|  | **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 |