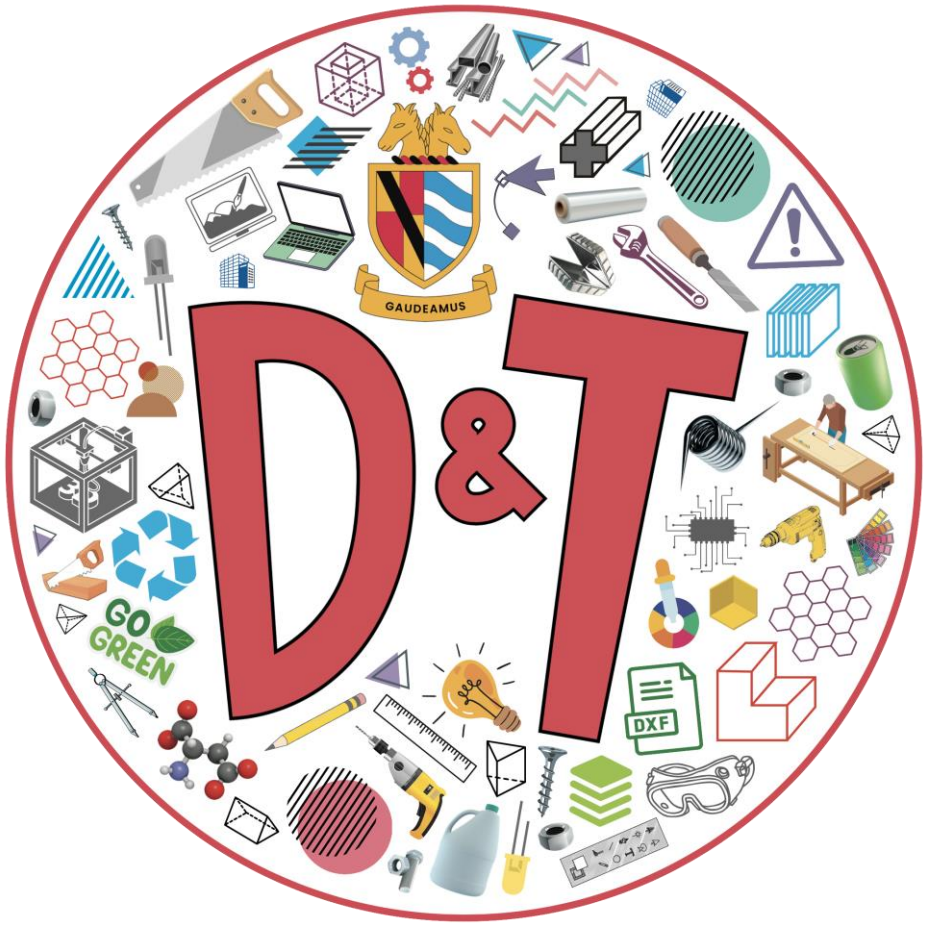
D&T
GAUDEAMUS
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Y7
GAUDEAMUS


KNOWLEDGE
HEAD
PERSONAL DEVELOPMENT
HEART
SKILLS
HAND
CURRICULUM
GAUDEAMUS

Year 7

Topics

	Element	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Term 1	**Theory**	H&S	Scales of production	Brief/Specifications	Materials	Electronics	Knowledge assessment
	Practical	Moodlamp	Moodlamp	Moodlamp	Moodlamp	Moodlamp	Moodlamp
	Home learning	Reading- H&S and risk assessments	Reading- scales of production	Product Analysis	Materials key terms	Revision	
Term 2	**Theory**	Processes	Processes	Finishes	Quality Control	Moodlamp analysis	Evaluating
	Practical	Moodlamp	Moodlamp	Moodlamp	Moodlamp	Moodlamp	Moodlamp
	Home learning		Case study reading	Case study questions		Case study reading	Case study questions
Term 3	**Theory**	H&S	Materials	Ecological and social footprint	Ergonomics	Knowledge assessment- End of year exam	Packaging
	Practical	Phone stand	Phone stand	Phone stand	Phone stand	Phone stand	Phone stand
	Home learning	Case study reading	Case study questions		Case study reading		

Year 7 D&T

What are you going to learn and do this year?

Current

HEAD - *Knowledge*

Year 7 Design and Technology Curriculum
Welcome to Design and Technology! This year, you'll embark on a journey of creativity and problem-solving as you learn to design and make your own products.
Here's a breakdown of the exciting topics you'll be covering:
Hands-on Learning:
Practical Projects: Get ready to put your learning into action! You'll work on two engaging projects: a mood lamp and a phone holder. These projects will allow you to develop your design and making skills.
Safety First:
Health and Safety: A safe workshop environment is essential. You'll learn all the important safety rules and procedures to handle tools and equipment responsibly.
Planning and Specifying:
Scales of Production: Explore how products are made in different quantities – from one-off creations to mass production.
Briefs and Specifications: Learn how to translate an idea into a clear plan. You'll interpret design briefs, write specifications for your projects, and understand how they guide the design process.
The Design Process:
Designing: Unleash your inner designer! You'll explore the design cycle, from brainstorming ideas to creating sketches and models of your projects.
Understanding Materials:
Materials: Delve into the world of materials! Learn about different materials, their properties, and how they are best suited for various purposes in your designs.
Electronics Basics:
Electronics (For Mood Lamp Project): For the mood lamp project, you'll get a taste of basic electronics, understanding circuits and simple components to bring your lamp to life.
Workshop Skills:
Workshop Processes: Master the workshop! You'll learn how to use essential tools and equipment safely and effectively to create your projects.
Finishing Touches:
Material Finishes: Explore different techniques to give your projects a professional and polished look.
Creating Quality Products:
Quality Control: Learn how to check your work and identify areas for improvement, ensuring your projects meet high standards.
Thinking Beyond Design:
Ecological and Social Footprint: Consider the environmental and social impact of your designs. You'll explore ways to use materials responsibly and create products that are mindful of the world around us.
Designing for People:
Ergonomics: Learn how to design products that are comfortable, safe, and easy to use for the intended user.
Presentation is Key:
Packaging: Explore the importance of packaging in design. You'll learn how to present your finished products in a visually appealing and functional way.
This year in D&T will be a fun and rewarding experience. Get ready to learn new skills, unleash your creativity, and design and make amazing products!

HEART - *Personal Development*

This D&T curriculum fosters personal development in several ways:
Confidence and Self-Belief: Successfully completing projects and mastering new skills builds confidence and a sense of accomplishment.
Resilience and Problem-Solving: Overcoming challenges during the design process and troubleshooting technical issues develops resilience and problem-solving skills.

Year 7 D&T

What are you going to learn and do this year?

Current

HEART - *Personal Development (continued)*

Independence and Initiative: Students learn to take ownership of their projects, manage their time effectively, and work independently.
Teamwork and Collaboration: Working with others on projects encourages teamwork, communication, and the ability to collaborate effectively.
Critical Thinking and Creativity: The design process fosters critical thinking as students analyze problems, develop solutions, and evaluate their work.
By nurturing these skills, D&T helps students build a strong foundation for personal growth and success not just in school, but also in their future endeavors.

HAND - *Skills*

Year 7 Design and Technology: Skills Development
This year in D&T isn't just about cool projects; it's about equipping you with valuable skills that will benefit you throughout your studies and beyond! Here's how the curriculum will help you develop:
Practical Skills:
Making: Through projects like the mood lamp and phone holder, you'll gain hands-on experience using tools and equipment, developing your ability to create physical products.
Problem-solving: As you design and make, you'll encounter challenges. Learning to troubleshoot and find solutions will become second nature.
Following Instructions: Working with briefs and specifications will hone your ability to follow instructions carefully and interpret technical information.
Design Thinking:
Creativity: Unleash your inner inventor! You'll learn to brainstorm ideas, experiment with designs, and come up with creative solutions to design problems.
Research and Analysis: Learn how to research existing products, understand their strengths and weaknesses, and use that knowledge to inform your own designs.
Technical Drawing: Develop your ability to communicate your design ideas clearly through sketches and, potentially, basic CAD (Computer Aided Design) skills.
Technical Skills:
Safe Use of Tools: Mastering workshop safety procedures will allow you to use tools and equipment confidently and responsibly.
Material Selection: Understanding different materials and their properties will equip you to choose the right materials for your designs. (For the mood lamp project, you might learn basic soldering!)
Quality Control: Develop a critical eye for detail, learning to identify areas for improvement and ensuring your projects meet high standards.
Planning and Communication:
Project Planning: Learn how to break down a project into manageable steps, plan your approach, and manage your time effectively.
Communication Skills: Through presentations and discussions, you'll develop your ability to communicate your design ideas clearly and persuasively.
Sustainability Awareness:
Ecological Impact: Consider the environmental implications of your designs. You'll learn to use materials responsibly and minimize waste.
Overall, this year in D&T will equip you with a valuable skillset, making you a more creative, resourceful, and technically proficient problem-solver!

Health and Safety

Y7/T1/W1

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: - an understanding of what health and safety is	**HEAD -** *Knowledge*  - To understand what a hazard and risk is within a workshop and that there are workshop rules in place - To know some methods of reducing H&S risks in D&T **HEART -** *Personal Development*  - I can explain safe practice in workshop by using my initiative. I can use my leadership to ensure others are safe within a workshop **HAND -** *Skills*  - I can explain how to keep myself and others safe in a workshop - I can identify a range of hazards that are within a school workshop area - Sign workshop contract.	**Pupils should go on to:** - demonstrate H&S practices whilst using the school workshop

Scales of production

Y7/T1/W2

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: - An brief idea as to what mass, batch and continuous production means	**HEAD -** *Knowledge*  - Understand how products are produced in different volumes- Mass production, batch production, one-off production **HEART -** *Personal Development*  - Communication **HAND -** *Skills*  - I can briefly describe the difference between the different scales of production and offer advantages and disadvantages of each one	**Pupils should go on to:** - Explain the advantages and drawbacks of each production technique

Design Briefs and Specifications

Y7/T1/W3

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 have a brief idea of what the term project means and the term client	**HEAD -** *Knowledge*  - To know the concept of a design brief - To know the difference between primary and secondary research - To know how and where to find relevant research to inform design decisions (materials, interviews, questionnaires, design movements, sustainability) **HEART -** *Personal Development*  - I can organise my thoughts and ideas into a structured mind map - I can use my organisational skills to arrange my research **HAND -** *Skills*  - I can analyse a design brief and plan out the research that needs to be carried out in the form of a task analysis - -develop detailed design specifications to guide their thinking	**Pupils should go on to:** - Be able to write a design specification for a product context

Materials

Y7/T1/W4

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:

- Understand where woods and metals come from and give a some examples of each classification

Current

HEAD - *Knowledge*

- To know what timbers, metals are and where they are used
- how to classify materials by structure e.g. hard words, soft woods, ferrous and non-ferrous, thermoplastic and thermosetting plastics

HEART - *Personal Development*

- I can use my initiative when using and choosing materials
- I can use my initiative to come up with tests which show how the properties of smart materials change
- I can see real life uses for these materials

HAND - *Skills*

- I can classify woods (soft and hard) metals (ferrous and non-ferrous)
- I can give some examples of Timbers and Metals
- about the physical properties of materials e.g. grain, brittleness,
- flexibility, elasticity, malleability and thermal

Future

Pupils should go on to:

- To be able to classify other material groups

Electronics

Y7/T1/W1

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Prior Knowledge

Pupils should have:

- Some knowledge of what a circuit board is

Current

HEAD - *Knowledge*

- To know a range of electrical components and what they do (including, LED, Battery, Resistor, Switch, Positive and Negative wires).
- To know how to solder effectively and safely
- Key terms- Electronics Systems:, Input, Control, Output, Sensors: LDR, Thermistor , Control Devices and Components: Resistor, Single-throw Switch, Transistor, Outputs: Buzzer, LED

HEART - *Personal Development*

- I can use my initiative to analyse a working circuit board
- I can use my resilience to solder accurately

HAND - *Skills*

- I can identify a number of electrical components and their role within the mood lamp circuit
- I can demonstrate soldering by completing my mood lamp circuit accurately and safely

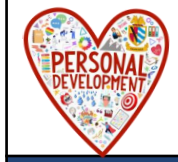
Future

Pupils should go on to:

- Demonstrate soldering a circuit for a moodlamp

Tools (Moodlamp Project focus) Y7/T2/W1 and 2

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: - An understanding of the workshop and some of the equipment	**HEAD -** *Knowledge*  - Understand how to select and use some tools and equipment - Be aware of relevant health and safety issues when using these tools and/or equipment **HEART -** *Personal Development*  - Text **HAND -** *Skills*  - I can identify a number of tools from the workshop and briefly explain why and where they could be used. - I can demonstrate using some tools - make use of specialist equipment to mark out materials - use a broad range of material joining techniques including stitching, mechanical fastenings, heat processes and adhesives - use CAD/CAM to produce and apply surface finishing techniques, for example using dye sublimation - investigate and develop skills in modifying the appearance of materials - identify and solve their own design problems	**Pupils should go on to:** - Demonstrate practical skills safely within the school workshop

Finishes

Y7/T2/W3

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: - Understand that some materials have a finish on, for example varnish on wood	**HEAD -** *Knowledge*  - Know and understand that surface treatments and finishes are applied for functional and aesthetic purposes - How a finish can be used to improve the aesthetics of a material **HEART -** *Personal Development*  - Organisation **HAND -** *Skills*  - I can briefly explain why a finish is applied to a product and name a few different examples	**Pupils should go on to:** - Use finished on a product that they have manufactured and explain the reason for this finish

Quality Control

Y7/T2/W4

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: - Understood that quality of manufacture will impact on the final product	**HEAD -** *Knowledge*  - To know the definition of quality control and understand how it is used in projects - To know how to reflect on the project so far using quality control **HEART -** *Personal Development*  - Resilience to improve projects so far **HAND -** *Skills*  - I can use quality control to reflect on my project and suggest improvements	**Pupils should go on to:** - Reflect on their manufacturing skills so far and make improvements to their product

Evaluating in design

Y7/T2/W6

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:

- Be able to explain the term 'evaluating'

Current

HEAD - *Knowledge*

- Understand what the evaluation process is and how it benefits design
- Understand a few different methods to evaluate design

HEART - *Personal Development*

- Organsation

HAND - *Skills*

- evaluate their products against their original specification and identify ways of improving them
- actively involve others in the testing of their products
- *test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups*

Future

Pupils should go on to:

- select appropriate methods to evaluate their products in use and modify them to improve performance
- produce short reports, making suggestions for improvements

Ecological and social footprint

Y7/T3/W3

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:

- Understand that manufacturing can have a negative impact on the environment

Current

HEAD - *Knowledge*

- Understand the environmental impacts of manufacturing products
- To understand 3 of the 6 R's
- To understand the impact of global warming

HEART - *Personal Development*

- Imaginative thinking: D&T encourages you to think outside the box and come up with unique designs and consider world wide issues

HAND - *Skills*

- I can list a number of issues that manufacturing product may cause on our environment
- I can list 3 of the 6 r's and briefly explain them
- I can give some example of global warming and the impact on humans and animals

Future

Pupils should go on to:

Ecological and social footprint

To strengthen understanding of the 6 R's

To understand how some companies are using the 6 R's to make themselves more sustainable

Ergonomics

Y7/T3/W4

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: - That people of all different sizes and that product design takes that into account	**HEAD -** *Knowledge*  - To understand the term ergonomics and how it applies to product design **HEART -** *Personal Development*  - Identifying problems: You'll learn to recognise issues and challenges within design briefs. **HAND -** *Skills*  - I can explain the term ergonomics - I can analyse a product and explain how ergonomics has been taken into account	**Pupils should go on to:** - Create a product that has taken ergonomics into account

Packaging

Y7/T3/W6

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:

- Understand that products are packaged
- Briefly understand a reason to why products are packaged

Current

HEAD - *Knowledge*

- •
  - 3P's of Packaging
- o
  - Protect
- o
  - Preserve
- o
  - Promote

HEART - *Personal Development*

- Brainstorming solutions: You'll develop creative thinking skills to generate multiple ideas.
- Evaluating options: You'll learn to assess the feasibility and effectiveness of different solutions.

HAND - *Skills*

- I can explain some reasons for packaging
- I can explain some materials that are used in packaging and why

Future

Pupils should go on to:

- Create some packaging for a product