Year 7 Design and Technology Learning Journey

Year 6

Resistant Materials

We will learn how to investigate, design and make a timber based product based on a given brief.

We will learn how to correctly use a range of carpentry tools

We will learn sources and properties of timber based materials.

We will learn about hazards, signs and how to stay safe in workshop environment.

Graphic Products

We will learn how to work safely in a design studio using specialist tools and equipment.

We will learn sources and properties of paper based materials.

We will learn about logo designs and colour theory.

We will learn how to investigate, design and make a paper based product based on a given brief.

Food Technology

We are studying the basics of nutrition and food preparation skills

We will be assessed on our practical skills and knowledge of the Eatwell guide

We are studying carbohydrates: fibre, sugar and starch

We will be assessed on our ability to modify a recipe to make it healthier

Year 8

Key Vocabulary

Resistant Materials

Fit-for-purpose, Fossil Fuel, Data, Stock form, Iterative, Production Plan, Quality Control, Tolerance, Template, Polymer, Thermoforming, Thermosetting, Line bending, Forming, Evaluate, Test, Physical Properties, Working Properties

Graphic Products

Readability, Legibility, Cutline, Typography

Food Technology

Enzymic browning, Oxidation, Enzymes, Denatures, Personal hygiene, Cross contamination, Balanced diet, Starchy carbohydrates, Protein, Fat, Vitamins and minerals, Sedentary, Sugar, Starch, Fibre,

Curriculum Question 1

This half term we are studying

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because.....

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Curriculum Question 2

This Unit of Learning builds on last half term's skills/ knowledge by

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Curriculum Question 3

What key skills have you used in this Unit of Learning?

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Year 8 Design and Technology Learning Journey

Year 7

We will learn how to investigate, design and make a polymer and metal product based on a given brief.

We will learn about the implications of the use of metals.

We will explore school based- vs industrial process for working with polymers.

We will learn about finite vs non finite resources

We will learn about the role polymer based materials play on our lives and how it impacts the environment

Resistant Materials

We will learn various textiles materials and their properties.

We will learn about the differences between fast fashion and slow fashion in the real world industry

We will study existing and past designers and their influence on the design industry.

We will learn how to investigate, design and make a textiles based product based on a given brief.

Textiles

Food Technology

We will be assessed on our time plan and practical skills

We are studying food science; coagulation and denaturation

We are studying the different egg farming methods and planning our own pasta dish

We will be assessed on our ability to carry out an investigation, record and analyse the results

Year 9

BOWER PARK ACADEMY

Key Vocabulary

Resistant Martials

Perspective, Orthographic projection, Crating, , Polymer, finite, Through hole, Blind hole, CAD, Elevation, End grain, Ecology, Import, Export, thermoplastic, thermosetting, cross filing, draw filing

Textiles

Sustainability, Garments, Sewing, Hemming, Synthetic, Design process, Client, Patterns, Slow and Fast Fashion, Refection, Culture, Web

Food Technology

Coagulation, Denaturation, Amino acids, Chemical bonds, Proteins, Physical and chemical functions, Salmonella, Binding, Setting, Aeration, Danger zone, High risk foods, Organic, Free range,

Curriculum Question 1

This half term we are studying

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because.....

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Curriculum Question 2

This Unit of Learning builds on last half term's skills/ knowledge by

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Curriculum Question 3

What key skills have you used in this Unit of Learning?

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Year 9 Design and Technology Learning Journey

Year 9

Resistant Materials

We will learn how to investigate, design and make a mechanical device based on a given brief.

We will learn how to communicate technical information and work to a tolerance.

We will learn how to model, test and iterate designs as we make.

We will learn about motions, forces and how they can be manipulated.

We will learn about systems and user centred approach to design.

Product Design

We will learn about a collaborative approach to design.

We will learn about design styles, movements and how it can impact design choices

We will study existing and past designers and their influence on the design industry.

We will learn how to investigate, design and make a textiles based product based on a given brief.

Food Technology

We will be assessed on our practical assessment

We are studying how to plan meals for teenagers

We will be assessed on our time plan

We are studying the functional properties of ingredients as well as preparing for our practical assessment

Year 10

Key Vocabulary

Resistant Materials

Mechanical, stored energy, motion, rest, reciprocal, linear, rotation, automata, Orthographic Projection

Product Design

Primary/ secondary investigation, survey, user-centred, collaborative, iteration, specification, tolerance, quality control, fit for purpose, design cycle, target market group, ethical, data

Textiles

Sustainability, Garments, Sewing, Hemming, Hem, Synthetic, Design process, Client, Patterns,
Slow and Fast Fashion, Refection, Culture, Web

Curriculum Question 1

This half term we are studying

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because.....

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Curriculum Question 2

This Unit of Learning builds on last half term's skills/ knowledge by

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Curriculum Question 3

What key skills have you used in this Unit of Learning?

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Year 10 Design and Technology Learning Journey

BOWER PARK ACADEMY

Year 9

Unit One
Coat Hook
Half term 1

We are experimenting working with Metals and Alloys

We will be assessed on our completed design solution using the assessment objectives against the brief and specification

Unit Two
Jewellery
Half term 2

We are experimenting working with Polymers, Metals and Alloys

We will be assessed on our completed design solution using the assessment objectives against the brief and specification

Learning Challenge
How do we convert ores to workable stock forms?

Unit Three
Bird House
Half term 3

We are experimenting working with a range of Timbers

We will be assessed on our completed design solution using the assessment objectives against the brief and specification

Unit Four
Can Opener
Half term 4

We are studying the Design Principles of Design and Technology

We will be assessed on the application of the design principles against our completed design solution

Learning Challenge
Describe the difference in properties between thermoforming and thermosetting plastics.

Unit Five
Moving Toy
Half term 5

We are studying the Making Principles of Design and Technology

We will be assessed on the application of the making principles against our completed design solution

Unit Six
Non Examined Assessment, sections A - C
Half term 6

Year 11

Learning Challenge
Why does a responsible designer have to consider sustainable practice when designing a product?

We are studying and revising prior learning and key knowledge and applying it to the NEA

We will be assessed on sections A –C of the non examined assessment using the assessment objectives and success criteria

Key Vocabulary

Tessellation
Casting
Commercial Process
Material removal
Finishes
Standard components
Enterprise
User-centred-design
BSI (British Standards Institution)
Renewable
Energy Generation
Anthropometrics
Ergonomics
Flexible Manufacturing System
Lean Manufacturing
Just-in-Time Production
Mining
Ore
Smelting
Refining
Scribe
PPE (Personal Protective Equipment)
Social Responsibility
Injection Moulding
Knock-down Fittings
Inclusive Design

Curriculum Question 1
This half term we are studying…because….

Curriculum Question 2
This Unit of Learning builds on last half term's skills/ knowledge by…

Curriculum Question 3
What key skills have you used in this Unit of Learning?

Year 11 Design and Technology Learning Journey

BOWER PARK ACADEMY

Year 10

Unit One
Non Examined Assessment, section D
Half term 1

We are studying realisation and applying it to the NEA

We will be assessed on section D of the non examined assessment using the assessment objectives and success criteria

Unit Two
Non Examined Assessment, sections E and F
Half term 2

We are studying Analysing and Evaluating and applying it to the NEA

We will be assessed on sections E and F of the non examined assessment using the assessment objectives and success criteria

Learning Challenge
Describe the difference between mass and batch production techniques?

Unit Three
New and Emerging Technologies
Half term 3

We are studying New and Emerging Technologies

We will be assessed on the application of our theoretical understanding in our written work

Unit Four
Energy, materials, systems and devices
Half term 4

We are studying Energy, materials, systems and devices

We will be assessed on the application of our theoretical understanding in our written work

Learning Challenge
Explain how a designer would use a life cycle assessment

Unit Five
Public Examinations
Half term 5

We are revising key knowledge from prior learning

We will be assessed our final written examination paper

Unit Six
Public Examinations
Half term 6

16+

Learning Challenge
Create a revision guide to support your recall of key terms

We are revising key knowledge from prior learning

We will be assessed our final written examination paper

Key Vocabulary

Planned obsolescence
Co-operative
COSHH (Control of Substances Hazardous to Health)
CNC (Computer Numerically Controlled)
Automation
Life cycle assessment
Carbon footprint
Social footprint
Technology push
Market pull
R&D (Research and Development)
Mass production
Batch production
One-off production
Jiggs
Nesting
Prototype
Crowdfunding
Smart material
Modern material
Composite material
Specification
Design Brief
Levers
Pulleys
Linkages

Curriculum Question 1
This half term we are studying…because….

Curriculum Question 2
This Unit of Learning builds on last half term's skills/ knowledge by…

Curriculum Question 3
What key skills have you used in this Unit of Learning?