


DESIGN AND TECHNOLOGY

R:\Teaching\Creative (Gabor)\Tech MDH\ CURRICULUM INTENT\Y8\5 - CAD Advanced (2021-22)

YEAR 8 – CAD Intermediate Unit (KS3) – 8 weeks										
INTENT: To play a part in developing knowledge and understanding of the Design and Technology National Curriculum. Students are to understand, apply and create using the software 2D design as a designing tool.		The bigger picture: This scheme plays an important role within the technology curriculum as it is essentially teaching skills from the National Curriculum and preparing students for the challenges of key stage 4. The Next Step: This unit is preparation for the Engineering Design Course at Key stage 4. It focusses predominantly on Unit R107 / R039 which is based upon designing ideas using CAD Software.							 * Link to C&C	Character & Culture Character and Culture is embedded within the curriculum map and coded as shown.
Lesson	British Values	Diversity					Society			
	1	2	3	4	5	6	7	8		
Retrieval Task:	PURPOSE	FUNCTION	INNOVATION	KEY TERMS	DISCUSS	INSPIRATION	JOBS	ROTATIONS		
Objective: I do, we do & you do...	Wheel 1 (See extensive PowerPoints)	Wheel 2 (See extensive PowerPoints)	Wheel 3 (See extensive PowerPoints)	Interior 1 (See extensive PowerPoints)	Interior 2 (See extensive PowerPoints)	Interior 3 (See extensive PowerPoints)	Car 1 (See extensive PowerPoints)	Car 2 (See extensive PowerPoints)		
Silent Study:	B M E	B M E	B M E	B M E	B M E	B M E	B M E	B M E		
Assessment		FAR 1				FAR 2	INPUT GRADES	End of year ASSESSMENT		
Homework	TEAMS INTERACTIVE			TEAMS INTERACTIVE						
Literacy:	2 for 2 and 3 for 3 – Within the unit of work teachers use educational and subject specific key literacy. Key Vocab 2D Design software, google SketchUp, dimension, vectorise, bitmap, explode, user requirements, 3 dimensions, 2 dimensions, laser cutter, plot, accuracy, precision, professional, health and safety. words and key pictures – Each unit of work has a handout including all key terms, words, tools, and materials. -- (See whole year group mapping)									
Cultural Capital	Applying CAD: Using CAD software to design projects inspired by real life architectural inspiration helps students acquire essential knowledge and skills, fostering an appreciation of their locality in line with cultural capital. Students have a CAD project within Year 7, 8 and 9 to introduce and embed these skills.									
Connected Knowledge	This is a unit designed to... prepare students for the future of design and technology at Bilton School as having CAD/CAM skills is a priority and plays a big part of the future curriculum. Following this it supports the journey into KS4 and 6th form Art and Design. Across the school this supports the Art, ICT and Business departments as these skills are transferable and are beneficial in the curriculum plan. Beyond school, the world of work is becoming more increasingly automated, and we are in an area of the country with a huge amount of engineering companies and potential future jobs. CAD/CAM is a perfect steppingstone to further education, apprenticeships, and university.									
IMPACT	Students measure progress using the department F.A.R tracking sheets which are in the Assessment Booklets, Teachers track the marks given using the department shared mark book and SIMS. This will show progress over time and prepare students for future learning at Bilton School.									



* Link to C&C

CROSS CURRICULAR LINKS:

- Art: Within this unit students will develop their 3D drawing skills and making skills which will benefit the art curriculum.
- ICT: This unit will give students an understanding of how you can design in 3D using CAD/CAM

LESSON STRUCTURE:

- ALL lessons will use the whole school strategy I DO, WE DO, YOU DO
- ALL lessons will have a retrieval task that engages learners immediately after arrival. In practical settings this may not use a PowerPoint.
- All lessons will have a period of SILENT STUDY.
- All lessons will have Learning objectives visible.

WHAT SKILLS WILL BE DEVELOPED:

- To understand, apply and create using the software 2D design as a designing tool.

WHY WE ARE LEARNING THIS:

- To understand how to use the more advanced commands in 2D Design.
- To create a range of your own unique designs that include rotating a wheel, 3D tools interior design and Car Design.

HOW TO BECOME AN EXPERT IN THIS TOPIC:

- Watch this YouTube clip to stretch yourself – Cool House Interior Design Features You Won't Believe Exist
- Read this book from Amazon - **The Inventors Manual: Transform Your Idea into a Top-Selling Product - By Sean Michael Ragan - £10.49**
- Practice the software 2D design and Google Sketchup in the library at lunch or after school.