

CORE KNOWLEDGE

What I will know and understand by the end of Year 7.



This year in Design & Technology we will be learning:

This links to:

Key vocabulary:

1

Be fully aware of all Health and Safety protocols within technology workshop including tools and machinery especially those safety points and procedures associated with the Pillar drill and Sander including PPE, and minimum 5 key Health and Safety points.

All areas of technology you will consider health and safety, this will be revisited throughout KS3 and also in KS4

PPE (Personal Protective Equipment)
Pillar Drill
Belt Sander

2

Gain an understanding of the design process. Be able to write a detailed design brief linked to the pencil holder project which will be used to complete design ideas suitable to fulfill the design problem/situation.



Design brief,
Analysis,
Specification

3

Produce a range of high quality design Ideas that are suitable to meet specific aspects of the design brief and requirements of the design problem/situation for both the torch keyring and pencil holder.

Skills you have developed when expressing your ideas through rendering, annotation and evaluations.

Development,
Render,
Annotate

4

Use CAD/CAM (Computer Aided Design/Manufacture) software to produce & design the torch key ring. Use key tools and commands such as: Line, Fill, Delete, Attach, Snap, Dimension

This will be revisited in Y8/9. Skills will be built upon.

Computer aided design,
Computer aided manufacture,

5

Be able to identify and correctly select and use hand tools and equipment with a high degree of accuracy and safely including: Steel Rule, Tenon saw, Coping Saw, Try Square/ Engineers Square, Pillar Drill, Sander,

You will recall this information in all areas of Technology, acting in a safe, competent and accurate way

Safety,
Component,
Parallel,
Perpendicular

6

Evaluate own and peers performance within the project and identify areas for improvement. Use key criteria identified in Specification to evaluate product including: Safety, Size, Shape, Material, End User etc

Moving thought KS3/4 you will evaluate your designs and outcomes to try and improve them.

Evaluate

Target Grade

AP1

AP2

AP3

CORE KNOWLEDGE

What I will know and understand by the end of Year 7.



This year in Design & Technology we will be learning:

This links to:

Key vocabulary:

1 How to analyse a task, you will make decisions about the design features including safety, colour, size, shape, design and theme.



Design brief, Analysis, Specification

2 How to design a cushion that meets the theme of seasons or British values. You will come up with three initial design ideas and one final design idea. You will render and annotate your design.

You will use the skills when you revisit textiles in Y9. You will also always design a product that meets a brief throughout technology

Specification, evaluate, customer, development

3 Be fully aware of all Health and Safety protocols within textiles workshop including tools and machinery especially those safety points and procedures associated with the sewing machine and tie dyeing, including PPE, and 5 Health and Safety .

These skills will be used each time you design a product in technology. This also links to KS2 learning.

Render, annotate

4 How to Pin and tack a design in place, Cutting out with the use of a pattern. How to make a pattern from your final design

You will use the skills when you revisit textiles in Y9.

Safety, customer

5 Tie - dyeing of fabric (cushion front). You will use a range of dyes to complete a tie dye cushion front. You will show your understanding by twisting and tying your fabric to make a traditional tie dye.

Can be used in KS4 textiles.

Tie -dye

6 Be able to correctly thread up a sewing machine in the correct sequence, Using a sewing machine safely observing safety rules.

Used in KS3/KS4. Using machinery in a safe way

Safety

Target Grade

AP1

AP2

AP3

CORE KNOWLEDGE

What I will know and understand by the end of Year 8.



This year in Design & Technology we will be learning:				This links to:		Key vocabulary:	
1	To have a strong understanding of a range of design movements including Bauhaus, Memphis and De Stijl, through research and analysis of past works.	Links to art and design, Year 7 design work, Primary and secondary colours and colour wheels		Bauhaus, Memphis, De Stijl			
2	Strengthen understanding of the design process and develop specifications to inform the design of innovative, functional and appealing products linked to a design inspired clock.	Year 7 design specifications, product functionality, year 9 product disassembly and analysis		Specification			
3	Further develop a range of drawing techniques and design skills such as crating, 1 point and 2 point perspective, isometric projection etc.	Year 7 & 9 drawing techniques, cube drawings		Isometric, Rendering			
4	Produce a range of high quality design ideas to develop and communicate design ideas using annotated sketches and detailed plans.	Year 7 & 9 design work,		Annotation			
5	Use 3D Modelling to develop and communicate design ideas using annotated sketches, detailed annotated plans and a range of modeling materials and techniques.	Year 7 CAD/CAM and KS4 & KS5 Engineering		Modelling, Annotate			
6	Expand upon initial CAD/CAM knowledge and skills further. Develop skills of using CAD/CAM software to help solve design issues and produce viable design solutions.	Year 7 CAD/CAM and KS4 & KS5 Engineering		Computer aided design, Computer aided manufacture			
Target Grade			AP1		AP2		AP3

CORE KNOWLEDGE

What I will know and understand by the end of Year 8.



This year in Design & Technology we will be learning:		This links to:	Key vocabulary:
1	Name different types of forces, how they act and what happens if the load is too high. Understand the different shapes and which is the strongest when making a bridge and why.	Engineering and construction at ks4. Links with KS3 science	Natural structures, man made structures
2	The meaning of trusses and gussets, what do they do and how do they make a structure stronger. Develop and communicate design ideas for a bridge using 3D modelling.	Modeling links NC and is another way to show design ideas. Linking to the bigger picture.	Forces, compression.
3	Design and make to scale a bridge that would withstand the weight of 500g.	Understanding a brief and solving a design problem.	Tension , bending
4	Select from and use specialist tools, techniques, processes, equipment and machinery precisely when modeling and making your bridge. Follow a wide range of health and safety rules along with wearing appropriate PPE.	Basic tools have been used in Y7. further development of skills can be used in Y9+	Gussets, trusses, millimeter, measurement.
5	Identify and solve your own design problems when testing your bridge. Thinking of how this bridge can be made stronger.	Independent thinking and problem solving. Ks3/4 technology.	Strength, structure.
Target Grade		AP1	AP3

CORE KNOWLEDGE

What I will know and understand by the end of Year 8.



This year in Design & Technology we will be learning:		This links to:	Key vocabulary:	
1	Identify areas of a dangerous kitchen and distinguish how to prevent hazards. Recall 5 health, safety and hygiene rules that must be followed.	Health and safety of a technology room in Y7. Using machinery safely.	Hazards, Safety	
2	Name different bacteria and their sources, how the transfer of bacteria can be reduced along with ways to reduce cross contamination. Model basic knife skills.	Further learning in KS4, also looks at basic hygiene and growth of bacteria science	Food poisoning, contamination	
3	Recommend healthy options that are sustainable, transform a unhealthy dish into a healthy option. Thinking about where the ingredients come from and the distance they have traveled.	KS2 healthy eating, looking towards sustainability and making informed healthy choices	Balanced diet, nutrition, Vitamins	
4	Consider ways allergies can be avoided through contamination and the difference between allergies and intolerances.	Links to KS4, how hospitality sectors must always consider customers and dietary needs	Allergy, intolerance	
5	Through modeling transfer the skills needed to make bread and bread pizza. You will also make a range of dishes showcasing skills such as chopping, whisking, blending. Rubbing in, boiling to mention a few.	In Y9 you will move onto to making a variety of pastry, use of hand techniques	Yeast, enrobing, blending	
6	Working with the relevant parts of the cookers and transferring the skills you have been shown to produce a range of high quality dishes whilst applying health and safety rules and using the correct PPE.	You will revisit food in y9 where you will need to remember how to use the cooker and produce more dishes.	Hob, grill, oven,	
Target Grade		AP1	AP2	AP3

CORE KNOWLEDGE

What I will know and understand by the end of Year 9.



This year in Design & Technology we will be learning:				This links to:		Key vocabulary:	
1	Gain further understand of health and safety and its importance for a wider range of equipment in both a classroom/kitchen environment but also in a working kitchen/restaurant in the hospitality industry.			Previous learning and also is relevant to practical lessons		Health and safety at work act, PPE, COSHH	
2	Will use a range of equipment to weigh, cook and present a selection of savoury and sweet dishes, including sponge slices, calzone pizza, vegetable pasta bake, sausage rolls and cheesy bread plait.			National curriculum guidelines and builds on previous skills learnt		Fermentation, creaming method, knead, consistency,	
3	Understand different roles and responsibilities in the hospitality industry and the types of contracts offered. The difference between front of house and back of house.			The bigger picture and also the WJEC course offered in KS4		Full time, part time, zero hours, fixed term, temporary, agency	
4	Look at how allergies and intolerances have an impact on the hospitality environment and why we must consider them when cooking and in school. The important difference between allergies and intolerances.			PHSE+ the importance of following school guidelines		Allergies, intolerances, visible, non visible, gluten, coeliac, lactose	
5	Have a good understanding of the impact food is having on the environment and how we can reduce the impact. Thinking about new alternatives to food production.			Environmental impacts in science and Geography. Design for the future		Sustainable, food miles, government, Planet, Environment, Pollution	
6	Plan a menu that meets a brief that aims to improve the unhealthy eating habits of the people of Middlesbrough. Suggest a catering provider that would encourage people to reduce the amount of take away food that they eat and help with the obesity crisis.			Social issues, links with health, science and PHSE+		Nutrition, balanced, obesity,	
Target Grade			AP1		AP2		AP3

CORE KNOWLEDGE

What I will know and understand by the end of Year 9.



This year in Design & Technology we will be learning:		This links to:	Key vocabulary:	
1	Be fully aware of all Health and safety signs, Key Health and safety regulations and legislation and Risk assessments used within the Construction and Engineering industry.	KS4 Engineering and Construction as well as industry and the wider world of work.	Mandatory, Hazards, Signs, Regulations, Risk Assessment	
2	Develop further awareness of material groups and material properties used across Engineering and Construction	KS4 Engineering and Construction . Looking into material properties and characteristics	Properties Characteristics	
3	Expand upon wide range of design skills will be completed to show drawing skills in 2D design, Google SketchUp and Hand drawn Engineering drawings.	Use of computers and drawings CAD but also hand drawn Engineering drawings	2D Design, Sketchup, orthographic projection drawings	
4	Understanding materials used in Construction and Engineering, linking to dimensions and costing of the bird box.I Link these costings to real life scenarios and profit/loss of projects	KS4 Engineering and Construction as well as industry and the wider world of work.	Materials, dimensions, costing, material properties	
5	Produce time considered Gantt charts with relevant skills identified and linked to specific time scales (GANTT charts). Also consider costs and labour requirements for the bird box manufacture.	KS4 Engineering and Construction as well as industry and the wider world of work. Understanding time scales and predictions of manufacture	Time scales, GANTT charts, costing, labour	
6	Develop numeracy skills specific to Engineering and Construction scenarios and real life examples focussing on material costing and estimation.	This links to design and manufacture and confidence for KS4 Engineering and Construction as well as industry and the wider world of work.	Materials, Safety, Tools and Equipment, Machinery, Tolerance	
Target Grade		AP1	AP2	AP3