Ormiston Meridian Academy

[OAT] Ormiston Academies Trust
AN OAT ACADEMY

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Subject: Engineering Design — Year 10 Curriculum Map 2024 - 25

Week Commencing	Topic (including links to additional resources)	Assessment Window
Staff INSET 02/09 Students Return 03/09	Introduction and overview of the unit (R039) Controlled assessment unit. Students are to follow specific exam brief to create a number of designs within a specifically given period of time.	
09/09/2024	Produce a freehand sketch of a design idea • 2D/3D sketches • Thick/thin lines • Texture • Tone • Shading Annotation and labelling techniques	
16/09/2024	Produce a freehand sketch of a design idea • 2D/3D sketches • Thick/thin lines • Texture • Tone • Shading Annotation and labelling techniques	
23/09/2024	Development of oblique projection drawings that show clear development of ideas. Students are required to develop a number different oblique drawings that have had some rendering applied. In addition to this, students are required to fully annotate all designs showing full understanding of the process and development of ideas.	
30/09/2024	Development of oblique projection drawings that show clear development of ideas. Students are required to develop a number different oblique drawings that have had some rendering applied. In addition to this, students are required to fully annotate all designs showing full understanding of the process and development of ideas.	
07/10/2024	Students will be able to create an isometric sketch for a design proposal, adhering to the rules of isometric drawing. They will understand the principles of vertical and horizontal lines, measurement accuracy along isometric lines, and how to use isometric grid paper to assist with their drawings. **Key Learning Points:** 1. **Understanding Isometric Projection**: o **Vertical lines** in the object appear as **vertical lines** in the sketch. o **Horizontal lines** in the object are drawn at **30° to the horizontal** in the sketch.	

	○ **Measurements** along isometric lines (vertical or 30° horizontal) should represent **true measurements** or be **scaled proportionately**. 2. **Using Isometric Grid Paper**: ○ **Isometric grid paper** is pre-marked with 30° diagonal lines that help students align their sketches to the correct angles. ○ Students will be introduced to the grid format and will practice sketching simple shapes (e.g., cubes, boxes) before moving on to more complex design proposals.	
14/10/2024	Students will be able to create an isometric sketch for a design proposal, adhering to the rules of isometric drawing. They will understand the principles of vertical and horizontal lines, measurement accuracy along isometric lines, and how to use isometric grid paper to assist with their drawings. **Key Learning Points:** 3. **Understanding Isometric Projection**: ○ **Vertical lines** in the object appear as **vertical lines** in the sketch. ○ **Horizontal lines** in the object are drawn at **30° to the horizontal** in the sketch. ○ **Measurements** along isometric lines (vertical or 30° horizontal) should represent **true measurements** or be **scaled proportionately**. 4. **Using Isometric Grid Paper**: ○ **Isometric grid paper** is pre-marked with 30° diagonal lines that help students align their sketches to the correct angles. Students will be introduced to the grid format and will practice sketching simple shapes (e.g., cubes, boxes) before moving on to more complex design proposals.	
21/10/2024	Students will be able to produce a sketch using single-point perspective, understanding how objects are depicted in a realistic three-dimensional form on a two-dimensional surface. They will grasp how vertical and horizontal lines behave in this perspective and the role of the vanishing point. **Key Learning Points:** 1. **Understanding Single-Point Perspective**: ○ **Vertical lines** in the object appear as **vertical lines** in the sketch. ○ **Horizontal lines** in the object either remain **horizontal** or recede toward a **single vanishing point** on the horizon line. ○ **Objects** closer to the vanishing point appear smaller, creating the illusion of depth. 2. **Using a Horizon Line and Vanishing Point**: ○ The **horizon line** represents the viewer's eye level. ○ The **vanishing point** is where parallel lines converge, giving the impression of depth. ○ Students will practice locating the horizon line and positioning objects in relation to the vanishing point.	Achievement Round 1
October Half Term		
04/11/2024	Students will be able to produce a sketch using single-point perspective, understanding how objects are depicted in a realistic three-dimensional form	Achievement Round 1

	on a two-dimensional surface. They will grasp how vertical and horizontal lines behave in this perspective and the role of the vanishing point.
	
	Key Learning Points:
	
	1. **Understanding Single-Point Perspective**:
	  ○ **Vertical lines** in the object appear as **vertical lines** in the sketch.
	  ○ **Horizontal lines** in the object either remain **horizontal** or recede toward a **single vanishing point** on the horizon line.
	  ○ **Objects** closer to the vanishing point appear smaller, creating the illusion of depth.
	2. **Using a Horizon Line and Vanishing Point**:
	  ○ The **horizon line** represents the viewer's eye level.
	  ○ The **vanishing point** is where parallel lines converge, giving the impression of depth.
	  ○ Students will practice locating the horizon line and positioning objects in relation to the vanishing point.	

11/11/2024	Students will be able to develop a final design using single-point perspective, applying their understanding of depth, proportion, and perspective techniques to create a polished and realistic representation of their design ideas.
	
	Key Learning Points:
	
	1. **Refining Single-Point Perspective Skills**:
	  ○ Continue to ensure **vertical lines** remain vertical and **horizontal lines** recede to the **vanishing point** on the horizon.
	  ○ Incorporate more complex shapes and forms into the design, including **circular or curved objects**, and manage perspective distortion.
	2. **Adding Depth and Detail**:
	  ○ Understand how to introduce **foreground, midground, and background** elements to enhance depth perception in the final design.
	  ○ Explore **proportional scaling** of objects as they move closer to or further from the vanishing point to achieve a realistic sense of space.	

18/11/2024	Students will understand and apply the principles of third-angle orthographic projection to create technical drawings, using standard conventions to represent a design proposal from multiple views (elevations, front, side, and plan). **Key Learning Points:** 1. **Understanding Third-Angle Orthographic Projection** 2. **The Key Views: Front, Side, and Plan** 3. **Principles of Third-Angle Orthographic Projection** 4. **Drawing a Third-Angle Orthographic Projection** 5. **Standard Conventions in Orthographic Drawings**	
25/11/2024	Students will understand and apply the principles of third-angle orthographic projection to create technical drawings, using standard conventions to represent a design proposal from multiple views (elevations, front, side, and plan).	

	Key Learning Points: 1. **Understanding Third-Angle Orthographic Projection** 2. **The Key Views: Front, Side, and Plan** 3. **Principles of Third-Angle Orthographic Projection** 4. **Drawing a Third-Angle Orthographic Projection** 5. **Standard Conventions in Orthographic Drawings**	
02/12/2024	students will be able to use CAD (Computer-Aided Design) software to produce a third-angle orthographic projection of a design proposal, following standard conventions. **Key Learning Points:** 1. **Introduction to CAD for Orthographic Projection** 2. **Setting Up Third-Angle Projection in CAD** 3. **Drawing and Aligning Views** 4. **Applying Standard Conventions in CAD**	
09/12/2024	students will be able to use CAD (Computer-Aided Design) software to produce a third-angle orthographic projection of a design proposal, following standard conventions. **Key Learning Points:** 1. **Introduction to CAD for Orthographic Projection** 2. **Setting Up Third-Angle Projection in CAD** 3. **Drawing and Aligning Views** **Applying Standard Conventions in CAD**	
16/12/2024	Completion of NEA folder ready for assessment.	
Christmas Break		
06/01/2025	Introduction of R040 brief and NEA (coursework assessment criteria). Students will be given a design that they must create.	
13/01/2025	Students will have a clear understanding of the differences between primary and secondary research methods, and how to apply them effectively in design. They will explore various research techniques, both primary (e.g., physical analysis, surveys) and secondary (e.g., books, online sources), and will engage in hands-on activities that utilize both types of research to inform their design decisions. **Key Learning Points:** 1. **Understanding Primary Research Methods**: o **Primary research** involves gathering original data firsthand to gain insights into a particular problem or area of inquiry. o Students will learn about various primary research techniques, including: ▪ **Physical analysis**: Hands-on examination of products, materials, or prototypes to assess their qualities or performance. ▪ **Questioning**: Conducting interviews or creating **surveys** to gather information directly from people, such as classmates, users, or experts. ▪ **Surveys and polls**: Collecting opinions or feedback through structured questioning to generate data that can inform design choices.	

	○ Examples could include physically testing products to analyze durability or surveying peers to understand user preferences. 2. **Exploring Secondary Research Sources**: ○ **Secondary research** involves using existing data or information from other sources to inform design decisions. ○ Students will explore various secondary research methods, such as: ▪ **Internet/online sources**: Using reliable websites, databases, and online articles to gather background information or industry trends. ▪ **Books and literature**: Consulting design manuals, reference books, or academic papers to build knowledge of historical design practices, materials, or case studies. ▪ **Manuals and technical documents**: Referring to instruction manuals, standards, or guides for specific technical details. ▪ **Images and drawings**: Analyzing existing designs, images, and blueprints to inspire or inform the design process. ○ Examples of secondary research could include finding case studies on similar products, reviewing technical drawings, or gathering inspiration from online image galleries.	
20/01/2025	Students will have a clear understanding of the differences between primary and secondary research methods, and how to apply them effectively in design. They will explore various research techniques, both primary (e.g., physical analysis, surveys) and secondary (e.g., books, online sources), and will engage in hands-on activities that utilize both types of research to inform their design decisions. **Key Learning Points:** 1. **Class-Based Activity: Applying Primary and Secondary Research**: ○ To reinforce their understanding, students will undertake a **class-based activity** that integrates both primary and secondary research methods: ▪ **Primary research**: Students will conduct real-time research by **questioning their classmates**, gathering user feedback or preferences related to a particular product or design concept. ▪ **Secondary research**: In parallel, students will search for relevant **images, articles, or books** that provide additional insights or examples of similar designs or materials. ○ This activity will encourage students to combine data from both sources, critically evaluating how primary findings (e.g., peer preferences) and secondary sources (e.g., case studies, historical designs) can inform their own design work. 2. **Comparing and Contrasting Research Methods**: ○ Students will learn to distinguish between the strengths and limitations of primary and secondary research. For example: ▪ **Primary research** offers **real-time data** and personal insights but may be limited in scope or time-consuming. ▪ **Secondary research** provides **broader context** and access to existing knowledge but may lack the specificity or direct relevance to a particular problem.	

	○ By comparing the results from both types of research, students will understand how each method contributes uniquely to their design process, helping them to create well-informed and effective design proposals.	
27/01/2025	Students will be able to effectively plan and manage practical work, incorporating key aspects such as time/project management, conducting risk assessments, and implementing quality control checks to ensure a successful and safe outcome. **Key Learning Points:** 1. **Introduction to Planning Practical Work**: ○ Planning is a crucial step in any practical project, ensuring that tasks are completed efficiently, safely, and to a high standard. ○ Students will learn the importance of **structured planning**, including setting clear objectives, organizing resources, and anticipating potential challenges. 2. **Time and Project Management**: ○ Students will be introduced to **time management techniques** that are essential for completing projects within deadlines. This includes: ▪ **Creating a project timeline**: Breaking down the project into manageable tasks (e.g., material preparation, construction, finishing) and assigning timeframes to each phase. ▪ **Prioritizing tasks**: Learning how to prioritize tasks based on complexity, material availability, and deadlines, ensuring that critical steps are completed in the right order. ▪ **Setting milestones**: Students will establish key milestones or checkpoints throughout the project to track progress and make adjustments if needed. ▪ **Managing resources**: Effective **resource management** involves ensuring that the necessary materials, tools, and equipment are available when needed, reducing delays or disruptions.	
03/02/2025	Students will be able to effectively plan and manage practical work, incorporating key aspects such as time/project management, conducting risk assessments, and implementing quality control checks to ensure a successful and safe outcome. **Key Learning Points:** 1. **Risk Assessment**: ○ Safety is paramount in any practical activity. Students will learn how to conduct a **risk assessment** before starting any project, identifying potential hazards and taking appropriate steps to minimize risks. ○ Key components of a risk assessment include: ▪ **Identifying hazards**: Students will assess the potential dangers associated with using tools, machines, materials, or chemicals, as well as general workshop risks (e.g., tripping hazards, electrical safety). ▪ **Assessing risks**: Students will evaluate the likelihood and severity of each hazard, categorizing risks as low, medium, or high, based on their potential impact.	

	▪ **Implementing controls**: To mitigate risks, students will establish control measures such as wearing **PPE**, ensuring proper machine guarding, and following safe handling procedures for chemicals and materials. ▪ **Ongoing monitoring**: Risk assessments will be revisited throughout the project to ensure that safety controls remain effective and that any new hazards are addressed promptly. 2. **Quality Control Checks**: o Maintaining quality throughout the project is essential to ensure the final product meets the required standards. Students will implement **quality control measures** at various stages of their work: ▪ **Initial checks**: Before beginning construction, students will verify that materials and tools meet the necessary specifications, ensuring that they are suitable for the task. ▪ **In-process checks**: As the project progresses, students will conduct regular **quality inspections** at key milestones, checking for accuracy in cutting, shaping, and assembly, as well as ensuring that materials are used efficiently and safely. ▪ **Final inspection**: Upon completing the project, students will carry out a **final quality check** to ensure that the prototype or product is functional, meets design specifications, and is free of defects. This may involve testing durability, fit, or finish. 3. **Balancing Quality, Safety, and Efficiency**: o Throughout the project, students will learn to balance the demands of quality control, safety, and time management. For example: ▪ **Quality vs. speed**: Students will understand that rushing through tasks can compromise both quality and safety, and will learn how to maintain high standards while staying on schedule. ▪ **Safety vs. productivity**: While it's important to work efficiently, students will prioritize safety by adhering to the risk assessment and taking the necessary precautions, even if it means adjusting timelines. 4. **Planning Tools and Resources**: o Students will be introduced to project planning tools, such as **Gantt charts**, task lists, and **risk assessment templates**, to help them organize their work and track progress. o These tools will provide a visual guide to managing time and resources effectively, as well as ensuring that safety and quality are prioritized throughout the project.	
10/02/2025	Students will be able to effectively plan and manage practical work, incorporating key aspects such as time/project management, conducting risk assessments, and implementing quality control checks to ensure a successful and safe outcome. **Key Learning Points:** 1. **Risk Assessment**: o Safety is paramount in any practical activity. Students will learn how to conduct a **risk assessment** before starting any project, identifying potential hazards and taking appropriate steps to minimize risks. o Key components of a risk assessment include:	Achievement Round 2

	▪ **Identifying hazards**: Students will assess the potential dangers associated with using tools, machines, materials, or chemicals, as well as general workshop risks (e.g., tripping hazards, electrical safety). ▪ **Assessing risks**: Students will evaluate the likelihood and severity of each hazard, categorizing risks as low, medium, or high, based on their potential impact. ▪ **Implementing controls**: To mitigate risks, students will establish control measures such as wearing **PPE**, ensuring proper machine guarding, and following safe handling procedures for chemicals and materials. ▪ **Ongoing monitoring**: Risk assessments will be revisited throughout the project to ensure that safety controls remain effective and that any new hazards are addressed promptly. 2. **Quality Control Checks**: o Maintaining quality throughout the project is essential to ensure the final product meets the required standards. Students will implement **quality control measures** at various stages of their work: ▪ **Initial checks**: Before beginning construction, students will verify that materials and tools meet the necessary specifications, ensuring that they are suitable for the task. ▪ **In-process checks**: As the project progresses, students will conduct regular **quality inspections** at key milestones, checking for accuracy in cutting, shaping, and assembly, as well as ensuring that materials are used efficiently and safely. ▪ **Final inspection**: Upon completing the project, students will carry out a **final quality check** to ensure that the prototype or product is functional, meets design specifications, and is free of defects. This may involve testing durability, fit, or finish. 3. **Balancing Quality, Safety, and Efficiency**: o Throughout the project, students will learn to balance the demands of quality control, safety, and time management. For example: ▪ **Quality vs. speed**: Students will understand that rushing through tasks can compromise both quality and safety, and will learn how to maintain high standards while staying on schedule. ▪ **Safety vs. productivity**: While it's important to work efficiently, students will prioritize safety by adhering to the risk assessment and taking the necessary precautions, even if it means adjusting timelines. 4. **Planning Tools and Resources**: o Students will be introduced to project planning tools, such as **Gantt charts**, task lists, and **risk assessment templates**, to help them organize their work and track progress. o These tools will provide a visual guide to managing time and resources effectively, as well as ensuring that safety and quality are prioritized throughout the project.	
February Half Term		

24/02/2025	Students will have developed practical skills in producing a prototype, learning the safe use of hand tools, machines, materials, and processes. Emphasis will be placed on safe working procedures and effective handling of materials, chemicals, and finishes. **Key Learning Points:** 1. **Introduction to Hand Tools, Machines, and Processes**: o Students will be introduced to essential **hand tools** (e.g., saws, hammers, chisels) and **machines** (e.g., drills, sanders) used in the prototype-making process. o They will learn about **processes** such as cutting, shaping, sanding, and assembling, with a focus on using each tool and machine safely and correctly. 2. **Safe Use of Tools and Equipment**: o Safety is paramount, and students will be taught proper **safety protocols** for using tools and machinery. This includes wearing appropriate **personal protective equipment (PPE)**, understanding emergency procedures, and maintaining a clean and organized workspace. o The teacher will provide **step-by-step guidance** on how to handle tools and machines safely, avoiding common hazards. 3. **Safe Working with Materials, Chemicals, and Finishes**: o Students will learn how to safely work with different **materials** (e.g., wood, metal, plastics) and **finishes** (e.g., paints, varnishes). o The unit will cover the correct handling and storage of **chemicals and solvents**, understanding potential risks, and the importance of using these substances in a well-ventilated area or with appropriate protective gear.	Achievement Round 2
03/03/2025	Students will have developed practical skills in producing a prototype, learning the safe use of hand tools, machines, materials, and processes. Emphasis will be placed on safe working procedures and effective handling of materials, chemicals, and finishes. **Key Learning Points:** 4. **Introduction to Hand Tools, Machines, and Processes**: o Students will be introduced to essential **hand tools** (e.g., saws, hammers, chisels) and **machines** (e.g., drills, sanders) used in the prototype-making process. o They will learn about **processes** such as cutting, shaping, sanding, and assembling, with a focus on using each tool and machine safely and correctly. 5. **Safe Use of Tools and Equipment**: o Safety is paramount, and students will be taught proper **safety protocols** for using tools and machinery. This includes wearing appropriate **personal protective equipment (PPE)**, understanding emergency procedures, and maintaining a clean and organized workspace. o The teacher will provide **step-by-step guidance** on how to handle tools and machines safely, avoiding common hazards. 6. **Safe Working with Materials, Chemicals, and Finishes**: o Students will learn how to safely work with different **materials** (e.g., wood, metal, plastics) and **finishes** (e.g., paints, varnishes). o The unit will cover the correct handling and storage of **chemicals and solvents**, understanding potential risks, and the importance of using these substances in a well-ventilated area or with appropriate protective gear.	

10/03/2025	Students will have developed practical skills in producing a prototype, learning the safe use of hand tools, machines, materials, and processes. Emphasis will be placed on safe working procedures and effective handling of materials, chemicals, and finishes. **Key Learning Points:** 7. **Introduction to Hand Tools, Machines, and Processes**: o Students will be introduced to essential **hand tools** (e.g., saws, hammers, chisels) and **machines** (e.g., drills, sanders) used in the prototype-making process. o They will learn about **processes** such as cutting, shaping, sanding, and assembling, with a focus on using each tool and machine safely and correctly. 8. **Safe Use of Tools and Equipment**: o Safety is paramount, and students will be taught proper **safety protocols** for using tools and machinery. This includes wearing appropriate **personal protective equipment (PPE)**, understanding emergency procedures, and maintaining a clean and organized workspace. o The teacher will provide **step-by-step guidance** on how to handle tools and machines safely, avoiding common hazards. 9. **Safe Working with Materials, Chemicals, and Finishes**: o Students will learn how to safely work with different **materials** (e.g., wood, metal, plastics) and **finishes** (e.g., paints, varnishes). o The unit will cover the correct handling and storage of **chemicals and solvents**, understanding potential risks, and the importance of using these substances in a well-ventilated area or with appropriate protective gear.	
17/03/2025	Students will continue to refine their practical skills in safely using a variety of tools, machines, and processes, guided by the teacher. Students will apply these skills in the production of prototypes, mastering techniques for cutting, shaping, and forming materials using both traditional and modern methods, including CAD/CAM and rapid prototyping. **Key Learning Points:** 1. **Modern Prototyping Methods**: o Students will also be introduced to **rapid prototyping** techniques, such as **3D printing** and **laser cutting**, which allow for the quick and accurate creation of prototype components directly from digital designs. o By integrating **CAD/CAM** technology, students will learn how to transition their digital designs into physical models, understanding the benefits of these technologies in terms of precision and efficiency. 2. **Combining Traditional and Digital Processes**: o Throughout the prototype-making process, students will have the opportunity to combine traditional techniques with modern digital processes. For example, they may **mark out** and manually cut materials while using **CAD/CAM** for more intricate components. o This combination of approaches will enable students to understand how different tools and processes complement one another, leading to more refined and professional prototypes. 3. **Teacher Guidance and Skill Mastery**: o Throughout the unit, the teacher will provide continuous guidance, offering instruction on more advanced	

	techniques as students become comfortable with the basics. As students gain confidence, they will be encouraged to take more ownership of the prototyping process, applying their skills with increasing independence while maintaining safe working practices.	
24/03/2023	Students will continue to refine their practical skills in safely using a variety of tools, machines, and processes, guided by the teacher. Students will apply these skills in the production of prototypes, mastering techniques for cutting, shaping, and forming materials using both traditional and modern methods, including CAD/CAM and rapid prototyping. **Key Learning Points:** 4. **Modern Prototyping Methods**: o Students will also be introduced to **rapid prototyping** techniques, such as **3D printing** and **laser cutting**, which allow for the quick and accurate creation of prototype components directly from digital designs. o By integrating **CAD/CAM** technology, students will learn how to transition their digital designs into physical models, understanding the benefits of these technologies in terms of precision and efficiency. 5. **Combining Traditional and Digital Processes**: o Throughout the prototype-making process, students will have the opportunity to combine traditional techniques with modern digital processes. For example, they may **mark out** and manually cut materials while using **CAD/CAM** for more intricate components. o This combination of approaches will enable students to understand how different tools and processes complement one another, leading to more refined and professional prototypes. 6. **Teacher Guidance and Skill Mastery**: o Throughout the unit, the teacher will provide continuous guidance, offering instruction on more advanced techniques as students become comfortable with the basics. As students gain confidence, they will be encouraged to take more ownership of the prototyping process, applying their skills with increasing independence while maintaining safe working practices.	
31/03/2025	Students will continue to refine their practical skills in safely using a variety of tools, machines, and processes, guided by the teacher. Students will apply these skills in the production of prototypes, mastering techniques for cutting, shaping, and forming materials using both traditional and modern methods, including CAD/CAM and rapid prototyping. **Key Learning Points:** 7. **Modern Prototyping Methods**: o Students will also be introduced to **rapid prototyping** techniques, such as **3D printing** and **laser cutting**, which allow for the quick and accurate creation of prototype components directly from digital designs. o By integrating **CAD/CAM** technology, students will learn how to transition their digital designs into physical models, understanding the benefits of these technologies in terms of precision and efficiency. 8. **Combining Traditional and Digital Processes**: o Throughout the prototype-making process, students will have the opportunity to combine traditional techniques with modern digital processes. For example, they may **mark out** and manually cut materials while using **CAD/CAM** for more intricate components.	

	○ This combination of approaches will enable students to understand how different tools and processes complement one another, leading to more refined and professional prototypes. 9. **Teacher Guidance and Skill Mastery**: ○ Throughout the unit, the teacher will provide continuous guidance, offering instruction on more advanced techniques as students become comfortable with the basics. As students gain confidence, they will be encouraged to take more ownership of the prototyping process, applying their skills with increasing independence while maintaining safe working practices.	
07/04/2025	Students to develop their coursework folders in line with exam board expectations. Ensuring that work is ready for final marking and moderation. This will include development of work following individual feedback.	
Easter Break		
28/04/2025	Students will have enhanced their practical skills by designing and constructing a functional product, learning how to translate a design concept into a physical model through hands-on work. **Designing a Functional Product**: • Students will start by developing a **design proposal** for a practical product, such as a small piece of furniture, a device holder, or a storage solution. • Focus will be on integrating **functionality and aesthetics**, ensuring the design is both usable and visually appealing. • Students will create **technical drawings** (e.g., sketches, orthographic projection) to map out the dimensions and materials required for the build.	
05/05/25	**Designing a Functional Product**: • Students will start by developing a **design proposal** for a practical product, such as a small piece of furniture, a device holder, or a storage solution. • Focus will be on integrating **functionality and aesthetics**, ensuring the design is both usable and visually appealing. • Students will create **technical drawings** (e.g., sketches, orthographic projection) to map out the dimensions and materials required for the build.	
12/05/2025	**Planning and Material Selection**: • Before construction, students will develop a **materials list**, learning about material properties (e.g., wood, plastic, metal) and selecting appropriate materials for their design. • They will also consider **sustainability** by evaluating environmentally friendly materials or efficient use of resources.	
19/05/2025	**Planning and Material Selection**: • Before construction, students will develop a **materials list**, learning about material properties (e.g., wood, plastic, metal) and selecting appropriate materials for their design. They will also consider **sustainability** by evaluating environmentally friendly materials or efficient use of resources.	

May Half Term		
02/06/2025	**Practical Construction Skills**: • Students will be introduced to **hand tools** (e.g., saws, drills, files) and **power tools** (e.g., sanders, jigsaws) that are necessary to bring their designs to life. • They will practice **measuring, cutting, assembling, and finishing** materials, ensuring accuracy and safety throughout the project. • Emphasis will be placed on **workshop safety** and correct use of tools, including the use of **personal protective equipment (PPE)**.	
09/06/2025	**Practical Construction Skills**: • Students will be introduced to **hand tools** (e.g., saws, drills, files) and **power tools** (e.g., sanders, jigsaws) that are necessary to bring their designs to life. • They will practice **measuring, cutting, assembling, and finishing** materials, ensuring accuracy and safety throughout the project. • Emphasis will be placed on **workshop safety** and correct use of tools, including the use of **personal protective equipment (PPE)**.	Year 10 Mock Exams
16/06/2025	**Practical Construction Skills**: • Students will be introduced to **hand tools** (e.g., saws, drills, files) and **power tools** (e.g., sanders, jigsaws) that are necessary to bring their designs to life. • They will practice **measuring, cutting, assembling, and finishing** materials, ensuring accuracy and safety throughout the project. • Emphasis will be placed on **workshop safety** and correct use of tools, including the use of **personal protective equipment (PPE)**.	Year 10 Mock Exams
23/06/2025	**Assembling the Product**: • Students will apply **joining techniques** such as screwing, gluing, and bolting to assemble their product, ensuring durability and strength in the final build. • They will also be taught how to ensure **precision** in their assembly, checking alignment and fitting during the process.	Year 10 Mock Exams
30/06/2025	**Assembling the Product**: • Students will apply **joining techniques** such as screwing, gluing, and bolting to assemble their product, ensuring durability and strength in the final build. • They will also be taught how to ensure **precision** in their assembly, checking alignment and fitting during the process.	Year 10 Mock Exams
07/07/2025	**Assembling the Product**: • Students will apply **joining techniques** such as screwing, gluing, and bolting to assemble their product, ensuring durability and strength in the final build. • They will also be taught how to ensure **precision** in their assembly, checking alignment and fitting during the process.	
14/07/2025	**Assembling the Product**:	

	• Students will apply **joining techniques** such as screwing, gluing, and bolting to assemble their product, ensuring durability and strength in the final build. • They will also be taught how to ensure **precision** in their assembly, checking alignment and fitting during the process.	
21/07/2025	**Finishing and Testing**: • Once assembled, students will finish their product by **sanding, painting, or varnishing** it, learning about surface finishing techniques for both aesthetic and functional purposes. • The final step will involve **testing** the product to ensure it meets the design requirements and functions as intended.	