Long Term Planning for: Design Technology

The Brades Lodge

==**KS3 – Y7 and Y8 focusses on intro and development of specific key skills and processes.**==

Long term plan is subject change and rearrangement depending on the needs of learners.

Planning is broken down into appropriate and relevant impact categories which link to GCSE focal points AO1 to AO4.

*These categories at KS3 are: **Theory and processes**, **mostly designing**, **mostly making** and **creative and technical skills**. This enables reiteration of skills where categories can be repeated throughout the year, OR can be stripped back to 3 projects a year where required, selected from the full range in order to maintain differentiation throughout overall practice and learning outcomes.*

YEAR 7

SHORT TERM PROJECTS/SKILLS DEVELOPMENT

THEORY AND PROCESSES	MOSTLY DESIGNING	MOSTLY MAKING	MOSTLY DESIGNING	MOSTLY MAKING	CREATIVE/TECHNICAL SKILLS
AUTUMN TERM 1	AUTUMN TERM 2	SPRING TERM 1	SPRING TERM 2	SUMMER TERM 1	SUMMER TERM 2
INTRO TO DT	CAD/CAM DEVICE STAND	DESK ORGANISER	TOYS	TOYS	MECHANICS/FORCES AND MOTION
Intent: Flexible project; students will explore and learn about a variety of theoretical topics and creative processes.	**Intent:** Flexible project; Focused on developing design and technical skills alongside imaginative and creative thinking which is appropriate to design technology problems, as well as general life skills. A range of tasks broaden skills sets and understanding.	**Intent:** Flexible project; Focused on developing practical skills appropriate to manufacture and design technology, as well as general / afterschool life.	**Intent:** Flexible project; Focused on developing design and technical skills alongside imaginative and creative thinking which is appropriate to design technology problems, as well as general life skills. A range of tasks broaden skills sets and understanding.	**Intent:** Flexible project; Focused on developing students practical skills appropriate to manufacture and design technology, as well as general / afterschool life.	**Intent:** Flexible project; Focused on developing students technical, specialist skills appropriate to modern and traditional design technology / afterschool life / careers.
Implementation: Lesson content to cover a range of skill sets such as • Safe use of PPE • Intro to simple drawing/mediums	**Implementation:** Lesson content to cover specialist skills and understanding such as	**Implementation:** Lesson content to cover specialist practical, written and theory work, such as; • Introduction to use of a ruler	**Implementation:** Lesson content to cover specialist skills and understanding such as • Research introduction (mostly	**Implementation:** Lesson content to cover specialist practical, written and theory work, such as; • Use of a ruler	**Implementation:** Lesson content to cover specialist skills and understanding such as • Mechanics • input

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/technical/expressive approaches • Hand tools intro • Machine tools intro Lessons to incorporate: • Short tasks - Mainly teacher led. • Buzzer fun responses • Quizzes • Starters and plenary • Booklet work • Peer support and feedback • Summative/formative assessment • Use of Arbor and parent portal communication. • Reflective practice and adaptive teaching	• Research introduction (mostly secondary) • Target market • Design skills • CAD/CAM Lessons to incorporate: • Short tasks mainly teacher led. • Peer support and feedback • White boards Starters and plenary • Summative/formative assessment • Use of Arbor and parent portal communication. • Reflective practice and adaptive teaching	• Simple conversions and measurement such as MM-CM • Intro to use of Tenon saw • Intro to use of disc sander • Simple joinery Lessons to incorporate: • White boards • Booklet work • Peer support and feedback • Short tasks mainly teacher led. Starters and plenary • Summative/formative assessment • Use of Arbor and parent portal communication. • Reflective practice and adaptive teaching	secondary, some primary) • Target market intro • Simple application of design skills • CAD/CAM Lessons to incorporate: • Short tasks mainly teacher led. • Peer support and feedback • White boards • Starters and plenary • Summative/formative assessment • Use of Arbor and parent portal communication. • Reflective practice and adaptive teaching	• Conversions and measurement • Use of Tenon and coping saws • Use of disc sander • Joinery Lessons to incorporate: • White boards • Booklet work • Peer support and feedback • Short tasks mainly teacher led. • Starters and plenary • Summative/formative assessment • Use of Arbor and parent portal communication. • Reflective practice and adaptive teaching	• Output • Forces • Motion Lessons to incorporate: • Short tasks mainly teacher led. • Peer support and feedback • Tech products • Lego • Construction and model kits • Starters and plenary • Summative/formative assessment • Use of Arbor and parent portal communication. • Reflective practice and adaptive teaching
Impact: To enable students to recognise appropriate use of a variety of tools and machines appropriate to DT. • To demonstrate safe and effective use of a variety of tools and processes. To enable students to learn about a range of processes and show basic understanding of these new	**Impact:** To enable students to learn from a range of focus areas: • Practical • Written work • Booklet work Learners should be able to apply understanding of research to a design and make appropriate choices for outcome with guidance.	**Impact:** To enable students to learn from a range of focus areas: • Practical • Written work • Booklet work Learners should also be able to describe how various materials look, choose words that describe and explain the use of materials. They should be able to describe the simple physical properties of a variety of manufacturing materials by looking at and	**Impact:** To enable students to learn from a range of focus areas: • Practical • Written work • Booklet work Learners should be able to apply understanding of research to a design and make appropriate choices for outcome with some guidance.	**Impact:** To enable students to learn from a range of focus areas: • Practical • Written work • Booklet work Learners should also be able to describe how various materials look, choose words that describe and explain the use of materials. They should be able to describe the simple physical properties of a variety of manufacturing materials by looking at and	**Impact:** To understand the forces around us and how they impact our everyday lives. How mechanics can be applied to future careers and the understanding of components and mechanical devices used in daily life.

approaches through acquiring basic skillsets.		touching or using other practical approaches		touching or using other practical approaches	

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YEAR 8

SHORT TERM PROJECTS/SKILLS DEVELOPMENT

MOSTLY MAKING	CREATIVE/TECHNICAL SKILLS	MOSTLY DESIGNING	MOSTLY MAKING	MOSTLY DESIGNING	CREATIVE/TECHNICAL SKILLS
AUTUMN TERM 1	AUTUMN TERM 2	SPRING TERM 1	SPRING TERM 2	SUMMER TERM 2	SUMMER TERM 2
PASSIVE AMPLIFIER AND DEVICE STAND	LOGO AND BRAND DESIGN	ANIMAL SHELTERS	ANIMAL SHELTERS	3D GAME	LASER CUT CLOCKS
Intent: Flexible project; Focused on developing practical skills appropriate to manufacture and design technology, as well as general / afterschool life.	**Intent:** Flexible project; Focused on developing students technical, specialist skills appropriate to modern and traditional design technology / afterschool life / careers.	**Intent:** Flexible project; Focused on developing design and technical skills alongside imaginative and creative thinking which is appropriate to design technology problems, as well as general life skills. A range of tasks broaden skills sets and understanding.	**Intent:** Flexible project; Focused on developing practical skills appropriate to manufacture and design technology, as well as general / afterschool life.	**Intent:** Flexible project; Focused on developing design and technical skills alongside imaginative and creative thinking which is appropriate to design technology problems, as well as general life skills. A range of tasks broaden skills sets and understanding.	**Intent:** Flexible project; Focused on developing students technical, specialist skills appropriate to modern and traditional design technology / afterschool life / careers.
Implementation: Lesson content to cover specialist practical, written and theory work, such as; - Independent use of a ruler - Conversions and measurement in MM-CM - Use of digital grids and CAD - Independent use of Tenon saw - Independent use of disc sander - Joinery Lessons to incorporate: - White boards	**Implementation:** Lesson content to cover specialist skills and understanding such as - Intro to graphic design - What is graphics - How can it be applied? - Intro to Semiotics - Colour theory intro - Brand awareness - Logo/visual research intro Lessons to incorporate: - Short tasks mainly teacher led.	**Implementation:** Lesson content to cover specialist skills and understanding such as - Developing research - Target market - Target user (discussing vs market) - Design skills - CAD/CAM skills development Lessons to incorporate: - Short tasks mainly teacher led. - Peer support and feedback	**Implementation:** Lesson content to cover specialist practical, written and theory work, such as; - Independent use of a ruler - Independent use of a metal rule - Conversions and measurement 3D and 2D - Accurate and independent use of Tenon saw - Independent and safe use of disc sander	**Implementation:** Lesson content to cover specialist skills and understanding such as - Research development, primary and secondary. - Target user and Target market - Design skills appropriate to topic - Skills development CAD/CAM - Skills development practical	**Implementation:** Lesson content to cover specialist skills and understanding such as - CAD - CAM - Graphic design - Appropriate and relevant selection of research - Appropriate and relevant development of design work Lessons to incorporate: - Short tasks mainly teacher led.

• Booklet work • Peer support and feedback • Short tasks mainly teacher led. Starters and plenary • Summative/formative assessment • Use of Arbor and parent portal communication. • Reflective practice and adaptive teaching	• Peer support and feedback • Tech products • Existing design visuals and objects • Printing and practical approaches • Starters and plenary • Summative/formative assessment • Use of Arbor and parent portal communication. • Reflective practice and adaptive teaching	• White boards • Model making • CAD/CAM soft and hardware • Use of laptops • Independent use of isometric grids. • Starters and plenary • Summative/formative assessment • Use of Arbor and parent portal communication. • Reflective practice and adaptive teaching	• Developing basic Joinery Lessons to incorporate: • White boards • Booklet work • Peer support and feedback • Short tasks mainly teacher led. • Practical lessons • Practical recording • Use of cameras • Use of laptops • Starters and plenary • Summative/formative assessment • Use of Arbor and parent portal communication. • Reflective practice and adaptive teaching	• Woodworking skills such as joinery, shaping and finishing. Lessons to incorporate: • Short tasks mainly teacher led. • Use of practical equipment and machine tools. • Hand tools • Adhesives • Peer support and feedback • White boards • Starters and plenary • Summative/formative assessment • Use of Arbor and parent portal communication. • Reflective practice and adaptive teaching	• Peer support and feedback • Tech tools • CAD programmes • CAM machinery • Mechanisms • Starters and plenary • Summative/formative assessment • Use of Arbor and parent portal communication. • Reflective practice and adaptive teaching
Impact: To enable students to learn from a range of focus areas: • Practical skills • Booklet work Learners should also be able to describe how various materials can be used, choose words that describe and explain the use of materials. They should be able to describe the simple physical properties of a variety of manufacturing materials. Students should be developing independence with practical approaches. Students should be able to independently make	**Impact:** To understand the use of brand, visuals, graphics etc that is all around us and how their use impacts upon our everyday lives. How understanding of graphics and advertising can be used for and applied to future careers and the understanding of BRAND. Learners should be able to use effective mediums to communicate their ideas.	**Impact:** To enable students to learn from a range of focus areas: • Practical • Written work • Booklet work Learners should be able to apply understanding of research to a design and make appropriate choices for outcome with some independence	**Impact:** To enable students to learn from a range of focus areas: • Practical • Written work • Booklet work Learners should also be able to describe how various materials look, choose words that describe and explain the use of materials. They should be able to describe the simple physical properties of a variety of manufacturing materials by looking at and touching or using other practical approaches	**Impact:** To enable students to learn from a range of focus areas: • Practical • Written work • Booklet work Learners should be able to apply understanding of research to a design and make appropriate choices for outcome.	**Impact:** To understand how drawing, design, creating imagery etc can be used to make a real product. Learners should be able to independently make selections in 2D design and begin to select appropriate materials for laser cutting with some independence. Some learners could have started to use the laser cutter independently, with understanding of settings.

selections of tools which are appropriate and use them safely.					

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*Planning is broken down into appropriate and relevant impact categories: **AO1, AO2, AO3 and AO4**. This enables reiteration of skills from earlier KS3 but also development of those skills, leading to contributing pieces for the GCSE coursework (60%). Differentiation is maintained throughout overall practice and learning outcomes. Projects are individualised and student led for engagement.*

YEAR 9

LONGER TERM PROJECT/SKILLS DEVELOPMENT/COURSEWORK CONTRIBUTIONS

AUTUMN TERM		SPRING TERM		SUMMER TERM	
AUTUMN 1	**AUTUMN 2**	**SPRING 1**	**SPRING 2**	**SUMMER 1**	**SUMMER 2**
AO1,AO2 FOCUS	**AO1,AO2,AO3 FOCUS**	**AO2,AO3 FOCUS**	**AO2,AO3,AO4 FOCUS**	**AO3,AO4 FOCUS**	**AO3,AO4 FOCUS**
Intent: Highly individualised projects; Students are given a range of topics to explore or can select their own through tutorials. **AO1** Focuses on developing research and explorative skills appropriate to design technology. **AO2** Focuses on developing ideas which are directly linked to research. **AO3** Focuses on developing ideas and refining and selecting designs to reach competent and relevant outcomes which are appropriate to areas explored *Intrinsic and selective, AO1 and AO2 should begin to appear relevant and informative of one and other.* **Implementation:**		**Intent:** Highly individualised projects; Students are given a range of topics to explore or can select their own through tutorials. **AO2** Focuses on developing ideas which are directly linked to research. **AO3** Focuses on developing ideas and refining and selecting designs to reach competent and relevant outcomes which are appropriate to areas explored **AO4 Focuses on** drawing conclusions and developing selected ideas to the point of a relevant outcome. *Intrinsic, holistic and selective, AO1, AO2 and AO3 should begin to appear relevant and informative of one and other. AOs can appear as and alongside each other and one piece of work may contribute to all AOs where others are more specific to each band.* **Implementation:**		**Intent:** Highly individualised projects; Students are given a range of topics to explore or can select their own through tutorials. **AO3** Focuses on developing ideas and refining and selecting designs to reach competent and relevant outcomes which are appropriate to areas explored **AO4 Focuses on** drawing conclusions and developing selected ideas to the point of a relevant outcome. Ideas do not have to be 'finished' but do need to conclude areas that have been highlighted/addressed. *Intrinsic, holistic and selective, AO3 and AO4 should appear relevant and informative of one and other. Linking back to AO1. There should be a flow. AOs can appear as and alongside each other and one piece of work may contribute to all AOs where others are more specific to each band.* **Implementation:**	

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Lesson content to cover specialist researching, recording, written annotation and some theory/process work, such as;

- Collection of primary research
- Use of cameras with some support for recording primary research
- Collection of secondary research
- Developing research
- Target market research and consideration
- Target user (discussing vs market)
- Design skills spanning all styles
- Use of pencil to create design ideas
- Use of other mediums to improve initial ideas
- Use of computer aided design where required
- Independent development or supported where required by differentiation
- Independent use of laptops

Lessons to incorporate:

- A range of drawing medium
- Laptops
- Safe use of internet
- Technical drawing skills reiterated
- Presentation techniques
- Assessment breakdown
- Portfolios
- Peer support and feedback
- Short tasks and detailed examples
- Regular demonstrations
- Starters and plenary
- Summative/formative assessment
- Use of Arbor and parent portal communication.
- Reflective practice and adaptive teaching

Impact:

To enable students to learn from a range of GCSE Assessment objective focus areas:
- AO1 Research and recording skills

Lesson content to cover specialist researching, recording, written and theory work, such as;

- CAD/CAM skills development
- Modelling and creating prototypes from a variety of materials
- Development
- Photography
- Resin casting where appropriate
- Printing fabrics where appropriate
- Laser cutting materials
- Selection and consideration of ideas for development
- Photoshop
- Google sketch up where appropriate
- 2D design
- Concluding and evaluation of elements in design

Lessons to incorporate:

- Short tasks mainly teacher led.
- Peer support and feedback
- White boards
- Portfolios
- Model making
- Prototype development
- CAD/CAM soft and hardware
- Use of laptops
- Independent use of isometric grids.
- Starters and plenary
- Summative/formative assessment
- Use of Arbor and parent portal communication.
- Reflective practice and adaptive teaching

Impact:

To enable students to learn from a range of focus areas:
- AO2 Ideas and inspiration
- AO3 Recording and developing ideas

Lesson content to cover specialist researching, recording, written and theory work, such as;

- Supported development of ideas in line with theme
- Model making skills progressed
- Further design skills appropriate to topic
- Skills development CAD/CAM for outcomes
- Skills development practical for independent competencies
- Woodworking skills such as joinery, shaping and finishing to be advanced as appropriate to the learner

Lessons to incorporate:

- Short tasks mainly teacher led.
- Use of practical equipment and machine tools.
- Hand tools
- Adhesives
- Presentation techniques
- Portfolios
- Peer support and feedback
- White boards
- Laptops
- Editing softwares
- Starters and plenary
- Summative/formative assessment
- Use of Arbor and parent portal communication.
- Reflective practice and adaptive teaching

Impact:

To enable students to learn from a range of focus areas:
- AO3 Recording and developing ideas

• AO2 Ideas and inspiration • AO3 Recording and developing ideas	• AO4 conclusions and outcomes	• AO4 conclusions and outcomes
Learners should have independently considered a theme or topic for their GCSE that they wish to explore. This independent thinking impacts engagement and allows student led development of work under relevant and crucial processes but also in alignment with AO1-AO4 of 3D design at GCSE. Initial skills such as research and taking inspiration from relevant sources are expected to be introduced early in AUTUMN 1 and progressed towards the close of the half term where skills will be assessed and impact recorded. Learners should have embedded basic skillsets in secondary and primary research, as well as drawing relevant conclusions. Literacy should have developed where key language and use of specialist terminology is encouraged and seen in annotation.	Learners should be able to apply a deeper understanding of research to a design and make appropriate and relevant choices for selection, development and future refined outcomes with some independence. Individual pathways allow students to have made self-led and teacher supported progress through a range of practical explorations such as model making. Students will have learned about approaches which are relevant and desired by the working world of engineering, graphic design, brand and marketing, digital development, advertising, Joinery, Creative design, architecture, spatial design, and more. Confidence should have developed and resilience be established as part of overall impact of DT lessons.	Learners should be able to apply relevant conclusions drawn from research, ideas and development to a range of outcomes.