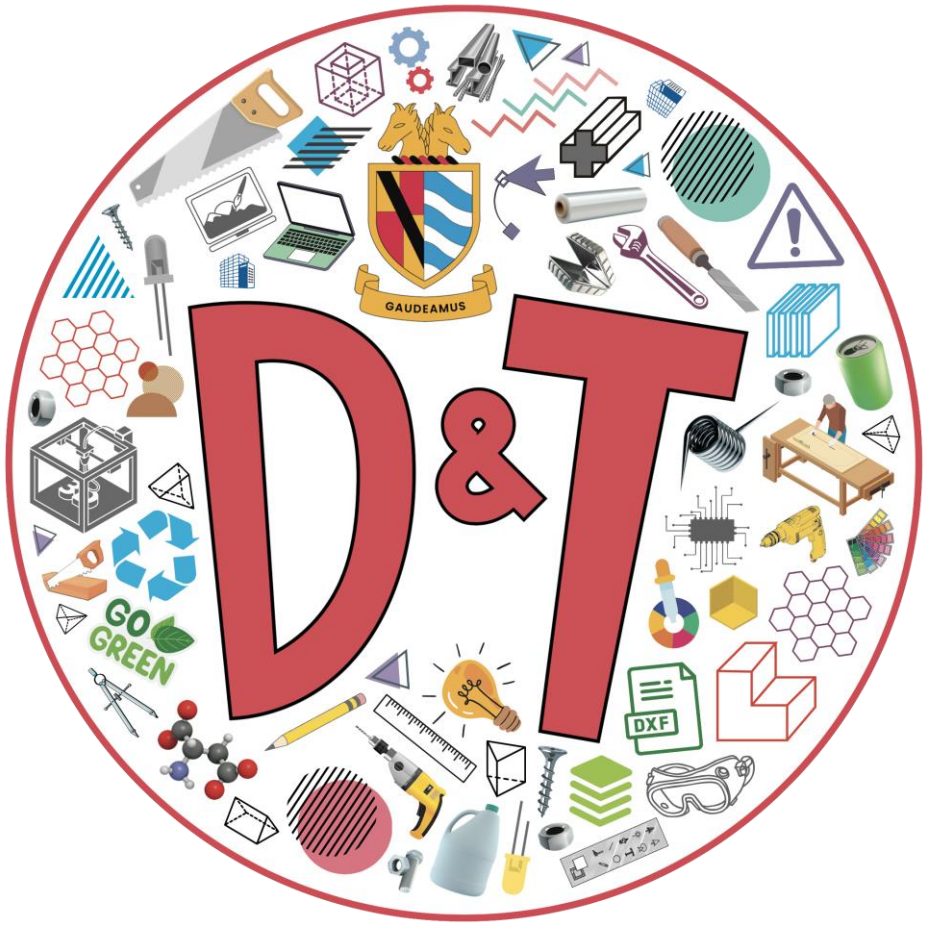

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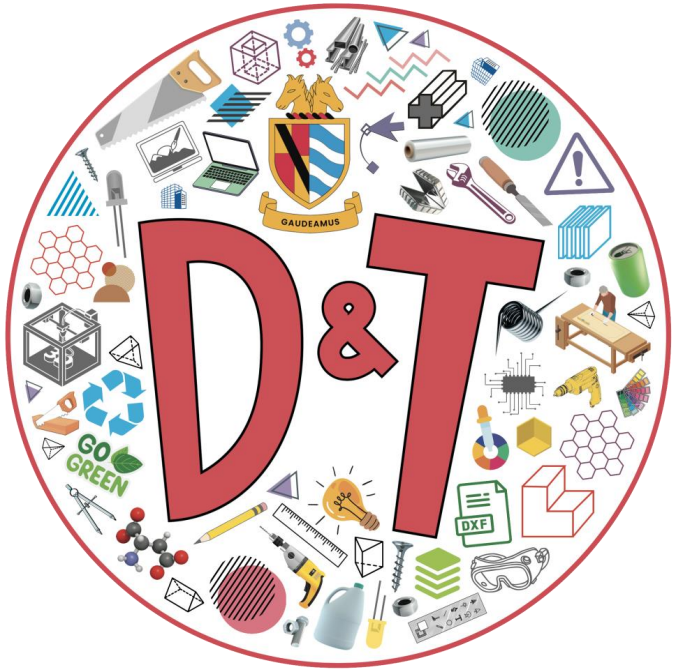
	Topics						
	Element	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Term 1	Theory	Introduction New and emerging technologies	New and emerging technologies	New and emerging technologies	Energy Generation	New Materials	Systems approach to design Knowledge assessment and
	Practical		Storage box	Storage box	Storage box	Storage box	Storage box
	Home learning				specialist units.		
Term 2	Theory	Mechanical devices	Materials and Properties	Materials and Properties	Materials and properties	Recap MT1 Assessment	Therapy and Retrieval
	Practical	Storage box	Storage box	Storage box	Storage box	Storage box	Storage box
	Home learning						
Term 3	Theory	Investigation, primary and secondary data	The work of others – designers	Design strategies	Communication of design ideas	Communication of design ideas	Prototype development
	Practical	NA	NA	NA	NA	NA	NA
	Home learning						Tolerences
Term 4	Theory	Selection of materials and components	Material management	Tools, equipment, techniques and finishes	Surface treatments and finishes	MT2 Assessment	Specialist Techniques and processes
	Practical	Laser Cutter Project	Laser Cutter Project	Laser Cutter Project	Laser Cutter Project	Laser Cutter Project	Laser Cutter Project
	Home learning		Revision	Revision	Revision	Revision	
Term 5	Theory	Specialist Technical Principles	Specialist Technical Principles	Specialist Technical Principles	Specialist Technical Principles	Specialist Technical Principles	Specialist Technical Principles
	Practical						
	Home learning						
Term 6	Theory	Specialist Technical Principles	Specialist Technical Principles	Specialist Technical Principles	MT3 Assessment	Section A	Section A
	NEA	Section A	Section A	Section A	Section A	Section A	Section A
	Home learning	Revision	Revision	Production techniques and systems	NEA specific	NEA specific	NEA specific

TERM 1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New and emerging technologies

At Malbank we will develop Technologists who are creative, skilful and confident practically, socially and intellectually giving students the opportunity to impress leaders of industry so that they can make a smooth transition from education into the workplace.

Prior Knowledge

Pupils should have:

- **Tech's impact:** You've seen tech change things (phones, travel).
- **Business & Innovation:** You know businesses exist, but innovation might be new.
- **Resource Consumption:** You recycle and know about environmental issues, but the global impact might be less familiar.
- **Tech & Choice:** You choose things, but technology's influence might surprise you.
- **Changing Jobs:** You know about jobs, but technology is changing them.
- **Fashion & Technology:** Tech influences fashion (wearable tech).
- **Respecting Beliefs:** You respect others, but the focus might be more on cultures.
- **Product Design Impact:** You consider others in design (accessibility), but the broader impact might be new.
- **Environmental Impact:** You know some environmental issues.
- **Production Techniques:** You know basic tools, but complex production is new.

Current

HEAD - *Knowledge*

- By the end of this unit you should have developed a knowledge and understanding of:
- the impact of new and emerging technologies on contemporary and potential future scenarios in relation to the following areas:
- industry and people
- enterprise
- culture and society
- environment and sustainability
- production systems
- how critical evaluation of technologies informs design decisions

HEART - *Personal Development*

- Students will be required to analyze the impact of new technologies, evaluate the impact of resource consumption, investigate changing job roles, and apply critical evaluation of new technologies to inform design decisions. These are all important aspects of critical thinking and analysis.

HAND - *Skills*

- You will analyze the impact of new and emerging technologies on the design and organisation of the workplace, buildings and the place of work, tools and equipment.
- You will develop an enterprise based on the development of an effective business innovation.
- You will evaluate the impact of resource consumption on the planet.
- You will explore how technology push/market pull affects choice.
- You will investigate changing job roles due to the emergence of new ways of working driven by technological change.
- You will examine changes in fashion and trends in relation to new and emergent technologies.
- You will demonstrate respect for people of different faiths and beliefs.
- You will consider how products are designed and made to avoid having a negative impact on others.
- You will assess the positive and negative impacts new products can have on the environment.
- You will analyze the contemporary and potential future use of production techniques and systems.
- You will apply critical evaluation of new and emerging technologies to inform design decisions.

Future

Pupils should go on to:

Answering GCSE exam questions, including multiple choice, short answer questions and long answer questions on the topics from this unit

Energy Generation

At Malbank we will develop Technologists who are creative, skilful and confident practically, socially and intellectually giving students the opportunity to impress leaders of industry so that they can make a smooth transition from education into the workplace.

Prior Knowledge

You should expect students to have a general idea of energy and electricity. They might know that fossil fuels (coal, oil, gas) generate electricity, but not the specifics. They may have heard of renewable energy sources like sunshine or wind. They're familiar with batteries in everyday devices, but the science behind them might be new.

Current

HEAD - *Knowledge*

- By the end of this unit you should have developed a knowledge and understanding of how energy is generated and stored and how this is used as the basis for the selection of products and power systems considering:
- fossil fuels
- nuclear power
- renewable energy
- energy storage systems including batteries

HEART - *Personal Development*

- Throughout these topics, you won't just learn facts about energy. You'll be evaluating the pros and cons of fossil fuels, analysing the rise of alternative energy sources, and comparing different storage methods. This process of weighing evidence and forming judgments based on reason is a valuable critical thinking skill that benefits you not just in D&T but in all areas of life.

HAND - *Skills*

- **You will evaluate** the use of fossil fuels for energy generation, considering their advantages and disadvantages.
- **You will analyse** the increasing use of alternative energy sources and explore the different types available.
- **You will explain** how energy can be stored and the benefits of different storage methods.
- **You will compare and contrast** the advantages and disadvantages of batteries as a way to store energy.

Future

Pupils should go on to:

Answering GCSE exam questions, including multiple choice, short answer questions and long answer questions on the topics from this unit

New Materials

At Malbank we will develop Technologists who are creative, skilful and confident practically, socially and intellectually giving students the opportunity to impress leaders of industry so that they can make a smooth transition from education into the workplace.

Prior Knowledge

When introducing modern and composite materials in GCSE D&T, you should have basic knowledge of material properties, traditional materials, and a limited understanding of modern and composite materials.

Current

HEAD - *Knowledge*

- By the end of this unit you should have developed a knowledge and understanding of:
- a range of modern materials and what constitutes a modern material
- a range of smart materials
- the key properties of common smart and modern materials
- what defines a composite material
- a range of composites and their uses
- technical textiles

HEART - *Personal Development*

- You will apply your knowledge of modern materials to solve design problems and create innovative solutions.
- You will critically evaluate the advantages and disadvantages of different materials for specific applications.

HAND - *Skills*

- You will research and analyze a variety of modern materials, including smart materials and composites.
- You will identify key properties, applications, and manufacturing processes.
- You will be able to classify materials based on their characteristics, such as whether they are modern, smart, or composite.
- You will compare different materials to identify their strengths and weaknesses for specific applications.

Future

Pupils should go on to:

Nanomaterials: Explore the unique properties and applications of nanomaterials

Smart Materials: Study advanced smart materials like shape memory alloys, self-healing materials, and electrochromic materials, and their potential applications in various industries.

Composite Manufacturing: Explore different methods of manufacturing composites, such as hand layup,

Systems approach to design

At Malbank we will develop Technologists who are creative, skilful and confident practically, socially and intellectually giving students the opportunity to impress leaders of industry so that they can make a smooth transition from education into the workplace.

Prior Knowledge

Basic electrical concepts:
Current: The flow of electrical charge.
Voltage: The potential difference between two points in a circuit.
Resistance: The opposition to the flow of current.
Circuit components: Resistors, capacitors, inductors, diodes, transistors.
Basic mechanical concepts:
Force: A push or pull that can change an object's motion.
Motion: The change in position of an object over time.

Current

HEAD - *Knowledge*

- By the end of this unit you should have developed a knowledge and understanding of:
- the features of a control system
- applications for control systems
- the use of sensors
- input and output devices
- applications for systems within design and technology

HEART - *Personal Development*

- You will apply your knowledge of modern materials to solve design problems and create innovative solutions.
- You will critically evaluate the advantages and disadvantages of different materials for specific applications.

HAND - *Skills*

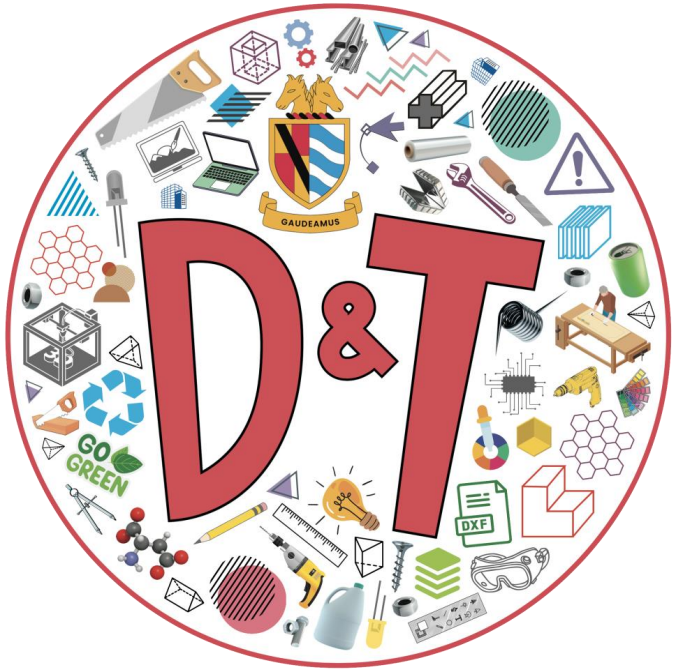
- **Be able to explain control systems:** You will gain a deep understanding of how control systems work, including their components, functions, and applications.
- **Be able to explain sensors:** You will learn about different types of sensors, their uses, and how they interact with control systems.
- **Be able to explain input and output devices:** You will become familiar with various input and output devices and their roles in control systems.

Future

Pupils should go on to:

Develop further knowledge into automation and applications of the topics covered in this unit

TERM 2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Mechanical devices

At Malbank we will develop Technologists who are creative, skilful and confident practically, socially and intellectually giving students the opportunity to impress leaders of industry so that they can make a smooth transition from education into the workplace.

Prior Knowledge

Basic electrical concepts:
Current: The flow of electrical charge.
Voltage: The potential difference between two points in a circuit.
Resistance: The opposition to the flow of current.
Circuit components: Resistors, capacitors, inductors, diodes, transistors.
Basic mechanical concepts:
Force: A push or pull that can change an object's motion.
Motion: The change in position of an object over time.

Current

HEAD - *Knowledge*

- By the end of this unit you should have developed a knowledge and understanding of:
- the different types of movement
- how mechanisms change magnitude and direction of force
- why we use mechanical systems
- a range of common mechanical systems

HEART - *Personal Development*

- In addition to your technical knowledge, you will develop a range of valuable personal skills while studying movement and mechanical systems in GCSE D&T. These include problem-solving, creativity, critical thinking, teamwork, practical skills, perseverance, and communication. By tackling challenges and working collaboratively, you will gain the confidence and skills needed to succeed in both academic and professional settings.

HAND - *Skills*

- Different Types of Movement: Students will be able to identify and explain various types of motion, such as linear, rotational, and oscillatory. They will understand the concepts of speed, velocity, acceleration, and deceleration.
- How Mechanisms Change Magnitude and Direction of Force: Students will learn how mechanical systems, such as levers, gears, and pulleys, can alter the force applied to an object. They will understand the concepts of mechanical advantage and efficiency.
- Why We Use Mechanical Systems: Students will be able to explain the benefits of using mechanical systems in various applications, such as increasing force, changing the direction of force, or reducing effort. They will understand the role of mechanical systems in improving productivity and efficiency.
- A Range of Common Mechanical Systems: Students will be familiar with a variety of mechanical systems, including levers, gears, pulleys, cams, and linkages. They will be able to identify and describe the components and functions of these systems.

Future

Pupils should go on to:

Develop further knowledge into automation and applications of the topics covered in this unit

Materials and Properties- Overview

At Malbank we will develop Technologists who are creative, skilful and confident practically, socially and intellectually giving students the opportunity to impress leaders of industry so that they can make a smooth transition from education into the workplace.

Prior Knowledge

Pupils should have:

Students should have a solid understanding of basic material properties, types of materials, and material selection factors from Year 9. This knowledge includes the ability to identify and explain concepts like strength, hardness, toughness, ductility, malleability, and elasticity. Additionally, students should be familiar with common materials (metals, plastics, wood, ceramics, textiles, composites) and basic manufacturing processes (cutting, joining, forming, finishing).

Current

HEAD - *Knowledge*

- ➔ the different classifications of papers and boards, their properties and common uses
- ➔ the different classifications of natural and manufactured timbers, their properties and common uses
- ➔ the different classifications of metals, their properties and common uses
- ➔ the different classifications of polymers, their properties and common uses
- ➔ the different types and properties of fibres and fabrics, their properties and common uses
- ➔ the physical and mechanical working characteristics of materials.

HEART - *Personal Development*

- I will use my resilience to adapt to GCSE and meet the standards expected of me at this level. I will also develop my communicational skills to ensure I can write an essay style answer.

HAND - *Skills*

- Materials Classification and Properties
- Identify and classify different materials (papers, boards, timbers, metals, polymers, fibers, and fabrics) based on their physical and mechanical properties.
- Describe the unique characteristics of each material type, including their strength, durability, flexibility, weight, and appearance.
- Understand the applications of different materials in various industries and everyday life.
- Material Working Characteristics
- Analyze the physical and mechanical behavior of materials under different conditions (e.g., stress, temperature, moisture).
- Predict the performance of materials in specific applications based on their properties and working characteristics.
- Select appropriate materials for various tasks, considering factors such as cost, availability, and sustainability.
- Apply appropriate techniques for processing, shaping, and joining different materials.

Future

Pupils should go on to:

-to use this knowledge to develop their NEA

Materials and Properties- Paper and Board

At Malbank we will develop Technologists who are creative, skilful and confident practically, socially and intellectually giving students the opportunity to impress leaders of industry so that they can make a smooth transition from education into the workplace.

Prior Knowledge

Pupils should have:

Students should have a solid understanding of basic material properties, types of materials, and material selection factors from Year 9. This knowledge includes the ability to identify and explain concepts like strength, hardness, toughness, ductility, malleability, and elasticity. Additionally, students should be familiar with common materials (metals, plastics, wood, ceramics, textiles, composites) and basic manufacturing processes (cutting, joining, forming, finishing).

Current

HEAD - *Knowledge*

- Know the primary sources of materials for producing papers and boards
- Be able to recognise and characterise different types of papers and boards
- Understand how the physical and working properties of a range of paper and board products affect their performance

HEART - *Personal Development*

- I will use my resilience to adapt to GCSE and meet the standards expected of me at this level. I will also develop my communicational skills to ensure I can write an essay style answer.

HAND - *Skills*

- I can collect various materials to familiarise myself with a variety of specific material properties.
- I can use of basic tools to test materials and understand properties
- I can use a handle a collection of papers and boards, giving examples and properties of each

Future

Pupils should go on to:

- to know the advantages and siadvantageds of each paper and baord

Materials and Properties- Timbers

At Malbank we will develop Technologists who are creative, skilful and confident practically, socially and intellectually giving students the opportunity to impress leaders of industry so that they can make a smooth transition from education into the workplace.

Prior Knowledge

Pupils should have:

- know some examples of timbers and some uses

Current

HEAD - *Knowledge*

- Timbers
- Know the primary sources of materials for producing natural and manufactured timbers
- Be able to recognise and characterise different types of natural and manufactured timbers
- Understand how the physical and working properties of a range of natural and manufactured timbers products affect their performance

HEART - *Personal Development*

- I will use my resilience to adapt to GCSE and meet the standards expected of me at this level. I will also develop my communicational skills to ensure I can write an essay style answer.

HAND - *Skills*

- I can use and handle a collection of hard and softwoods and manufactured boards, giving examples and properties of each
- I can inspect and test a range of timbers to include stress tests and cutting along and across the grain, indentation and compare to boards.

Future

Pupils should go on to:

- to know what material to select depending on the product function

Materials and Properties- Metals

At Malbank we will develop Technologists who are creative, skilful and confident practically, socially and intellectually giving students the opportunity to impress leaders of industry so that they can make a smooth transition from education into the workplace.

Prior Knowledge

Pupils should have:

Students should have a solid understanding of basic material properties, types of materials, and material selection factors from Year 9. This knowledge includes the ability to identify and explain concepts like strength, hardness, toughness, ductility, malleability, and elasticity. Additionally, students should be familiar with common materials (metals, plastics, wood, ceramics, textiles, composites) and basic manufacturing processes (cutting, joining, forming, finishing).

Current

HEAD - *Knowledge*

- Know the primary sources of materials for producing metals and alloys
- Be able to recognise and characterise different types of metals and alloys
- Understand how the physical and working properties of a range of metals and alloys affect their performance

HEART - *Personal Development*

- I will use my resilience to adapt to GCSE and meet the standards expected of me at this level. I will also develop my communicational skills to ensure I can write an essay style answer.

HAND - *Skills*

- I can use and handle a collection of metals including ferrous non-ferrous and alloys, giving examples and properties of each
- • I can conduct magnetic testing for identification and weight testing for density.

Future

Pupils should go on to:

-- to know what material to select depending on the product function

Materials and Properties- Polymers

At Malbank we will develop Technologists who are creative, skilful and confident practically, socially and intellectually giving students the opportunity to impress leaders of industry so that they can make a smooth transition from education into the workplace.

Prior Knowledge

Pupils should have:

Students should have a solid understanding of basic material properties, types of materials, and material selection factors from Year 9. This knowledge includes the ability to identify and explain concepts like strength, hardness, toughness, ductility, malleability, and elasticity. Additionally, students should be familiar with common materials (metals, plastics, wood, ceramics, textiles, composites) and basic manufacturing processes (cutting, joining, forming, finishing).

Current

HEAD - *Knowledge*

- Know the primary sources of materials for producing polymers
- Be able to recognise and characterise different types of polymers
- Understand the physical and working properties of a range of thermoforming and thermosetting polymers

HEART - *Personal Development*

- I will use my resilience to adapt to GCSE and meet the standards expected of me at this level. I will also develop my communicational skills to ensure I can write an essay style answer.

HAND - *Skills*

- I can use and handle a collection of thermoplastics and thermosets, giving examples and properties of each.
- I can also give examples of biopolymers and manmade fabrics such as acrylic and nylon.

Future

Pupils should go on to:

- to know what material to select depending on the product function

Materials and Properties- Textiles and Composites

At Malbank we will develop Technologists who are creative, skilful and confident practically, socially and intellectually giving students the opportunity to impress leaders of industry so that they can make a smooth transition from education into the workplace.

Prior Knowledge

Pupils should have:

Students should have a solid understanding of basic material properties, types of materials, and material selection factors from Year 9. This knowledge includes the ability to identify and explain concepts like strength, hardness, toughness, ductility, malleability, and elasticity. Additionally, students should be familiar with common materials (metals, plastics, wood, ceramics, textiles, composites) and basic manufacturing processes (cutting, joining, forming, finishing).

Current

HEAD - *Knowledge*

- Textiles and brief composites (covered later in more detail).
- Know the primary sources of materials for producing textiles
- Be able to recognise and characterise different types of textiles
- Understand how the physical and working properties of a range of textiles affect their performance
- Be able to recognise and characterise different types of composite materials

HEART - *Personal Development*

- I will use my resilience to adapt to GCSE and meet the standards expected of me at this level. I will also develop my communicational skills to ensure I can write an essay style answer.

HAND - *Skills*

- I can use and handle a collection of textiles including plant based, animal based and man-made, giving examples and properties of each.
- I can do a series of tests that can be set up with samples including strength, stretch, drape, crease resistance, stain resistance, absorbency / drying time, fraying etc.

Future

Pupils should go on to:

- to know what material to select depending on the product function

Materials and Properties- Physical and mechanical properties

At Malbank we will develop Technologists who are creative, skilful and confident practically, socially and intellectually giving students the opportunity to impress leaders of industry so that they can make a smooth transition from education into the workplace.

Prior Knowledge

Students should have a solid understanding of basic material properties, types of materials, and material selection factors from Year 9. This knowledge includes the ability to identify and explain concepts like strength, hardness, toughness, ductility, malleability, and elasticity. Additionally, students should be familiar with common materials (metals, plastics, wood, ceramics, textiles, composites) and basic manufacturing processes (cutting, joining, forming, finishing).

Current

HEAD - *Knowledge*

- The meaning of each of the physical and working properties related to all materials

HEART - *Personal Development*

- Analysis and organisation of materials into different categories using their properties

HAND - *Skills*

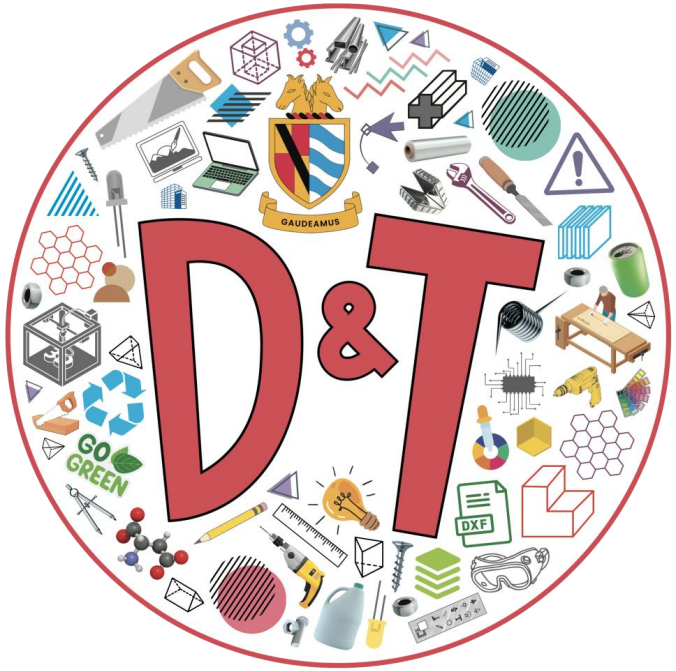
- **I can** observe and analyze the physical properties of materials.
- **I can** compare and contrast different materials based on their physical properties.
- **I can** classify materials into groups based on shared physical properties.
- **I can** conduct experiments to determine the working properties of materials.
- **I can** identify and solve problems related to the working properties of materials.
- **I can** make informed decisions about which materials to use for specific applications based on their working properties.

Future

Pupils should go on to:

Material Testing and Analysis: Learn about various methods for testing and analysing materials to ensure quality and performance.

TERM 3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Investigation, primary and secondary data

At Malbank we will develop Technologists who are creative, skilful and confident practically, socially and intellectually giving students the opportunity to impress leaders of industry so that they can make a smooth transition from education into the workplace.

Prior Knowledge	Current	Future
Pupils should have: - some knowledge of the different examples of research	**HEAD -** *Knowledge*  - Understand how primary and secondary data can be collected to assist the understanding of client and user needs - Know how to write a design brief and produce a manufacturing specification - Understand how the environment, and social and economic challenges influence designing and making **HEART -** *Personal Development*  - problem-solving, critical thinking, creativity, innovation, communication, teamwork, research, analysis, and technical skills. By analysing data, designing solutions, and considering external factors, you will develop the ability to think critically, communicate effectively, and solve complex problems. **HAND -** *Skills*  - I can explain the difference between primary and secondary research - I can create a research plan for my storage box project	**Pupils should go on to:** - conduct primary and secondary research for their NEA

The work of others- companies

At Malbank we will develop Technologists who are creative, skilful and confident practically, socially and intellectually giving students the opportunity to impress leaders of industry so that they can make a smooth transition from education into the workplace.

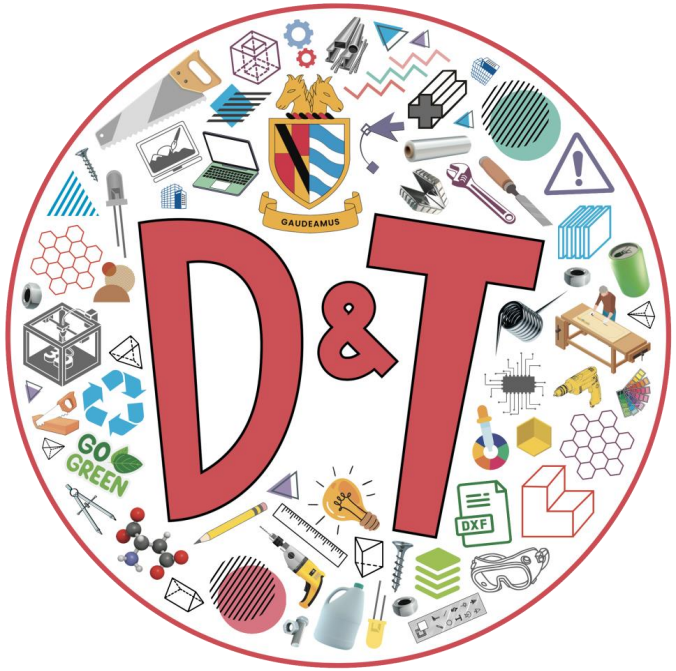
Prior Knowledge	Current	Future
Pupils should have: - to be able to name a designer or design movement	**HEAD -** *Knowledge*  - Know how to investigate, analyse and evaluate the work of others - Understand how investigating the work of other design companies can inform designing **HEART -** *Personal Development*  - I will develop my communication skills by being able to explain my ideas. I will also be able to communicate them effectively on paper. - I will also look at cultural differences of design by looking at different designers around the world. **HAND -** *Skills*  You will develop the ability to: - Investigate the work of other designers and companies through research, observation, and analysis. - Analse the design decisions made by others, considering factors such as materials, processes, and aesthetics. - Evaluate the effectiveness and impact of different design solutions, identifying strengths, weaknesses, and potential improvements. - Understanding the Influence of Other Design Companies on Designing - By studying the work of other design companies, you will gain a deeper understanding of: - Design trends and emerging technologies that can inform your own design projects. - Design processes and methodologies used by professionals in the field. - Design principles and aesthetic considerations that can influence design decisions.	**Pupils should go on to:** - design a product in the style of a designer or design movement

Communication of design ideas

At Malbank we will develop Technologists who are creative, skilful and confident practically, socially and intellectually giving students the opportunity to impress leaders of industry so that they can make a smooth transition from education into the workplace.

Prior Knowledge	Current	Future
Pupils should have: - Text	**HEAD -** *Knowledge*  - • Understand how to develop, communicate, record and justify design ideas - • Be aware of a range of techniques to support clear communication of design ideas - • Know how to design and develop prototypes in response to client wants and needs - Be able to critically evaluate prototypes and suggest modifications **HEART -** *Personal Development*  - I will develop my communication skills by being able to explain my ideas. I will also be able to communicate them effectively on paper. - I will also look at cultural differences of design by looking at different designers around the world. **HAND -** *Skills*  - I can complete a series of drawing activities to help develop an understanding of the benefits and limitations of the various drawing styles including freehand sketching, oblique, isometric, two-point perspective, exploded and third-angle orthographic projection	**Pupils should go on to:** - Text

TERM 4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Selection of materials and components

At Malbank we will develop Technologists who are creative, skilful and confident practically, socially and intellectually giving students the opportunity to impress leaders of industry so that they can make a smooth transition from education into the workplace.

Prior Knowledge	Current	Future
Pupils should have: - Text	**HEAD -** *Knowledge*  - • Be able to select and use materials and components appropriate to a specific task - • Understand how functionality, availability and cost affect the selection of materials and components **HEART -** *Personal Development*  - I will develop my communication skills by being able to explain my ideas. I will also be able to communicate them effectively on paper. - I will also look at cultural differences of design by looking at different designers around the world. **HAND -** *Skills*  - I can identify and number of materials from the store and explain why and where they can be used	**Pupils should go on to:** - Text

Material Management

At Malbank we will develop Technologists who are creative, skilful and confident practically, socially and intellectually giving students the opportunity to impress leaders of industry so that they can make a smooth transition from education into the workplace.

Prior Knowledge

Pupils should have:

- → the different classifications of papers and boards, their properties and common uses

→ the different classifications of natural and manufactured timbers, their properties and common uses

→ the different classifications of metals, their properties and common uses

→ the different classifications of polymers, their properties and common uses

→ the different types and properties of fibres and fabrics, their properties and common uses

→ the physical and mechanical working characteristics of materials.

Current

HEAD - *Knowledge*

- Understand how effective design planning can minimise waste
- Be aware of how design adaptations and use of tessellation can save time and materials
- Understand the value of using measurement and marking out to create an accurate prototype
- Be able to recognise and characterise the appropriate tools and methods to mark out a range of materials to create prototypes

HEART - *Personal Development*

- I am going to develop my resilience and initiative to complete a mini practical project.

HAND - *Skills*

- I can answer an exam question on tessellation effectively.
- I can demonstrate marking out using a number of tools

Future

Pupils should go on to:

- Explore practical techniques to test materials and calculate efficient material use

Tools, equipment, tools, finishes

At Malbank we will develop Technologists who are creative, skilful and confident practically, socially and intellectually giving students the opportunity to impress leaders of industry so that they can make a smooth transition from education into the workplace.

Prior Knowledge

Pupils should have:

- Basic Workshop Skills
- **Measurement:** Accurate use of rulers, calipers, and measuring tapes.
- **Marking Out:** Transferring measurements and creating guidelines.
- **Cutting and Joining:** Basic techniques using saws, drills, and adhesives.
- **Material Properties:** Understanding the characteristics of common materials (e.g., wood, metal, plastics).

Safety Fundamentals

- **General Safety Rules:** Following basic safety guidelines like wearing appropriate PPE (Personal Protective Equipment), avoiding distractions, and maintaining a clean workspace.
- **Common Hazards:** Recognizing potential hazards in a workshop environment, such as sharp tools, hot surfaces, and hazardous substances.

Current

HEAD - *Knowledge*

- •Understand how to select and use specialist tools, equipment, techniques and processes
- •Be aware of relevant health and safety issues when using specialist tools, equipment, techniques and processes to protect yourself and others from harm

HEART - *Personal Development*

- I am going to develop my resilience and initiative to complete a mini practical project.

HAND - *Skills*

- I can identify a number of tools from the workshop and explain why and where they could be used.
- I can demonstrate using the majority of these tools and processes.

Future

Pupils should go on to:

- Text

Finishes

At Malbank we will develop Technologists who are creative, skilful and confident practically, socially and intellectually giving students the opportunity to impress leaders of industry so that they can make a smooth transition from education into the workplace.

Prior Knowledge	Current	Future
Pupils should have: - Text	**HEAD -** *Knowledge*  - •Know and understand that surface treatments and finishes are applied for functional and aesthetic purposes - •Understand how to prepare different surfaces for treatments and finishes - •Understand how to select and apply appropriate surface treatments and finishes to a range of surfaces **HEART -** *Personal Development*  - Creativity and evaluation skills **HAND -** *Skills*  - Technical Skills: Material understanding, surface preparation, application techniques, tool usage - Creative and Design Skills: Aesthetic appreciation, functional considerations, problem-solving, decision-making - Practical Skills: Experimentation, accuracy and precision, attention to detail	**Pupils should go on to:** - Text