|  | **Topic** | **Key concept – what do I want the students to learn from this unit?** | **What knowledge will they acquire?** |
| --- | --- | --- | --- |
|  **YEAR 8 OVERVIEW – carousel so students may carry out activities in different order** |
| **Y8 - half term 1** | Design communication(all areas of DT and Engineering)\*\* this unit was not taught when this cohort was in year 7 | * Presentation of design work
* Techniques to enhance creativity
* Producing initial design ideas
* Development of design ideas
* Avoiding design fixation
 | * Jack straws
* Scruffity
* Line work
* SCARED and SCAMPER
* Biomimicry
* rendering
 |
| **Y8 - half term 2** | Food and Nutrition | * Function of ingredients.
* Meat cookery.
* Cake & biscuit methods of making.
* Food poisoning.
 | * Melting method
* Creaming method
* Bread making
* Binding
* Handling meat
 |
| **Y8 – half term 3** | Iterative (Design Technology) | * Creativity
* Identifying users needs
* Prototyping
* Evaluation
* Preparation for KS4 DT NEA task
* Working with specialist tools/equip
* Safety in the workshop
 | * Problem solving
* Meeting needs of user (design solutions)
* Co-operative working
* Critical analysis
 |
| **Y8 – half term 4** | Mechanisms, motion, CAD, CAM(Design technology and Engineering Design) | * 3D CAD
* 2D CAD
* 3D printing
* Advantages and disadvantages of CAD
* Vectorising
* Types of motion
* Mechanisms
 | * Accuracy working in 3D and 3D CAD
* Application of CAM and impact on companies
* How motion and mechanisms make things work
 |
| **Y8 – half term 5** | Lamp project (Textile application )DT – textiles and smart materials | * Characteristics of a range of materials
* Product manufacture and assembly sequence
* Smart materials
* Safe use of specialist tools and equipment (textiles)
* Use of CAD to create lamp shade cover
 | * Work of others
* Design development
* Hand embellishment
* Safe use of sewing machine
* Characteristics of a range of smart materials
 |
| **Y8 – half term 6** | Lamp project (part 2)DT – woodwork, electronics and programmable systems | * Characteristics of a range of materials
* Product manufacture and assembly sequence
* Systems approach to design
* Safe use of specialist tools and equipment
 | * Accuracy marking out and shaping
* Electronic components and systems
* soldering
* characteristics of paper and boards
* characteristics of timbers
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