



D&T YEAR PLANNER (LTP) – YEAR 7&8

2019/20



The students will rotate through three modules this year, and four next year. Students will study a range of the Learning Content below, over Years 7 & 8.

Module title 1 term/module	Learning content/skills	Assessment Schedule*	Home Learning Support (How students can extend learning in addition to homework)
Money Box Project	<p>Context - Design and make a money box 'POD' using a thermoplastic - PVC.</p> <p>Students will investigate other people's work and research a variety of topics to support their design. Knowledge on materials and their sources will be investigated, and an understanding in how they affect society will be discussed. They will learn to draw in 3D and develop their idea into a working prototype. The practical work will incorporate health and safety issues when working with tools and machines. The students will use a wide range of equipment including scroll saws, sanding disc, pillar drill and strip heater. They will use the process of press-forming to mould the shape of their material into a 3D form. Mathematics will be applied to the project, such as, measuring of diameters and calculating surface areas.</p>	<p>Formative - Assessment of classwork and homework tasks will be at least once every two weeks. These tasks will be marked on the 0-9 grading system.</p> <p>Reflection time will be given for students to work on their targets which will allow for an improvement in their grades on work which has already been marked.</p> <p>An overall summative assessment will take place at the end of the module (end of term). This will be graded 0-9.</p>	<p>Investigate topics which are discussed in class in further depth. In particular, the properties of materials and how their production, use and disposal can affect planet earth.</p> <p>Practise drawing in isometric (3D) and adding good quality tonal shading with coloured pencils. Use the internet to look at other products draw in isometric and copy these accurately.</p>
CAD/CAM	<p>Students will learn a range of tools using 2D Design software.</p> <p>They will at first, learn the tools required in order to understand the different software and its uses. The output will be made on the Laser Cutter. Lessons, when appropriate will be split into theory, reflection, Mathematics, acquiring software knowledge and practical use of software.</p>	<p>Formative - Assessment of class work and homework tasks will be at least once every two weeks. These tasks will be marked for accuracy and knowledge identified.</p> <p>Reflection time will be given for students to work on their targets which will allow for an improvement</p>	<p>Practise the use of the type of software being used at the appropriate times in the module.</p> <p>Look at further machines available as technology advances.</p> <p>Practise drawing on 2D Design and for homework adding</p>



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	<p>Assessments in the software used will be carried out via the work produced, and using a test when students are in the longer 10+ week modules.</p>	<p>in their grades on work which has already been marked.</p> <p>An overall summative assessment will take place at the end of the module (end of term). This will be graded 0-9. This will take be set for the longer courses only.</p>	<p>good quality tonal shading with coloured pencils.</p> <p>Look up the different types of jobs that require skills in relation to CAD/CAM.</p>
<p>Graphics - Smarties mini project</p>	<p>Context: Introduction and building of basic drawing skills to include:</p> <ul style="list-style-type: none"> • Drawing of accurate Geometric forms. • One point and two point perspective. • Oblique and Isometric. • Adding tonal and textured rendering to 3D shapes. • Enlargement/Reduction <p>Smarties mini project:</p> <ul style="list-style-type: none"> • Analysis existing packaging designs to understand how to formulate a specification for their product. • Using their newly acquired drawing skills to produce 3D ideas that are innovative and creative. • Understanding common properties and uses of papers and boards. • Using card and surface developments to produce models and prototypes of their design proposals. • Produce a high quality final prototype of their packaging combining the skill taught during the module. • Understanding the properties and uses of common polymers. • Create a POS for their Smarties packaging. 	<p>Formative - Assessment of classwork and OR homework tasks will be undertaken at least once every two weeks. These tasks will be marked on the 0-9 grading system.</p> <p>Reflection time will be given in lessons and possible as homework for students to work on their targets which will allow for an improvement in their grades on work which has already been marked.</p> <p>An overall summative assessment will take place at the end of the module (end of term). This will be graded 0-9. An effort grade will also be given to assess the pupils overall approach to study during the module ranging from A for Excellent to D for cause for concern.</p>	<p>Practise drawing in a variety of ways. During the module students will be practising isometric (3D), one point and two point perspective, as well as adding good quality tonal shading, textures and highlighting using coloured pencils.</p> <p>Use the internet to look at other products draw in isometric and copy these accurately.</p> <p>www.technologystudent.com is a useful website that contains activities you can download, print and use with them.</p>



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<p>Cooking & Nutrition: Healthy eating</p>	<p>Context: Students will develop a thorough understanding about the foundations of healthy eating, cooking and nutrition. This will be demonstrated through a series of planning, making and evaluating a variety of modified healthy products. Students will also learn about sustainability issues, focusing on seasonal foods food provenance and Fairtrade.</p> <p>Students will be taught to prepare and cook a range of predominantly savoury nutritionally balanced dishes safely and hygienically. The scheme of work aims to develop practical skills in food preparation and cooking techniques. This will enable young people to make informed decisions about their own diet and food choices.</p> <p>Topics to be covered:</p> <ul style="list-style-type: none"> • Nutrition • The Eat well guide • Classification of fruit and vegetables • Enzymic browning • Faults in cake making – investigation task • Practical making skills developed • Functional properties of ingredients • Finishing techniques • Food processes • Product planning & evaluation • Food safety (safe temperatures of storage, growth of bacteria, preparation of food) • Moral issues – Free range Vs caged hens 	<p>Formative - Assessment of class work and homework tasks will be at least once every two weeks. These tasks will be marked on the 0-9 grading system.</p> <p>Reflection time will be given for students to work on their targets which will allow for an improvement in their grades on work which has already been marked.</p> <p>Summative assessments will take place throughout the module – baseline, midway & end of module.</p>	<p>Weekly homework tasks:</p> <ul style="list-style-type: none"> ➤ Food safety ➤ The Eatwell guide ➤ Athlete’s diet ➤ Uses of fruit ➤ Seasonal foods project ➤ Nutrition & labelling ➤ Eggs ➤ Sustainability project ➤ Food symbols ➤ Pizza functional properties ➤ Pastry theory work ➤ Final evaluation of course
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	<ul style="list-style-type: none"> • Food provenance • Fairtrade 		
Robot Project	<p>Context: To design, develop and manufacture a robotic football player;</p> <ul style="list-style-type: none"> • Ability to create innovative designs that solve the design brief. • Understanding of how to structure and write a specification for a given brief. • Plan out and preform a series of Sub-assemblies to construct a fully working circuit and robot. • Produce 2D and 3D sketches. Students are encouraged to draw in isometric. • Using card models to develop and communicate design ideas. • Recognising simple electrical components in a circuit diagram as well as in real life that are used during the assembly. • Using workshop equipment such as Scroll saws and drills accurately and safely. • Using a soldering iron to construct a basic electrical circuit. • Mathematics will be applied to the project, such as, measuring of diameters and calculating surface areas and lengths. 	<p>Formative - Assessment of classwork and OR homework tasks will be undertaken at least once every two weeks. These tasks will be marked on the 0-9 grading system.</p> <p>Reflection time will be given in lessons and possible as homework for students to work on their targets which will allow for an improvement in their grades on work which has already been marked.</p> <p>An overall summative assessment will take place at the end of the module (end of term). This will be graded 0-9. An effort grade will also be given to assess the pupils overall approach to study during the module ranging from A for Excellent to D for cause for concern.</p>	<p>Within your home you will have lots of electronic products. How many? Count the number of electronic products you have and <u>without taking it apart!</u> consider what components might be present within the circuit and why they will be needed.</p> <p>Which components will be an input, process or output?</p>
Spatula Project	<p>Context – Design and Make a Spatula for use on the BBQ.</p> <p>During the Spatula Project students design and make a BBQ utensil which has more than one feature. The</p>	<p>Formative - Assessment of classwork and homework tasks will be at least once every two weeks. These tasks will be marked on the 0-9 grading system.</p>	<p>Investigate topics which are discussed in class in further depth. In particular, the properties of materials and how their production, use and</p>



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	<p>head/blade will be made from aluminium sheet and the handle will be mahogany. As an extension task students are given the opportunity make a mild steel bottle opener to add to the end of the handle, giving the utensil increased features.</p> <p>A wide range of engineering processes will be introduced and students will be given the opportunity to add their own design element to the utensil.</p> <p>This project will introduce students to new skills and machinery when working with woods and metals.</p> <p>This project focusses on building student’s accuracy and practical skills in the workshop. Students will learn how to: construct detailed drawings, work safely, shape materials, operate machines accurately and understand the properties and uses of materials.</p> <p>Students will work in a booklet for the design/research element. Homework will also be completed in the booklet.</p>	<p>Reflection time will be given for students to work on their targets which will allow for an improvement in their grades on work which has already been marked.</p> <p>An overall summative assessment will take place at the end of the module (end of term). This will be graded 0-9.</p>	<p>disposal can affect planet earth.</p> <p>Look at Engineering Drawings and observe the use of BS dimensioning to display the key elements of a product.</p> <p>Investigate which manufacturing processes are used in a variety of different cooking utensils.</p>
<p>Textiles - Bag Project</p>	<p>Context - Design and make a tote bag or drawstring bag using a range of textile techniques.</p> <p>Students will research and analyse pre-existing bags to help support and develop their chosen theme. Students will produce a mood board in order to develop and refine the imagery and colour palettes they would like to use. Students will also research the concept of ‘Reduce, Re-</p>	<p>Formative - Assessment of classwork and homework tasks will be at least once every two weeks. These tasks will be marked on the 0-9 grading system.</p> <p>Reflection time will be given for students to work on their targets</p>	<p>Investigate topics which are discussed in class in further depth. In particular, the properties of materials and how their production, use and disposal can affect the planet. Consider how the ‘3 R’s’ can impact textile production.</p>



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	<p>Use and Recycle’ in Textiles and how the environmental impact of Textiles can be reduced.</p> <p>Design work will require students to design a patch or pocket for their chosen bag style.</p> <p>Practical work will incorporate health and safety issues when working with textile equipment. The students will develop skills in hand embroidery and bonded applique and will also use sewing machines in the construction of their product.</p>	<p>which will allow for an improvement in their grades on work which has already been marked.</p> <p>An overall summative assessment will take place at the end of the module (end of term). This will be graded 0-9.</p>	<p>Practise hand embroidery skills to develop a skilful application of stitches.</p> <p>If available, practise threading up and using a sewing machine.</p>
<p>Textiles – Book cover project</p>	<p>Context - Design and make a decorative book cover using a range of textile techniques.</p> <p>Students will research and analyse a range of textile designers and products to help develop their chosen theme and idea. Students will produce a moodboard in order to research their choice of imagery and colour palette.</p> <p>Design work will require students to generate and develop a range of design ideas in order to produce original and creative outcomes.</p> <p>Students will also research issues such as fair trade and ethical trade within textiles, including ‘scales of production’.</p> <p>Practical work will incorporate health and safety issues when working with textile equipment. Students will</p>	<p>Formative - Assessment of classwork and homework tasks will be at least once every two weeks. These tasks will be marked on the 0-9 grading system.</p> <p>Reflection time will be given for students to work on their targets which will allow for an improvement in their grades on work which has already been marked.</p> <p>An overall summative assessment will take place at the end of the module (end of term). This will be graded 0-9.</p>	<p>Practise hand embroidery skills to develop a skilful application of stitches.</p> <p>Investigate the topics discussed in class in further depth. In particular, fair trade and ethical trade, issues surrounding the 3 R’s (reduce, reuse and recycle) and the environmental impact of textile products on society and the environment.</p>



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	develop skills in hand embroidery and bonded appliqué as well as other decorative techniques such as beading.		
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