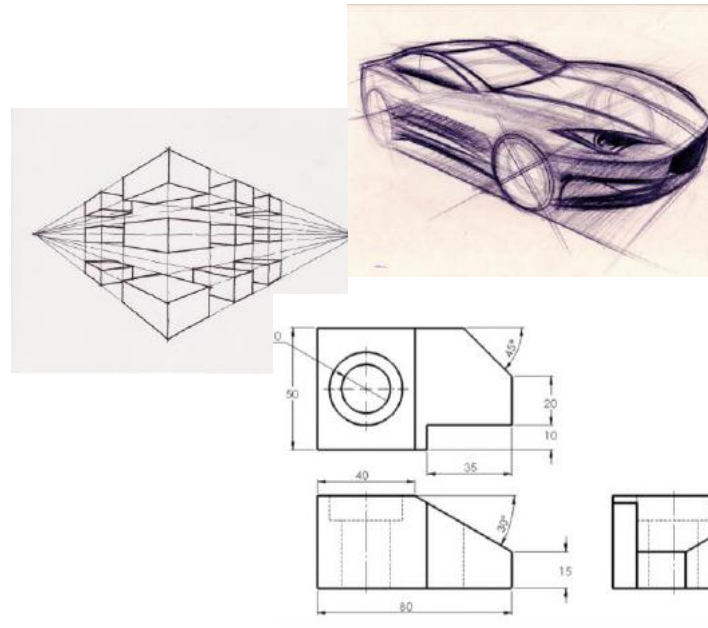


Design Technology— Materials

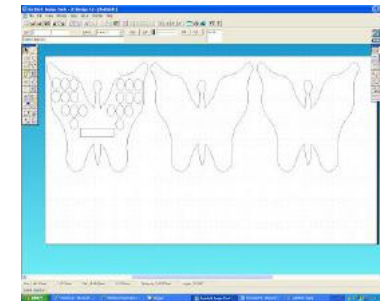
You will rotate around Food, Graphics, Engineering and D&T throughout the year completing different projects and developing lots of new skills and knowledge

Key vocabulary	
Vocab	Definition
1 point perspective drawing	A product design drawing technique used in the design / development of products
2 point perspective drawing	A product design drawing technique used in the design / development of products
Isometric Drawing	A product design drawing technique used in the design / development of products
Orthographic (3 rd Angle Projection)	An Engineering Drawing technique used in the manufacture of products
2D CAD / 2D Design software	2 dimensional computer aided design (CAD)
Workshop H&S	Knowledge of how to keep yourself and others around you safe in the workshop
Materials marking out processes	Skills of marking out different materials in the process of making a product.
Materials forming processes	Skills of forming different materials in the process of making a product.
Materials fixings processes	Skills of joining / fixing different materials in the process of making a product.

Drawing Techniques – You will learn and develop a range of drawing techniques to enable you to develop designs from concept through to manufacture.



Computer Aided Design and Manufacture You will learn to become proficient in 2D computer aided design software. You will also learn how to transfer your designs to output on a computer aided manufacture laser cutter



Through practical work, you will develop your knowledge of **Health and Safety** including how to operate tools and machinery correctly and safely



Practical Skills – You will develop a range or workshop based practical skills from marking out, modifying and forming materials. You will make a wood / plastic bird feeder and a racing car.



Design Technology— Materials

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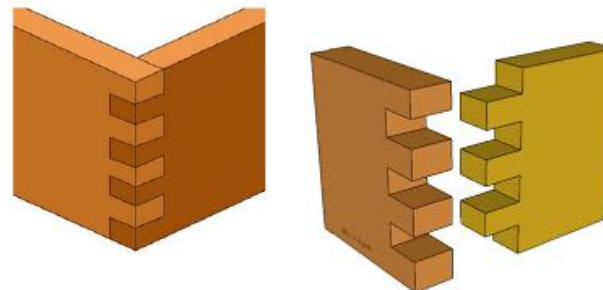
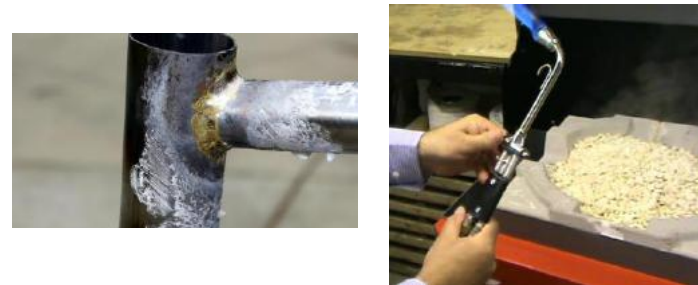
Onshape

Key vocabulary	
Vocab	Definition
3D CAD	3 dimensional computer aided design (CAD)
3D CAM	3 dimensional computer aided manufacture (CAM) e.g. 3D Printing
Brazing	A metal fixing method involving heat
Lathe Turning	A metal forming method used for making cylindrical parts
Milling	A metal modification method for removing material
Wood Joints	A method of joining two pieces of wood together
Material Finishes	Understanding of material finishes and how they are used to protect and enhance products / materials.
Smart Materials	Materials that have one or more properties that change to their environment
Wood types and properties	Knowledge of different types of wood, their properties and uses.

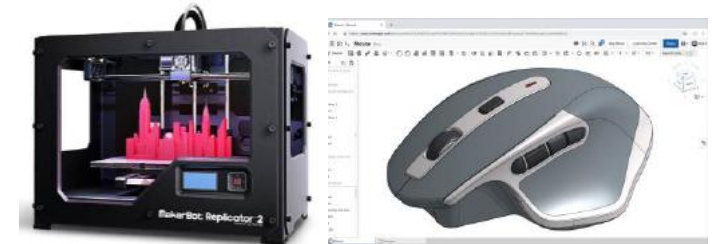
Lathe Turning Understand how to use a metalwork lathe to perform basic processes to make components



Material joining processes You will develop knowledge of a range of joining processes including permeant joints such as Brazing and Wood Joints as well as knock down fixings like nuts and bolts



Computer Aided Design and Manufacture You will learn to become proficient in 3D computer aided design software including Onshape. You will also learn how to transfer your designs to output on 3D computer aided manufacturing machinery.



Smart and Modern Materials Develop your knowledge of Smart and Modern materials; their properties and how they can be applied to design situations in creative ways.

