



## Roundwood Park School Curriculum Map – DESIGN AND TECHNOLOGY YEAR 9 – CORE

*A curriculum that stimulates curiosity, values diversity and offers challenge.  
We help every student to love learning for life, to follow their passions and to reach their full potential.  
Students rotate through the units of work so may complete at a different time to the one shown below.*

| Year 9                                   | Autumn Term 1  | Autumn Term 2 | Spring Term 1   | Spring Term 2 | Summer Term 1  | Summer Term 2 |
|--|--|---------------|---|---------------|--|---------------|
| <b>Unit of Work</b>                      | <b>Branding and merchandising</b>  |               | <b>Sustainable living</b>   |               | <b>Food preparation and choice</b>   |               |
| <b>Key Knowledge Or Enquiry Question</b> | Students research how companies brand a product through logo design and marketing. They develop knowledge of printing processes and understand colour theory. They retrieve and develop skills in using 2D design and using the heat press machine. They make a branded passive amplifier and create NET packaging.  |               | Students explore real world scenarios of how the developing world filter water. They design and make their own water filtration unit, and develop key knowledge in sustainable materials. They learn about new and emerging technologies. They develop skills in the workshop by using tools and equipment and prototype modelling. |               | Students begin to focus more on food presentation techniques and designing their own dishes. They investigate food from different countries and cultural dishes. Students learn key knowledge of different food choice including vegans and vegetarians and food miles and seasonality. They debate the fortification of food. In practical skills they recap gelatinisation and more advanced knife skills. They develop dishes for a client that has allergies and advance their breadmaking skills. |               |
| <b>Concepts</b>                          | By the end of year 9 in Design and technology, students will be confident in their use of tools both in the workshop and in the kitchen. They will understand the H&S implications of more complex knife skills and machinery. They will look more at the world around them and how other cultures can benefit from our subject. They will focus on real life environmental problems such as sustainability, food miles and animal welfare. They will use maths skills to model and design. They will design and make their own recipes and prototypes.                                |               |   |               |  |               |
| <b>Key Vocabulary</b>                    | Branding and merchandising, passive amplifier, digital design, aesthetically pleasing, new and emerging technologies, Innovation, bioplastic, computer numeric, control, rapid prototyping, tolerance, sustainable, tertiary colours, technology push, logogram, Iterative design, 3 <sup>rd</sup> angle orthographic drawing, elevation, alignment, fashion, manufactured board, aesthetically pleasing, vegetarians, additives, carbohydrates, cross-contamination, evaluation, genetically modified, hygienic, organic, nutrition, sensory analysis, specification, sustainability. |               |   |               |  |               |
| <b>ASPIRE Habits</b>                     | Make links, plan, organise, focus, think creatively.   |               | Make links, think logically, plan, organise, think logically.   |               | Make links, think creatively, practise, focus, plan, organise.   |               |
| <b>Reading Opportunities</b>             | A wide variety of texts are used during reading week, along with the books which are detailed through the super-curricular process   |               |   |               |  |               |



## Roundwood Park School Curriculum Map – DESIGN AND TECHNOLOGY YEAR 9 – OPTION

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Students rotate through the units of work so may complete at a different time to the one shown below.*

| Year 9                                   | Autumn Term 1   | Autumn Term 2 | Spring Term 1   | Spring Term 2 | Summer Term 1   | Summer Term 2 |
|--|---|---------------|---|---------------|---|---------------|
| <b>Unit of Work</b>                      | <b>Inclusive design</b>   |               | <b>Mechanical engineering</b>   |               | <b>Food and the environment</b>   |               |
| <b>Key Knowledge Or Enquiry Question</b> | Students explore a range of different disabilities and ways that certain client groups can be disadvantaged by products or scenarios. They look at how contexts inform decisions and outcomes, the importance of usability when prototyping, what opportunities and constraints influence designing and making and the wider implications that can have an influence on the process of designing and making. The carry out modelling into how designers source information when problem solving and use new and emerging technologies. They make links with the outside world into how biometrics are gathered. |               | This unit focuses on types of motion and the basic principles of a lever. Students discover how linkages, cams, gears and pulleys transfer motion through the properties of materials and standard components. They research the Impact this has on industry. The learn knowledge of Ecological, Environmental and Social Issues. Links are made to the outside world through investigating the benefits of fair trade for producers and customers. Basic electronics skills are covered and student complete a design and make activity in the workshop. |               | Students have another opportunity to showcase ideas for food presentation. They recap key terminology of shortening and enrobing. New knowledge of food miles and food poisoning is researched and assessed. Students learn about the cake making methods and develop their own decorating techniques. This is the first opportunity for students to collaborate in groups to carry out a food science experiment on raising agents. Skills in the kitchen are extended and enhanced. |               |
| <b>Concepts</b>                          | These SOL build and expand from the projects completed in the Core DT lessons.<br>In food, they will start to look at food science and how to carry out food experiments. They will be given further opportunities to develop their expertise at designing their own recipes and recap key processes such as shortening and aeration. In D&T they will be given further opportunities to develop their expertise and further explore aspects of the design process e.g. levers and motions whilst gaining knowledge of new and emerging technologies including smart materials.                                 |               |   |               |   |               |
| <b>Key Vocabulary</b>                    | Shortening, gluten, mechanical, enrobing, sustainability, fermentation, salmonella, carbonara, decorative techniques, aeration, wind turbine, planned obsolescence, Sustainability, chain and sprocket, non-renewable, structural integrity, Kinetic energy, Computer aided engineering (CAE), natural gas, mechanism, Compression, Centrifugal force, frame structure, triangulation, reinforce, aerofoil shape, redundant members, rotator blades, thermal energy rapid prototyping   |               |   |               |   |               |
| <b>ASPIRE Habits</b>                     | Make links, plan, organise, focus, think creatively.  |               | Make links, think logically, plan, organise, think logically.   |               | Make links, think creatively, practise, focus, plan, organise.  |               |
| <b>Reading Opportunities</b>             | A wide variety of texts are used during reading week, along with the books which are detailed through the super-curricular process  |               |   |               |   |               |