Subject: Product design Year group: 9

Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Focus **Material swatches** **Materials classification** **Material properties** **Machines/tools equipment** **Health and safety**	**Focus** **Isometric drawing** **3D design software** **Wood joinery** **Timber/man-made boards**	**Focus** **Wooden box project** **CAD/CAM** **Wood finishing techniques** **CorelDRAW and laser cutting**	**Focus** **The 6R's** **Plastics** **Mobile phone stand min project** **Strip bending and plastic manipulation** **ACCESSFMM** **Motions and movement**	**Focus** **Toy truck project** **Task analysis** **Target market** **Design themes** **Design brief** **Anthropometrics/ergonomics**	**Focus** **End of year assessment** **Toy truck project** **3D printing** **Laser cutting** **QA and QC** **Manufacturing techniques**
Skills Research Health and safety Use of machines and tools Drawing techniques (Isometric, oblique, orthographic projection)	**Skills** Research Evaluation Drawing (isometric, oblique, orthographic projection) Freehand sketching 3D modelling software Card construction and hand building	**Skills** Research Analysis Data gathering/analysis Evaluation CAD/CAM Drawing (isometric, oblique, orthographic projection) Freehand sketching 3D modelling software Wood joinery and hand building skills	**Skills** Research Analysis Data gathering/analysis Evaluation Interview and oracy Drawing (isometric, oblique, orthographic projection) Freehand sketching 3D modelling software Plastic construction and hand manipulation	**Skills** Research Analysis Data gathering/analysis Evaluation Interview and oracy Drawing (isometric, oblique, orthographic projection) Freehand sketching 3D modelling software Wood joinery and hand building skills	**Skills** Research Analysis Data gathering/analysis Evaluation Interview and oracy Drawing (isometric, oblique, orthographic projection) Freehand sketching 3D modelling software Wood joinery and hand building skills
Resources **Exemplars for past work and by the teacher** **Support PPts** **Tasks for SMHW** **Lesson Tasks and content structure** **Feedback sheets** **Do Nows** **Websites, online apps and software** **Various machines and equipment** **TWILIGHT SESSIONS**	**Resources** **Exemplars for past work and by the teacher** **Support PPts** **Tasks for SMHW** **Lesson Tasks and content structure** **Feedback sheets** **Do Nows** **Websites, online apps and software** **Various machines and equipment** **TWILIGHT SESSIONS**	**Resources** **Exemplars for past work and by the teacher** **Support PPts** **Tasks for SMHW** **Lesson Tasks and content structure** **Feedback sheets** **Do Nows** **Websites, online apps and software** **Various machines and equipment** **TWILIGHT SESSIONS**	**Resources** **Exemplars for past work and by the teacher** **Support PPts** **Tasks for SMHW** **Lesson Tasks and content structure** **Feedback sheets** **Do Nows** **Websites, online apps and software** **Various machines and equipment** **TWILIGHT SESSIONS**	**Resources** **Exemplars for past work and by the teacher** **Support PPts** **Tasks for SMHW** **Lesson Tasks and content structure** **Feedback sheets** **Do Nows** **Websites, online apps and software** **Various machines and equipment** **TWILIGHT SESSIONS**	**Resources** **Exemplars for past work and by the teacher** **Support PPts** **Tasks for SMHW** **Lesson Tasks and content structure** **Feedback sheets** **Do Nows** **Websites, online apps and software** **Various machines and equipment** **TWILIGHT SESSIONS** **Link to artist / theme**

Link to artist / theme	Link to artist / theme	Link to artist / theme	Link to artist / theme	Link to artist / theme	
Designers, makers, artists, engineers and architects Inspiration selected by the student to support progress and independence	Designers, makers, artists, engineers and architects Inspiration selected by the student to support progress and independence	Designers, makers, artists, engineers and architects Inspiration selected by the student to support progress and independence	Designers, makers, artists, engineers and architects Inspiration selected by the student to support progress and independence	Designers, makers, artists, engineers and architects Inspiration selected by the student to support progress and independence	Designers, makers, artists, engineers and architects Inspiration selected by the student to support progress and independence
Assessment	**Assessment**	**Assessment**	**Assessment**	**Assessment**	**Assessment**
CW/ HW In class assessments, data reviews, verbal feedback in lessons, written feedback fortnightly, homework set on Show My Homework Work reviews Do Nows	CW/ HW In class assessments, data reviews, verbal feedback in lessons, written feedback fortnightly, homework set on Show My Homework Work reviews Do Nows	CW/ HW In class assessments, data reviews, verbal feedback in lessons, written feedback fortnightly, homework set on Show My Homework Work reviews Do Nows	CW/ HW In class assessments, data reviews, verbal feedback in lessons, written feedback fortnightly, homework set on Show My Homework Work reviews Do Nows	CW/ HW In class assessments, data reviews, verbal feedback in lessons, written feedback fortnightly, homework set on Show My Homework Work reviews Do Nows	CW/ HW In class assessments, data reviews, verbal feedback in lessons, written feedback fortnightly, homework set on Show My Homework Work reviews Do Nows

Skills developed through the year:

In their first year of Product Design, a Year 9 student will learn the basics of the design process, including research, ideation, and the creation of prototypes. They will explore materials, tools, and techniques used in design and develop skills in drawing, modeling, and evaluating their ideas. Students will also learn about sustainability, ergonomics, and user-centered design, allowing them to understand the impact of design on people and the environment. Through practical projects, they will build confidence in designing functional and aesthetically pleasing products.

Extra-Curricular Opportunities:

Catch-up sessions offered to students after school to expand their knowledge, understanding and enjoyment of the subject. This also supports their projects where students have access to laptops/computers for research, designing in the dry work area and the workshop for product development, making, experimentation and testing/evaluation.

Subject: Product design **Year group:** 10

Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Focus **Toy truck project** **3D printing** **Laser cutting** **QA and QC** **Manufacturing techniques** **Cams and followers** **PICTPD**	**Focus** **Toy truck project** **3D printing** **Laser cutting** **QA and QC** **Manufacturing techniques** **Testing** **Photographing** **Evaluation** **Tolerances/QC and QA** **ASSESSMENT** **Core technical principles** **Design and make principles** **Specialist technical principles**	**Focus** **Smart materials** **Scale of production** **Paper and boards** **Sources, origins and properties/working with and commercial manufacture** **Book making project**	**Focus** **Mobile phone project** **Contents slide** **Mind map** **Task analysis** **Mood board** **Design theme** **Individual research** **Target Market** **Questionnaire/results** **The 6R's**	**Focus** **Anthropometrics/Ergonomics** **ACCESSFMMx3** **Individual research** **Social, moral, economic and sustainability issues** **Individual research** **Design Brief** **Specification** **4 areas of focus for designing** **Initial sketches** **Design evaluation grid** **CAD Modelling** **Prototyping** **Cutting list** **ASSESSMENT** **Core technical principles** **Design and make principles** **Specialist technical principles**	**Focus** **NEA** **A01** **Contents slide** **Mind map** **Task analysis** **Mood board** **Design theme** **Individual research** **Target Market** **Questionnaire/results** **The 6R's**
Skills Research Analysis Data gathering/analysis Evaluation Interview and oracy Drawing (isometric, oblique, orthographic projection) Freehand sketching 3D modelling software Wood joinery and hand building skills. CAD/CAM Wood finishing	**Skills** Research Analysis Data gathering/analysis Evaluation Interview and oracy Drawing (isometric, oblique, orthographic projection) Freehand sketching 3D modelling software Wood joinery and hand building skills. CAD/CAM Wood finishing	**Skills** Research Analysis Data gathering/analysis Evaluation Interview and oracy Drawing (isometric, oblique, orthographic projection) Freehand sketching 3D modelling software Hand building skills and semi/permanent fixings	**Skills** Research Analysis Data gathering/analysis Evaluation Interview and oracy Drawing (isometric, oblique, orthographic projection) Freehand sketching 3D modelling software Hand building skill, machines, tools and CAD/CAM	**Skills** Research Analysis Data gathering/analysis Evaluation Interview and oracy Drawing (isometric, oblique, orthographic projection) Freehand sketching 3D modelling software Hand building skill, machines, tools and CAD/CAM	**Skills** Research Analysis Data gathering/analysis Evaluation Interview and oracy

Resources **Exemplars for past work and by the teacher** **Support PPts** **Tasks for SMHW** **Lesson Tasks and content structure** **Feedback sheets** **Do Nows** **Websites, online apps and software** **Various machines and equipment** **TWILIGHT SESSIONS** **Link to artist / theme** Designers, makers, artists, engineers and architects Inspiration selected by the student to support progress and independence	**Resources** **Exemplars for past work and by the teacher** **Support PPts** **Tasks for SMHW** **Lesson Tasks and content structure** **Feedback sheets** **Do Nows** **Websites, online apps and software** **Various machines and equipment** **TWILIGHT SESSIONS** **Link to artist / theme** Designers, makers, artists, engineers and architects Inspiration selected by the student to support progress and independence	**Resources** **Exemplars for past work and by the teacher** **Support PPts** **Tasks for SMHW** **Lesson Tasks and content structure** **Feedback sheets** **Do Nows** **Websites, online apps and software** **Various machines and equipment** **TWILIGHT SESSIONS** **Link to artist / theme** Designers, makers, artists, engineers and architects Inspiration selected by the student to support progress and independence	**Resources** **Exemplars for past work and by the teacher** **Support PPts** **Tasks for SMHW** **Lesson Tasks and content structure** **Feedback sheets** **Do Nows** **Websites, online apps and software** **Various machines and equipment** **TWILIGHT SESSIONS** **Link to artist / theme** Designers, makers, artists, engineers and architects Inspiration selected by the student to support progress and independence	**Resources** **Exemplars for past work and by the teacher** **Support PPts** **Tasks for SMHW** **Lesson Tasks and content structure** **Feedback sheets** **Do Nows** **Websites, online apps and software** **Various machines and equipment** **TWILIGHT SESSIONS** **Link to artist / theme** Designers, makers, artists, engineers and architects Inspiration selected by the student to support progress and independence	**Resources** **Exemplars for past NEA** **Support PPts** **Tasks for SMHW** **Lesson Tasks and content structure** **Feedback sheets** **TWILIGHT SESSIONS** **Link to artist / theme** Chosen theme selected from the exam board Design theme chosen by the student Inspiration selected by the student to support progress
Assessment	**Assessment**	**Assessment**	**Assessment**	**Assessment**	**Assessment**
CW/ HW In class assessments, data reviews, verbal feedback in lessons, written feedback fortnightly, homework set on Show My Homework Work reviews Do Nows	CW/ HW In class assessments, data reviews, verbal feedback in lessons, written feedback fortnightly, homework set on Show My Homework Work reviews Do Nows	CW/ HW In class assessments, data reviews, verbal feedback in lessons, written feedback fortnightly, homework set on Show My Homework Work reviews Do Nows	CW/ HW In class assessments, data reviews, verbal feedback in lessons, written feedback fortnightly, homework set on Show My Homework Work reviews Do Nows	CW/ HW In class assessments, data reviews, verbal feedback in lessons, written feedback fortnightly, homework set on Show My Homework Work reviews Do Nows	CW/ HW In class assessments, data reviews, verbal feedback weekly, written feedback fortnightly, homework set on Show My Homework Work reviews

Skills developed through the year:

In Y10 students build on a range of skills based in the workshop, classrooms and computer rooms to develop their understanding and apply this to their coursework projects. These areas are RESEARCH, DESIGN, MAKE, TEST AND EVALUATE and these core theme must be covered in order to meet the specification of the course.

In their second year of Product Design, a Year 10 student will deepen their understanding of the design process by refining their skills in research, development, and testing. They will focus on more complex materials, manufacturing methods, and digital design tools, while learning to apply advanced techniques to create functional, innovative

products. Students will also gain insight into market analysis, user needs, and environmental impact, allowing them to develop more thoughtful, practical solutions. By working on detailed projects, they will enhance their ability to communicate and present their ideas effectively.

Extra-Curricular Opportunities:

Catch-up sessions offered to students after school to expand their knowledge, understanding and enjoyment of the subject. This also supports their projects where students have access to laptops/computers for research, designing in the dry work area and the workshop for product development, making, experimentation and testing/evaluation. Applied Learning Day trip to the Design Museum at the end of the year to see the Designer, Maker, User exhibition.

Subject: Product design Year group: 11 NEA

Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Focus NEA A01 Contents slide Mind map Task analysis Mood board Design theme Individual research Target Market Questionnaire/results The 6R's	Focus NEA A01/A02 Anthropometrics/Ergonomics ACCESSFMMx3 Individual research Social, moral, economic and sustainability issues Individual research Design Brief Specification 4 areas of focus for designing Initial sketches Design evaluation grid CAD Modelling Prototyping Cutting list <u>End of term mock</u> Core technical principles Design and make principles Specialist technical principles Revision sessions Handouts and PPts issued	Focus NEA A01/A02/A03 Material selection Material finishing Orthographic projection Prototyping Making final product Learning journey Production plan	Focus NEA A01/A02/A03/A04 Individual research Material selection Material finishing Orthographic projection Making final product Learning journey Production plan User testing Evaluation	Focus NEA A01/A02/A03/A04 Making final product Learning journey Production plan User testing Evaluation <u>End of course Exams</u> Core technical principles Design and make principles Specialist technical principles Revision sessions Handouts and PPts issued Do Nows for exam prep	Focus END OF COURSE

	Do Nows for exam prep				
Skills Research Analysis Data gathering/analysis Evaluation Interview and oracy	**Skills** Research Analysis Data gathering/analysis Evaluation Interview and oracy Drawing (isometric, oblique, orthographic projection) Freehand sketching 3D modelling software Card construction and hand building	**Skills** Research Analysis Data gathering/analysis Evaluation Interview and oracy Drawing (isometric, oblique, orthographic projection) Freehand sketching 3D modelling software Card construction and hand building	**Skills** Research Analysis Data gathering/analysis Evaluation Interview and oracy Drawing (isometric, oblique, orthographic projection) Freehand sketching 3D modelling software Card construction and hand building	**Skills** Research Analysis Data gathering/analysis Evaluation Interview and oracy Drawing (isometric, oblique, orthographic projection) Freehand sketching 3D modelling software Card construction and hand building	**Skills** **END OF COURSE**
Resources **Exemplars for past NEA** **Support PPts** **Tasks for SMHW** **Lesson Tasks and content structure** **Feedback sheets** **TWILIGHT SESSIONS** **Link to artist / theme** Chosen theme selected from the exam board Design theme chosen by the student Inspiration selected by the student to support progress	**Resources** **Exemplars for past NEA** **Support PPts** **Tasks for SMHW** **Lesson Tasks and content structure** **Feedback sheets** **Tools, materials and equipment in the workshop** **TWILIGHT SESSIONS** **Link to artist / theme** Chosen theme selected from the exam board Design theme chosen by the student Inspiration selected by the student to support progress	**Resources** **Exemplars for past NEA** **Support PPts** **Tasks for SMHW** **Lesson Tasks and content structure** **Feedback sheets** **Tools, materials and equipment in the workshop** **TWILIGHT SESSIONS** **Link to artist / theme** Chosen theme selected from the exam board Design theme chosen by the student Inspiration selected by the student to support progress	**Resources** **Exemplars for past NEA** **Support PPts** **Tasks for SMHW** **Lesson Tasks and content structure** **Feedback sheets** **Tools, materials and equipment in the workshop** **TWILIGHT SESSIONS** **Link to artist / theme** Chosen theme selected from the exam board Design theme chosen by the student Inspiration selected by the student to support progress	**Resources** **Exemplars for past NEA** **Support PPts** **Tasks for SMHW** **Lesson Tasks and content structure** **Feedback sheets** **Tools, materials and equipment in the workshop** **TWILIGHT SESSIONS** **Link to artist / theme** Chosen theme selected from the exam board Design theme chosen by the student Inspiration selected by the student to support progress	**Resources** **END OF COURSE** **Link to artist / theme** **END OF COURSE**
Assessment	**Assessment**	**Assessment**	**Assessment**	**Assessment**	**Assessment**
CW/ HW In class assessments, data reviews, verbal feedback weekly, written feedback fortnightly, homework set on Show My Homework	CW/ HW In class assessments, data reviews, verbal feedback weekly, written feedback fortnightly, homework set on Show My Homework	CW/ HW In class assessments, data reviews, verbal feedback weekly, written feedback fortnightly, homework set on Show My Homework	CW/ HW In class assessments, data reviews, verbal feedback weekly, written feedback fortnightly, homework set on Show My Homework	CW/ HW In class assessments, data reviews, verbal feedback weekly, written feedback fortnightly, homework set on Show My Homework	CW/ HW In class assessments, data reviews, verbal feedback weekly, written feedback fortnightly, homework set on Show My Homework

Work reviews	Work reviews	Work reviews	Work reviews	Work reviews	Work reviews

Skills developed through the year:

In their final year of Product Design, a Year 11 student will apply all the skills and knowledge gained throughout the course to complete their NEA (Non-Examined Assessment) project. This involves independently researching, designing, and creating a high-quality product that meets specific user needs. Students will refine their technical skills, focusing on advanced materials, manufacturing processes, and digital tools. They will also learn to critically evaluate their designs and make improvements based on testing and feedback. The NEA project allows students to showcase their creativity, problem-solving abilities, and understanding of sustainable, user-centered design principles.

Extra-Curricular Opportunities:

Catch-up sessions offered to students after school to expand their knowledge, understanding and enjoyment of the subject. This also supports their NEA projects where students have access to laptops/computers for research, designing in the dry work area and the workshop for product development, experimentation and testing/evaluation.