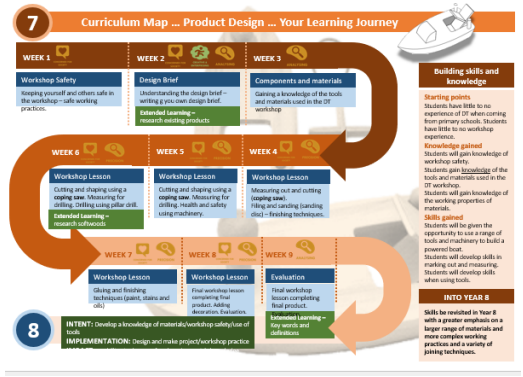
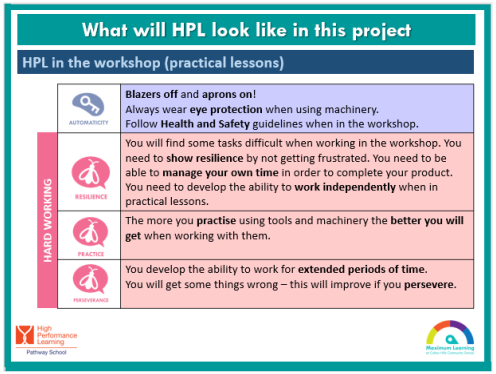
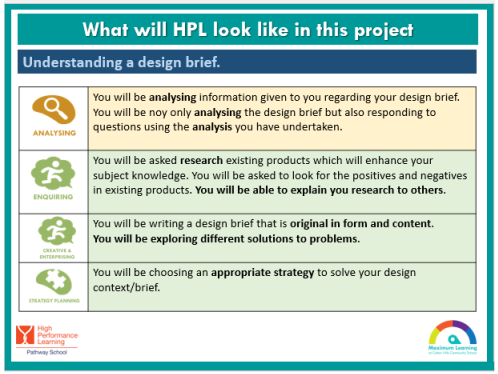
Embedding HPL into Design Technology







HPL in the Design Technology Curriculum

Our DT 4 step process

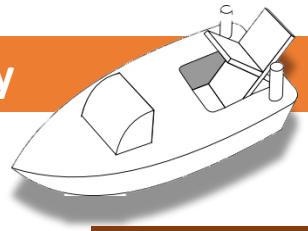
We looked at ways of ensuring HPL was embedded in the DT curriculum planning.

We added it to our curriculum sequences as well as adding INTENT IMPLENTATION and IMPACT.

We also added building knowledge and skills.

Ideal as a refresher when talking to ‘visitors’.

7 Curriculum Map … Product Design … Your Learning Journey



WEEK 1
CONCERNED FOR SOCIETY

Workshop Safety
Keeping yourself and others safe in the workshop – safe working practices.

WEEK 2
CONCERNED FOR SOCIETY · CREATIVE & ENTERPRISING · ANALYSING

Design Brief
Understanding the design brief – writing g you own design brief.

Extended Learning –
research existing products

WEEK 3
ANALYSING

Components and materials
Gaining a knowledge of the tools and materials used in the DT workshop

WEEK 4
CONCERNED FOR SOCIETY · PRECISION

Workshop Lesson
Measuring out and cutting (**coping saw**).
Filing and sanding (sanding disc) – finishing techniques.

WEEK 5
CONCERNED FOR SOCIETY · PRECISION

Workshop Lesson
Cutting and shaping using a **coping saw**. Measuring for drilling. Health and safety using machinery.

WEEK 6
CONCERNED FOR SOCIETY · PRECISION

Workshop Lesson
Cutting and shaping using a **coping saw**. Measuring for drilling. Drilling using pillar drill.

Extended Learning –
research softwoods

WEEK 7
CONCERNED FOR SOCIETY · PRECISION

Workshop Lesson
Gluing and finishing techniques (paint, stains and oils)

WEEK 8
CONCERNED FOR SOCIETY · PRECISION

Workshop Lesson
Final workshop lesson completing final product. Adding decoration. Evaluation.

WEEK 9
ANALYSING

Evaluation
Final workshop lesson completing final product.
Evaluation.

Extended Learning –
Key words and definitions

8

INTENT: Develop a knowledge of materials/workshop safety/use of tools
IMPLEMENTATION: Design and make project/workshop practice
IMPACT: Upskilling in the use of tools and materials knowledge

Building skills and knowledge

Starting points
Students have little to no experience of DT when coming from primary schools. Students have little to no workshop experience.

Knowledge gained
Students will gain knowledge of workshop safety.
Students gain knowledge of the tools and materials used in the DT workshop.
Students will gain knowledge of the working properties of materials.

Skills gained
Students will be given the opportunity to use a range of tools and machinery to build a powered boat.
Students will develop skills in marking out and measuring.
Students will develop skills when using tools.

INTO YEAR 8

Skills be revisited in Year 8 with a greater emphasis on a larger range of materials and more complex working practices and a variety of joining techniques.

What **HPL** in Design Technology looks like in lessons.

Lesson by Lesson

Slides are placed in PowerPoints at relevant places.

ACPs and VAAs are referenced explain how they will be used linking directly to DT.

Words specifically linked to the VAA and ACP grids are highlighted.

Examples below…

What will HPL look like in this project

HPL in the workshop (practical lessons)

HARD WORKING

AUTOMATICITY	**Blazers off** and **aprons on**! Always wear **eye protection** when using machinery. Follow **Health and Safety** guidelines when in the workshop.
RESILIENCE	You will find some tasks difficult when working in the workshop. You need to **show resilience** by not getting frustrated. You need to be able to **manage your own time** in order to complete your product. You need to develop the ability to **work independently** when in practical lessons.
PRACTICE	The more you **practise** using tools and machinery the **better you will get** when working with them.
PERSEVERANCE	You develop the ability to work for **extended periods of time**. You will get some things wrong – this will improve if you **persevere**.

High Performance Learning
Pathway School

Maximum Learning
at Colton Hills Community School

What will HPL look like in this project

Understanding a design brief.

ANALYSING	You will be **analysing** information given to you regarding your design brief. You will be noy only **analysing** the design brief but also responding to questions using the **analysis** you have undertaken.
ENQUIRING	You will be asked **research** existing products which will enhance your subject knowledge. You will be asked to look for the positives and negatives in existing products. **You will be able to explain your research to others**.
CREATIVE & ENTERPRISING	You will be writing a design brief that is **original in form and content**. **You will be exploring different solutions to problems**.
STRATEGY PLANNING	You will be choosing an **appropriate strategy** to solve your design context/brief.

High Performance Learning
Pathway School

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at Colton Hills Community School

Recording **HPL** in Design Technology

Student recording

HPL is referenced in lessons.

At prescribed parts in each unit of work student are asked to reflect on how HPL has been used up to this point.

This is then recorded in their DT project books.

Progression Levels for the Values Attitudes and Attributes (VAAs)

High Performance Learning

		Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
EMPATHETIC	Collaborative	• talk in small groups and pairs about themselves • listen to others in pairs and small groups and present and share their ideas • demonstrate their listening skills by asking the speaker questions	• clearly articulate their own ideas to the group • listen to the ideas of others and reinterpret these ideas in their own words using positive language • begin to take on board suggestions from others in the group	• present confidently to other groups in the class and classes further down the school about their work • recognise the role of others in development of ideas and start modelling the skills of collaboration to younger students • see and explain the advantages of collaborating	• tailor their presentation to meet the needs of their audience • see the value of adapting their views and ideas to resolve issues, achieve shared goals and outcomes and help the group progress • are aware that in different situations they need to take on different roles to develop or build on the strengths of others and get the job done	• present to groups outside of the familiar and outside of the school • develop others in the group as collaborators by putting them in new and unfamiliar situations and not just playing on their strengths • know to whom to assign different roles in order to complete a task based on others' strengths and experience
	Concerned for society	• recognise the difference between right and wrong • develop an awareness of who others are in the school and local community and have an opinion about change	• seek to help others in the class, school and local community and willingly participate in group activities to tackle issues • have a sense of justice and rationalise why change is needed in simple terms • identify projects in the community and suggest possible options to complete them	• willingly participate in the community (both local and global), identifying needs and courses of action to meet those needs • comfortably work with others to meet those needs • begin to have an understanding of human rights • develop a stronger sense of justice, drawing on international events	• develop critical opinions on global issues and comfortably debate these using evidence • adjust personal behaviour to fit belief systems and have a strong sense of their place in the world • understand the relationship between the rights of the individual and the laws of society • appreciate the benefits of a diverse society	• take proactive and direct action to help in the wider community • analyse how different circumstances, belief systems and emotions influence events and act independently according to their own belief systems • proactively initiate issue-based campaigns • challenge injustice and take the needs of present and future generations into account
	Confident	• realise there are things they know and understand and things they do not • with help, admit their mistakes and learn from them	• articulate their knowledge, understanding and ideas • listen to the ideas and opinions of others	• believe in their knowledge, understanding and ideas • enjoy discussing their beliefs, ideas or behaviours with others • deal with new challenges and situations	• justify their beliefs, ideas or behaviours • realise when they may need to change beliefs, ideas or behaviours based on new information or the arguments of others • enjoy new challenges and situations	• critically reflect on their knowledge, understanding and ideas in the light of new experiences and interaction with others • know when to modify their knowledge, understanding and ideas based on their critical reflection • seek new challenges and situations
AGILE	Enquiring	• begin to develop their natural curiosity • identify, with guidance, questions and problems which interest them • with guidance, plan to undertake research, and collect, store and organise information relevant to the research	• identify questions and problems and justify their interest in them • plan and carry out research unaided, and collect relevant information • identify the strengths and weaknesses of information and whether it is relevant to their enquiry, with guidance • consider different viewpoints on issues, events or problems	• identify appropriate research steps and strategies, and begin to refine and modify methods of enquiry • realise which information is useful and relevant and communicate analysis in an appropriate ways • consider why there are different viewpoints, and begin to make connections between them • challenge assumptions and make evidence-based assertions	• explain their research techniques to others, describing and justifying the methods they have chosen • begin to teach others the skills of enquiry • make informed and well-reasoned decisions and require evidence for others' assertions	• independently identify questions and problems, justify their interest in them, and critically consider whether they are worth asking and solving • use connections from across the curriculum to develop their enquiry, answering questions that are of real value to society both in school and outside.
	Creative and enterprising	• explore different solutions to problems that are set for them • are interested in the world around them • produce pieces of work that are original to them in form or content	• ask questions about their own learning and seek ways of finding their own answers • create original work that demonstrates good outcomes in terms of quality and suitability for the task set	• experiment with unfamiliar approaches or forms and decide on the right ones for the right circumstances • develop a sense of their own personal style in the work they create	• choose increasingly innovative approaches to solving problems and creating work • are able to adapt to a wide variety of purposes and audiences without sacrificing quality	• provide original and elegant solutions to complex problems • create novel and surprising pieces of work of high quality that are fit for purpose
	Open-minded	• are becoming aware that other people may have different ideas and beliefs and come from different backgrounds	• recognise that other people may have different ideas and beliefs and are prepared to listen to them • may change their mind based on the ideas and beliefs of others • show an interest in people from other cultures and backgrounds	• can take an objective view of different ideas and beliefs • become more receptive to different ideas and beliefs based on the argument of others • will change their ideas should there be compelling evidence to do so • appreciate the benefit of knowing, and working with, people from other cultures	• evaluate new information or the arguments of others and are willing to change beliefs, ideas or behaviours based on their evaluation • evaluate cultural perspectives by drawing on the views of people from other cultures and backgrounds when forming opinions	• seek out new information and the arguments of others in order to reflect critically on their knowledge, understanding and ideas and modify them on the basis of their critical reflection • systematically take a considered global stance when approaching new ideas
	Risk-taking	• realise that things we do involve an element of risk-taking • talk about known risks in everyday situations and ways to approach those risks if they affect personal safety and wellbeing	• weigh up positive and negative risks in new situations and suggest different solutions and approaches to those situations based on their assessment • confidently approach new and unknown situations, seeing them as a challenge to be faced	• try out new ideas in different situations, drawing on previous experience • speculate on the outcomes of taking certain risks in unfamiliar situations	• recognise that we cannot always predict the outcome of a situation – that some things in life are unknown • approach unfamiliar situations positively, and with confidence and acceptance of the unknown	• speculate and take risks in a whole variety of situations, known and unknown • assess situations in terms of personal safety and wellbeing • confidently tackle new challenges and make different decisions based on understanding of previous decisions and mistakes
HARD WORKING	Practice	• repeat work in order to improve	• practise regularly in order to improve • understand the value of practice in improving performance • respond to feedback from others about next steps to improvement and how to improve	• establish and follow practice schedules • seek and respond to feedback on how to improve performance • respond to goals set by others for improvements	• take responsibility for practising independently and regularly • jointly set goals for improvements • monitor own performance and seek feedback from others	• self-regulate and revise practice schedules in line with improvements • set own goals and monitor progress towards them • actively seek out ways to improve
	Perseverance	• work for extended periods of time on a task with encouragement • recognise that there may be obstacles to their progress	• work for sustained periods of time and can see the benefits of doing so • identify distractions and begin to recognise the effect these might have on their work	• are self-motivated to work on extended projects • identify distractions and manage them to minimise their effect • see the long-term benefits of performing a task to completion	• independently plan an activity or project beyond what is asked of them • identify and use strategies for setting and meeting personal targets in order to increase personal motivation	• recognise and accept that making mistakes is a natural part of learning, and can explain this to others • have enough self-awareness and confidence to accept that some tasks cannot be completed
	Resilience	• complete tasks with support, recognising some frustrations	• learn ways to manage their own time and work towards personal targets they have set • complete longer tasks with increasing independence, recognising frustrations that inhibit performance	• show greater independence in setting personal goals and targets • use time effectively and persist with extended tasks to completion, recognising strategies, overcoming frustration and distractions and seeing the long-term benefits	• self-manage extended and complex tasks to completion • employ appropriate strategies to complete tasks and consistently overcome frustrations and barriers	• select and self-manage extended and complex tasks consistently to completion • are deliberately unwilling to allow adversity to prevent them from reaching their goal and are unswerving in their focus on their eventual success

AGILE

		• consider different viewpoints on issues, events or problems	assertions	
Creative and enterprising	• explore different solutions to problems that are set for them • are interested in the world around them • produce pieces of work that are original to them in form or content	• ask questions about their own learning and seek ways of finding their own answers • create original work that demonstrates good outcomes in terms of quality and suitability for the task set	• experiment with unfamiliar approaches or forms and decide on the right ones for the right circumstances • develop a sense of their own personal style in the work they create	• choose increa problems and • are able to ad audiences wi
Open-minded	• are becoming aware that other people may have different ideas and beliefs and come from different backgrounds	• recognise that other people may have different ideas and beliefs and are prepared to listen to them • may change their mind based on the ideas and beliefs of others • show an interest in people from other cultures and backgrounds	• can take an objective view of different ideas and beliefs • become more receptive to different ideas and beliefs based on the argument of others • will change their ideas should there be compelling evidence to do so • appreciate the benefit of knowing, and working with, people from other cultures	• evaluate ne and are will based on t • evaluate cu of people forming op
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Resilience	• complete tasks with support, recognising some frustrations	• learn ways to manage their own time and work towards personal targets they have set • complete longer tasks with increasing independence, recognising frustrations that inhibit performance	• show greater independence in setting personal goals and targets • use time effectively and persist with extended tasks to completion, recognising strategies, overcoming frustration and distractions and seeing the long-term benefits	• sel co • en co

Progression Levels for the Advanced Cognitive Performance Characteristics (ACPs)

High Performance Learning

		Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
META-THINKING	**Meta-cognition**	• are aware of the thinking skills used to solve a problem	• are able to describe the thinking skills used to solve a problem	• are able to select appropriate thinking skills to solve a problem	• evaluate the range of possible approaches and select the most appropriate one(s) to improve efficiency	• use the full range of thinking skills fluently and comprehensively, including unconventionally
	Self-regulation	• recognise that making errors is part of learning	• identify things that worked well and those that did not • begin to suggest goals for improvement	• are aware of own general strengths and weaknesses • make improvements to own practice and set future goals for improvement	• evaluate outcomes of changes and justify amendments/ improvements to the strategy	• make insightful observations and comments to continually refine and improve own personal best
	Strategy-planning	• recognise it is possible to consciously select a given approach to solve a problem	• are aware of the main approaches that could be deployed	• choose an appropriate approach to solve a problem or address an issue	• choose the most appropriate strategy and be able to justify the approach	• Use strategy-planning independently as a way to solve problems or issues
	Intellectual confidence	• begin to communicate own views based on experiences	• explain own views using examples and reasons	• present and justify own views using a diverse range of evidence	• evaluate the views of others and incorporate relevant evidence to construct persuasive arguments including those they do not agree with	• synthesise a wide range of viewpoints and evidence to make a coherent and compelling personal argument
LINKING	**Generalisation**	• recognise simple patterns or similarities through observations	• use patterns, similarities and connections to make simple predictions	• identify and explain the connections between events, objects or ideas • develop generalisations • apply generalisations to an existing situation	• analyse similarities and differences between events, objects or ideas • develop generalisations, recognising complexity • apply generalisations to more complex situations	• understand the complexity of generalisations and apply these to a range of different situations with caution and justification
	Connection finding	• be aware that different facts may be connected	• make simple and obvious connections, but do not grasp their significance	• make a number of connections, although miss the meta connections and the significance for the whole • use prior knowledge to explain those links	• actively seek out connections when learning • transfer principles and ideas underlying one instance to another	• make connections not only within the given subject area, but also between and beyond subjects in inventive ways • make novel, insightful and innovative connections which help to reconceptualise
	'Big picture' thinking	• begin to recognise that there are big ideas	• recognise there are big ideas and holistic concepts and begin to use them to make sense of things	• use big ideas and holistic concepts and make connections within and between them to make sense of experiences	• start new learning by focusing on big questions and/or locate new learning within a bigger picture	• explore the complexities and uncertainties in big ideas and holistic concept and accept they have limitations
	Abstraction		• conduct processes in the head as opposed to using concrete materials	• take ideas, issues, problems or events and apply them to theoretical situations	• work with a range of ideas, issues, problems or events in order to explain abstract, theoretical situations or models	• evaluate a range of ideas, issues, problems or events, develop and combi them and apply them to complex imagined or theoretical situations
	Imagination	• form plausible solutions to simple problems, by asking 'what if?'	• envisage and create solutions in the mind to solve problems	• create novel solutions by drawing on prior knowledge	• picture solutions that are plausible but not common, linking together extensive prior knowledge	• explore alternative or new plausible solutions using extensive interconnec prior knowledge
	Seeing alternative perspectives	• recognise that different people have different perspectives	• consider different interpretations or views and distinguish between facts, beliefs and opinions • are open to novelty	• weigh up the viewpoints of others, explain the influences that have shaped them, challenge or adopt different ideas appropriately	• critically evaluate the validity of viewpoints or arguments and objectively judge the evidence on which they are based, synthesising ideas where appropriate	• recognise that alternative viewpoints can be equally valid and be open to ambi • question assumptions
ANALYSING	**Critical or logical thinking**	• use information given to ask simple questions • begin to use information to explore ideas	• ask relevant questions and select and organise appropriate information from a range of sources to find answers and develop understanding • use selected information to explore ideas and make proposals	• identify questions and begin to refine them to clarify and deepen understanding • select and organise evidence to explore questions and test hypotheses • suggest answers based on evidence • process and manipulate evidence and assess it for validity	• prioritise questions to explore and develop relevant hypotheses • judge the reliability, validity and limitations of evidence • critically evaluate different sources of evidence • use evidence to challenge assumptions	• ask perceptive and insightful questions and develop relevant hypothes • critically analyse and synthesise evidence and assess it for validity • use robust evidence to develop compelling new ideas and hypotheses
	Precision	• begin to use simple symbols, conventions, vocabulary and language for the domain	• use simple symbols, conventions, vocabulary and language for the domain with some errors and omissions	• use skills, symbols, conventions and vocabulary for the domain with few errors or omissions	• use advanced skills, symbols, conventions and vocabulary effectively to reach strong outcomes	• select appropriate skills and conventions and use effectively to reac outcomes
	Complex and multi-step problem solving	• use a given approach to solve simple problems, ideas or tasks	• are aware that complex tasks can be broken down and understand the techniques for achieving this	• select and use appropriate methodologies to solve more complex problems; explore more complex ideas or complete more complex tasks	• evaluate the effectiveness of different approaches and identify a preferred personal repertoire	• use a broad range of approaches effectively, selecting those most a for particular problems
CREATING	**Intellectual playfulness**	• are aware that there are rules in different domains • ask 'what if....?'	• recognise the rules and conventions of different domains and choose some rules to disregard or change	• understand the complex rules and conventions of different domains and choose some rules to modify, recognising some of the consequences	• imaginatively adapt and bend the rules of a domain for a specific purpose, outcome or consequence	• use the rules flexibly, bending them where appropriate to create i interesting outcomes
	Flexible thinking	• be aware there are often different solutions to a problem	• be willing to abandon one idea in favour of another on the basis of reason and evidence	• adopt new ideas easily in response to convincing reason and evidence and recognise some consequences	• expect to look beyond first ideas and seek others in order to select a best fit	• routinely think beyond the accepted approach and consider mult as to create best-fit solutions
	Fluent thinking	• brainstorm ideas, with help, in response to simple problems	• independently generate multiple solutions and ideas in response to more complex problems	• frequently propose to others solutions resulting from brainstorming ideas for complex problems, evidence or issues	• routinely seek to explore a wide range of possibilities before posing a solution to complex problems, evidence or issues	• create compelling ideas which demonstrate originality
	Originality	• create a slight variation to accepted ideas	• create several new ideas to address a problem, seeing possibilities others have not seen	• create a range of new and unique modifications to address a problem or create an item	• create and model a range of new and unique ideas to address a problem recognising practical implications and conflicting demands	• insightfully create and model innovative and unique ideas and
	Evolutionary and revolutionary thinking	• create a new idea by building on existing ideas or diverting from them	• create several new ideas to address a problem by building on existing ideas or diverting from them	• create a range of new ideas to address a problem, recognising limitations and suggesting solutions by building on existing ideas or diverting from them • choose a completely different way to address the task	• create and model a range of new ideas to address a task recognising practical implications and conflicting demands by building on existing ideas or diverting from them	• create and model innovative ideas – both evolutionary and re evaluate them by building on existing ideas or diverging from
REALISING	**Automaticity**	• recall simple key facts, concepts and ideas relevant to the stage of learning with some support	• recall more complex key facts, concepts and ideas relevant to the stage of learning and with increased independence • show fluency in basic age-related tasks so they can be done without thinking, e.g. times tables	• independently recall complex key facts, concepts and ideas relevant to the stage of learning • exhibit fluency in an increasing range of key skills	• easily recall advanced key facts, concepts and ideas relevant to the stage of learning • acquire new rules and use them fluently	• effortlessly use key facts, concepts and ideas relevant to th • draw upon a range of skills without the need to think or pro
	Speed and accuracy	• begin to develop relevant skills and use with some accuracy	• use relevant skills with increasing accuracy • mostly work to the speed required for the task	• actively seek accuracy in work and understand its importance • consistently complete work on time	• achieve good levels of accuracy in work • plan work and pace speed needed to complete it – even with multi-step tasks	• strive for and achieve excellent levels of accuracy in work • work rapidly without errors

HPL in Design Technology next Steps…

Future of HPL in DT

Central recording of ACPs VAAs met.

More independent use and recording of ACPs VAAs met.