



## Year 8 Curriculum Intent

Students will be able to combine graphical and practical skills with an understanding of aesthetic, social and environmental issues, as well as functions and industry. We want them to be able to reflect on and evaluate past and present technology, its uses and impacts and, wherever possible, to link their work to other disciplines such as mathematics, science, engineering, computing and art.

## Year 8 Curriculum Overview

| Topic 1                                                                                       | Topic 2                                                                                       | Topic 3                                                                              | Topic 4                                                                                                   | Topic 5                                                                                         |
|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| CAD                                                                                           | Food                                                                                          | Electronics                                                                          | Graphics                                                                                                  | Design Movements                                                                                |
| Key Question                                                                                  |                                                                                               |                                                                                      |                                                                                                           |                                                                                                 |
| How can 3D CAD help designers create products?                                                | How do we create a healthy diet?                                                              | How is an electronic circuit made up?                                                | How can Biomimicry help designers develop new products?                                                   | How can we be inspired by the work of notable designers ?                                       |
| Key Vocabulary                                                                                |                                                                                               |                                                                                      |                                                                                                           |                                                                                                 |
| 1. Computer Aided Design<br>2. Simulate<br>3. Render<br>4. Model<br>5. Millimetres<br>6. Test | 1. Healthy<br>2. Protein<br>3. Carbohydrate<br>4. Dairy<br>5. Cross contamination<br>6. Knead | 1. Input<br>2. Process<br>3. Output<br>4. Feedback<br>5. Closed Loop<br>6. Open Loop | 1. Isometric<br>2. Biomimicry<br>3. Specification<br>4. Biomorphic<br>5. Iterative design<br>6. Prototype | 1. Design Movements<br>2. Bauhaus<br>3. Art Deco<br>4. De Stijl<br>5. Memphis<br>6. Post Modern |

|   | The knowledge you will need to recall:                                                                                                                                                                                                                             | How you will apply this knowledge:                                                                                                                                                                                                                                                                                                                                                                                        | This links to:                                                                                                                                                                                                                                                                            |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | <ul style="list-style-type: none"> <li>The basic principles of 3D CAD</li> <li>The advantages and disadvantages of using 3D CAD</li> <li>Examples of how and why 3D CAD are used by industry.</li> <li>The process of refining and testing products</li> </ul>     | <ul style="list-style-type: none"> <li>Pupils will apply their knowledge to short recall extended writing questions.</li> <li>Pupils will use their knowledge of 3D CAD to create a Lego brick and building using product specifications.</li> <li>Pupils will use their knowledge of the refine and test process to review their product against the original specifications.</li> </ul>                                 | <p>This unit uses the foundational knowledge from the year 7 CAD/CAM unit and will then use the skills learnt in our year 9 CAD topic. This is then returned to in our GCSE Design and Technology core content.</p>                                                                       |
| 2 | <ul style="list-style-type: none"> <li>The principles of the Eatwell guide</li> <li>How to create a healthy meal using all the parts of the Eatwell guide</li> <li>How to cook safely and prepare raw meat.</li> <li>The process of preparing bread.</li> </ul>    | <ul style="list-style-type: none"> <li>Pupils will apply their knowledge to short recall extended writing questions.</li> <li>Pupils will use their knowledge of cross contamination to safely prepare meals using different meats.</li> <li>Pupils will use their knowledge of yeast as a raising agent to help in the process of making bread.</li> </ul>                                                               | <p>This unit uses the foundational knowledge and skills learnt in year 7 Food. This is then returned to in our year 9 Food topic and prepares the students for GCSE Food.</p>                                                                                                             |
| 3 | <ul style="list-style-type: none"> <li>Understand how more advanced electrical and electronic systems can be powered and used in their products</li> <li>How to safely and successfully use a soldering iron to solder components onto a PCB.</li> </ul>           | <ul style="list-style-type: none"> <li>Pupils will apply their knowledge to short recall extended writing questions.</li> <li>Pupils will use their knowledge of soldering and components to build a circuit</li> <li>Pupils will use their knowledge of CAD and CAM to design and make a moodlight</li> </ul>                                                                                                            | <p>This unit uses the foundational knowledge and skills to be further developed in electronics unit in year 7. This is then returned to in our GCSE Design and Technology core content.</p>                                                                                               |
| 4 | <ul style="list-style-type: none"> <li>The basic principles of Isometric drawing.</li> <li>The basic principles of biomimicry design.</li> <li>Examples of where biomimicry design has been used.</li> <li>The process of refining and testing products</li> </ul> | <ul style="list-style-type: none"> <li>Pupils will apply their knowledge to short recall extended writing questions.</li> <li>Pupils will use their knowledge of biomimicry design to create an item using product specifications.</li> <li>Pupils will use their knowledge of the refine and test process to review their product against the original specifications.</li> </ul>                                        | <p>This unit provides the foundational knowledge and skills covered in the graphics unit in year 7. This is then returned to in our year 9 Graphics topic and prepares the students for GCSE Design and Technology.</p>                                                                   |
| 5 | <ul style="list-style-type: none"> <li>The definition of a Design Movement</li> <li>Key features of Bauhaus</li> <li>Key features of Art Deco</li> <li>Key features of Memphis</li> <li>Key features of De Stijl</li> </ul>                                        | <ul style="list-style-type: none"> <li>Pupils will apply their knowledge to short recall extended writing questions.</li> <li>Pupils will use their knowledge of the various design movements to inspire their design work for their product (clock)</li> <li>Pupils will use their knowledge of working with timbers and boards to produce products that demonstrate their mastery of materials and equipment</li> </ul> | <p>This unit builds on foundational skills acquired in year 7 regarding working with timbers and introduces the concept of designing within a set of constraints. This feeds into the year 9 project that further develops both design and making ability and links directly to GCSE.</p> |