine the finish with appropriate tools. Children will show an understanding of the qualities of materials to choose appropriate tools to cut and shape. Children will know a range of practical skills to create products. Children will know and apply the principles of a healthy and varied diet. They will know how to prepare and cook savoury dishes using a range of cooking techniques. Children will know about seasonality and know how and where a variety of ingredients are grown, reared, caught and processed.</p>		
<p><b>Term 1/2</b>  <b>Mechanical unit – Use unit 5c for</b>  Children know that many toys have mechanisms to allow moving parts  Children know the purpose of cogs, levers, pulleys and cams  Children know that different shaped cams produce a different movement</p>	<p><b>Prior Learning:</b>  <b>Mechanisms unit (use moving monsters unit 3c for guidance)</b>  Children will know how to assemble simple pneumatic systems  Children will know ways of using pneumatic systems in conjunction with simple levers to control movement</p>	<p><b>Next Steps:</b>  <b>Electrical and Mechanical unit – refer to Unit 6c</b>  Fairground/WW1 spotlights)  Children know how to add an electrical and mechanical system to a product  Children know how to construct circuits with switches and other innovative combinations of electronics</p>
<p><b>Term 3/4</b>  <b>Structures unit</b>  Children know how to reinforce a beam to improve it's strength  Children know how to build a truss bridge structure (use doweling for final bridge, spaghetti, straws for mock ups)  Children know about the influence of Isambard Kingdom Brunel (<a href="#">History Victorians x curricular link</a>)</p> <p><b>Textiles unit</b>  Children know when to use and apply a range of different stitching techniques previously learnt  Children know how to sew a back stitch  Children know how to create objects that employ a seam allowance (such as a bag)  Children know how to join textiles with a combination of stitching techniques such as back stitch for seams and running stitch to add decoration</p>	<p><b>Structures unit</b>  Children will know how to design and make a water collecting devise (<a href="#">History x curricular link Egyptian Shaduf</a>)</p> <p><b>Textiles unit</b>  Children will know how to use smaller needles to attach materials  Children will know how to attach sequins, beads and buttons with running and joining stitches  Children will know how to sew a blanket stitch</p>	<p><b>Structures unit</b>  Children will know how to build a more complex structure – reinforced Roman fort (<a href="#">History x curricular link</a>)  Children will know how to build a lean to shelter <a href="#">OL link</a>  Children will know how to make a shelter using natural resources – celtic round house <a href="#">OL Link</a></p>
<p><b>Term 5/6</b>  <b>Food unit</b>  Children know how to follow simple instructions independently</p>	<p><b>Food unit</b>  Children will know how to follow simple recipes with guidance from an adult</p>	<p><b>Food unit</b>  Children know how to make modifications to simple recipes independently</p>

<p>Children know how to cut high resistance food with a vegetable knife using the claw grip</p> <p>Children know how to thread vegetables onto a kebab stick safely</p> <p>Children know how to fold ingredients together carefully</p>	<p>Children will know how to use a knife safely and cut medium resistance food using a claw grip and a bridge grip</p> <p>Children will know how to use a hand whisk</p> <p>Children will know how to snip with kitchen scissors (herbs, spring onions, lettuce and cabbage) with control</p>	<p>Children know how to cut high resistance food from whole using the bridge grip</p> <p>Children know how to use a swivel peeler to create food ribbons</p> <p>Children know how to use the zesting part of a grater (Cross curricular MFL food)</p>
Throughout each unit the design, make, evaluate process should be followed.		
<p><b>Design</b></p> <p>Children know how to research information about a range of products</p> <p>Children know how to use accurate drawings, step by step instructions, cross sectional drawings and prototypes to communicate and develop ideas</p>	<p><b>Make</b></p> <p>Children know how to select from a wide range of suitable materials and equipment whilst making their products.</p> <p>Children know that their products need to be made to a high standard.</p> <p>Children know how to adapt and make improvements to their design</p>	<p><b>Evaluate</b></p> <p>Children know how to follow simple instructions independently</p> <p>Children know key individuals and events which have shaped the world</p>
<b>Vocabulary</b>		
<p>accurate      cross sectional      prototype      adapt</p> <p>Reinforce      beam      granny knot      reef knot      clove hitch knot      techniques</p> <p>Back stitch      seam allowance      employ      clogs      levers      pullys      cams      claw grip</p>		

DT Year 6		
<p>Throughout the year children will gain knowledge on how to design with a purpose by identifying opportunities to design. Children will know how to design products by working efficiently, refine work and techniques as work progresses whilst continually evaluating the product design. Children will extend their knowledge of series and parallel circuits. They will know how to choose suitable techniques to construct products or repair items including strengthening materials using suitable techniques. Children will know and apply the principles of a healthy and varied diet. They will know how to prepare and cook savoury dishes using a range of cooking techniques. Children will know about seasonality and know how and where a variety of ingredients are grown, reared, caught and processed.</p>		
<p><b>Term 1/2</b>  <b>Electrical and Mechanical unit – refer to Unit 6c Fairground/WW spotlights/ Christmas badge</b>            Children know how to add an electrical and mechanical system to a product            Children know how to construct circuits with switches and other innovative combinations of electronics</p>	<p><b>Prior Learning:</b>  <b>Electrical unit</b>            Unit 4c Torches</p>	<p><b>Next Steps:</b>  <a href="https://www.gov.uk/national-curriculum-in-england/design-and-technology/programmes-of-study">National curriculum in England: design and technology programmes of study - GOV.UK (www.gov.uk)</a>             See KS3</p>
<b>Term 3/4</b>		
<p><b>Term 5/6</b>  <b>Food unit</b>             Children know how to make modifications to simple recipes independently             Children know how to cut high resistance food from whole using the bridge grip             Children know how to use a swivel peeler to create food ribbons             Children know how to use the zesting part of a grater             (Cross curricular MFL food French onion soup)</p>	<p><b>Food unit</b>            Children know how to follow simple instructions independently            Children know how to cut high resistance food with a vegetable knife using the claw grip            Children know how to thread vegetables onto a kebab stick safely            Children know how to fold ingredients together carefully</p>	
Throughout each unit the design, make, evaluate process should be followed.		

<p><b>Design</b></p> <p>Children know how to research information on products</p> <p>Children know how to use accurate drawings / step by step / cross sectional drawings / prototypes to communicate and develop ideas</p>	<p><b>Make</b></p> <p>Children know how to select, from a wide range of suitable materials and equipment, whilst making my product to a high standard</p> <p>Children know how to adapt their design and make improvements</p>	<p><b>Evaluate</b></p> <p>Children know how to evaluate ideas and against a design brief, whilst considering others opinions</p> <p>Children know key individuals / events that have shaped the world.</p>
<p><b>Vocabulary</b></p> <p>modify      accurate      cross sectional drawings      prototype</p> <p>bridge grip      zesting      food ribbons      mechanical system</p> <p>Circuits (science link)      electronics</p>		

