

## Curriculum Big Picture for Subjects

(to be used with subject overview)

School	Victoria Park Academy
Subject	Design Technology

What are the Big Concepts and Ideas that we want children to learn about in this subject through their education?

<ol style="list-style-type: none"> <li>Children to work regularly through a design process; from concepts, ideas and identifying purpose to designing, making and evaluating.</li> <li>Children develop techniques to be able to create products out of different materials, including how to effectively use specific tools to create their products.</li> <li>Children's ideas for designs become more independent, with a clearer rationale of purpose, design criteria and implementation of their techniques to be able to create pieces that are progressively more individual.</li> <li>Children know that evaluation and critique is a vital part of the design process; that sometimes an idea needs to adapt from a prototype or their design specification and that this is a part of the process a designer in the real world would go through.</li> <li>Each year, children have an opportunity to learn about food preparation, hygiene and cooking techniques. Helping children from deprived backgrounds be able to prepare a meal to feed themselves is a vital life skill and one that we feel should be taught from a young age.</li> </ol>
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How do these concepts progress throughout the school?

EYFS	KS1	KS2
<ul style="list-style-type: none"> <li>Children work to stimuli within their own worlds, from experiences and with stories to help encourage design ideas. Teachers will model out examples to help children with their ideas. (1, 3)</li> <li>Children will have a chance to explore lots of different materials, and will start to form ideas around how best to use them although these may not always be the appropriate choice in the design process. (2, 3)</li> </ul>	<ul style="list-style-type: none"> <li>Children's design work progresses to include more technical aspects of choosing appropriate materials for a product and creating effective joins. (1,2)</li> <li>A broader range of stimulus including designers and existing products are used to help influence the design ideas, process and help children reflect on their own ideas. (1, 3, 4)</li> </ul>	<ul style="list-style-type: none"> <li>Children are given the opportunity for the full design cycle to be more independent, and also to develop more technical skills that would be necessary to have when creating a certain type of product and fulfil a design purpose / brief. (1, 2, 3, 4)</li> <li>Children will be expected to make adaptations when designs are not effective, to reflect on changes needed from initial designs and consider how they would improve a product if their designed / made again. (4)</li> </ul>
<p>Each year, children have an opportunity to learn about food preparation, hygiene and cooking techniques. Helping children from deprived backgrounds be able to prepare a meal to feed themselves is a vital life skill and one that we feel should be taught from a young age. (5)</p>		

**WHY** do children learn what they are learning in each year and term?

	Autumn	Spring	Summer
Reception	<p>In Reception, children's DT (EAD) skills are cross linked between all areas of learning in the EYFS. In the Autumn term they look at different musical instruments and materials to make different instruments. This relates directly to their Music.</p> <p>They will use and test a range of media to create their instruments ready to perform.</p> <p>We will be looking at this so that we can experiment with different textures,</p>	<p>Again this will link to all areas of the EYFS curriculum. Reception will look at a range of media to use to create table centre pieces, posters, pictures and any other things that the children can think of to create for our pop up café.</p> <p>We will be looking at this so that we can further develop their knowledge about using different media and how to put them together. The children will begin to plan what resources they want and need.</p>	<p>Reception will go on a trip to a magical place where there are lots of sculptures and magical creatures. The children will then use this knowledge to plan their own sculptures.</p> <p>Working on from their planning skills from spring. The children will be encouraged to pick and choose their resources and what they would like to create for our 'magical outdoors. They will be increasing their skills of joining materials together and</p>

	materials and sounds.	They will also use food to plan and prepare snacks for their grownups reading for our pop up café.	forming different shapes.
Year 1	<p>As children enter Year 1, their DT links in a cross curricular manner with PSHE, Geography and Art. They look at designs of traditional clothing and headwear from different cultures and places that they are learning about in the world, and the different clothes that their friends and families might wear in their own community. Linked to their art, they will look at patterns and colours used in fabrics and designs (like by the artist and designer Esther Mahlangu). Stimulus of clothing worn by others including dress for special occasions and celebrations.</p> <p>They will use various materials to make their own clothing or costume designs, at this stage focusing on cutting materials and sticking with glue (at this stage they do not have the developed fine motor skills for sewing to join, although some children may use some stitching to help create pattern or colour.) They will undertake imitation from designs of others and some innovation of their own patterns and colours.</p>		<p>Linking to their Art, ICT, and Geography, children will undertake the design task of creating frames for their landscape pictures in art or photos from ICT of physical features of beach (Geography). This is progression from sticking materials on to fabrics in the Autumn term to more complex sticking using hard materials like shells onto wood, and therefore undertaking effective use of glue to hold products in place.</p> <p>They will also be drawing on their science work to look at appropriate material for creating frame.</p> <p>To create an effective design, children will be taking pieces of wood and learning how to join to create rectangular shape for photos. They will therefore have to use simple measurements and create a simple butt join. Their designs will increase in independence by undertaking design of their own frame, and what the design going to look like.</p>
Year 2	<p>In Autumn year 2, pupils will use their design skills to create a replica Tudor house. Here they will be joining a 2D net shape to make 3D product or joining 3D shapes of different sizes together.</p> <p>This relates to maths work on shapes and their properties and transition from 2D to 3D shapes. It also relates to their History learning as it is an iconic design of time.</p> <p>This is the most simple of design work undertaken in Year 2 and therefore sits in the Autumn term to be able to progress from this onwards in latter parts of the year.</p>	<p>In Spring children make a product linked to encouraging wildlife to the city – such as a bird box, bird feeder, growing bed, or another idea that uses wood. There is a progression here due to the choice of product, and collective decisions within the class that are undertaken. They will also be undertaken a more progressive design using wood than the frames made in Year 1. They will have to undertake a mitred butt and basic butt to be able to complete builds, and this progresses progression from Year 1 where they would have only used a simple butt.</p> <p>Children will also learn about food in relation to growing and farming, understanding where food comes from. This is linked to Geography when understanding farming, and Science when looking and plants and growing, and animals / lifecycles.</p>	<p>In Summer, children will have to work with a combination of materials in building something that will fly, and to be able to analyse existing products that do actually fly to influence their own designs.</p> <p>They will have to progress their learning to take accurate measurements, and this is particularly important when learning how to make a kite as this will need to be certain dimension to actually fly effectively.</p> <p>Their design work is linked to history where pupils look at the designs of different flying products through time.</p>
Year 3	<p>The DT in Year 3 within this challenge pack links to Geography (through the learning about the world in the music that they are creating and then producing their album with hard box design) and Music (in the songs that the create and put on their album box). With their designs and productions, pupils are making progression from the cuts and joins completed in Year 2 to also include scoring and folding, and more complex measurements.</p> <p>Children will also undertake cooking in this term, which takes place across all of KS2 in the Autumn. Children undertake cooking skills, continuation of development of cooking in Bake off that takes place in the Autumn term (either early in the year or near to Christmas) by linking this to their Geography work – where different food in the world grows or is produced.</p>	<p>Moving in to the spring, this terms DT links to Art and History – studying designs and products of the past and what they tell us about that time period, as well as using design and art skills to replicate these products.</p> <p>In their investigation into these designs, children will develop awareness of the traditional techniques of designs created including awareness of the limited materials and tools of the past; and also how there are specific designs that are relevant and fundamental to the time period studied.</p> <p>In their creations they will work with using malleable materials and when creating their products will be considering the purpose of the object as well as what it also tells us about historical life.</p>	<p>In the summer term, design is linked to learning in Geography where pupils are studying natural disasters. Their understanding of how pulleys, forces and levers can help with rescue operations will show how purposeful designs can make a difference in the world. It will also draw on their Science learning undertaken during the Spring term where children have learnt about forces and therefore will be able to apply this knowledge to their design work when using forces to make something move.</p> <p>By completing more complex designs and constructions where pupils are making something move, they are progressing on from their previous woodwork using cuts and joins to now include working mechanisms, taking their learning further and deeper than completed at the end of KS2.</p>

<p><b>Year 4</b></p>	<p>The DT in Year 4 within this challenge pack links to Healthy diet and food, connecting their learning to Science – where they focus on the body systems of a human, and to PE and PSHE where they will look at the importance of being healthy. Children will undertake cooking in this term, which takes place across all of KS2 in the Autumn.</p> <p>Children undertake cooking skills, continuation of development of cooking in Bake off that takes place in the Autumn term (either early in the year or near to Christmas) by linking this to their PE, Science and Geography work – they will be studying the health of the local area and so will be learning about healthy meals.</p>	<p>Moving in to the spring, this term DT links to Art and History – studying designs and products of the past and what they tell us about that time period, as well as using design and art skills to replicate these products.</p> <p>In their investigation into these designs, children will develop awareness of the traditional techniques of designs created including awareness of the limited materials and tools of the past; and also how there are specific designs that are relevant and fundamental to the time period studied.</p> <p>In their creations they will work with using malleable materials and when creating their products will be considering the purpose of the object as well as what it also tells us about historical life. This is progressed further than in Year 3 as pupils will focus on more complex design techniques and develop more independence through their design processes.</p>	<p>At the end of Year 4, pupils DT learning will drive a large amount of their challenge pack – they will focus on designs of the past, present and future, and undertake a challenge to create their own design that solves a real life problem. Their learning connects to History when studying designs from the work who have created products that have changed the world. It also links to their Science around electricity, as they may need their scientific knowledge of how to make an electric circuit before learning and applying this further in DT.</p> <p>They are using more complex technical knowledge than the previous year as their learning continues to progress through KS2 with higher expectations each year, with this year focusing on actually how to make something that works, fulfils a purpose and potentially also uses electricity to do this.</p>
<p><b>Year 5</b></p>	<p>The DT in Year 5 within this challenge pack progresses from the Autumn term learning of Year 4 where children developed knowledge of healthy food, and they will then widen their understanding of the importance of sustainable food including Fairtrade. This is linked to their work in Geography, where they learn about countries within South America, their ability to produce certain food products to export and how Fairtrade foods have a positive impact on the livelihoods and human geography of particular countries.</p> <p>Children will undertake cooking in this term, which takes place across all of KS2 in the Autumn. Children undertake cooking skills, continuation of development of cooking in Bake off that takes place in the Autumn term (either early in the year or near to Christmas) and then further extend this into the design of Fairtrade food products created for their healthy tuck shop.</p>	<p>There is once again a continued progression in the spring term for design technology where children’s design work continues to link to Art and History. In their study of designs of the past, they will appreciate the traditional techniques of design in the time periods studied and develop awareness of limited materials and tools of the past. They will study specific designs that are relevant and fundamental to the time period, and replicate these using malleable materials.</p> <p>They will spend time considering the purpose of the object and what it also tells us about historical life, which is progressed further from Year 4, as they will be undertaking more complex design techniques and using more independence through design process.</p>	<p>By the end of Year 5, children have developed a number of skills using wood, and food, but have not undertaken much work to do with fabric This is because the use of sewing materials can actually be quite technical and therefore is better saved when pupils have the developed fine motor skills to be able to thread needles, complete neat stitches and also can have a go at using sewing machines where available.</p> <p>There design work links to both Art and History, where they will look at how fabric is used in design pieces key to the time period (such as tapestry, flags, wall hangings to display coats of arts) and will be able to use their DT and Art skills to replicate creations.</p>
<p><b>Year 6</b></p>		<p>Year 6’s design work starts by looking at Food and nutrition, linked to their Science unit around healthy lifestyles and to PSHE when studying health and nutrition’ progressing their their knowledge learnt in lower KS2.</p> <p>After a number of years on completing Bake off food work and completing learning on cooking in KS2 in other year groups, pupils should be able to apply their knowledge of cooking and healthy eating into knowing the affects that choices around food and ingredients has on the body.</p>	<p>In the last term of Year 6, pupils will undertake a full DT process from concept through to design and market. This is linked to enterprise through our whole school Social Enterprise, Ballot Street Spice. It is completed in end of year 6 to allow pupils to apply all of their previous experience of working through design process, and to include aspects around market research and also creating a quality finished product (or prototype) that could become the next item to be sold by Ballot Street spice.</p>