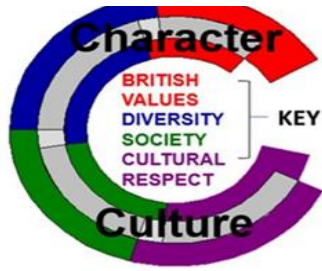# YEAR 8 - Bilton School Planning for Progress over Time - Design & Technology Programme of Study

INTENT: To play a part in developing knowledge and understanding of the Design and Technology National Curriculum. Students are to apply their CAD Skills and knowledge over time and design a modern house,	**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. In particular, it focusses on Unit R107: Which is focussed on designing and developing design ideas using CAD.

IMPLEMENTATION

Key Stage 3 — Carousel - Topic 1 - (Computer Aided Design Skills)

Lesson:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 - Rotate a wheel	2 - Rotate a weheel - **Assessment 1**	3 - 3D Typography	4 - Vectorise an image - **Set homework 1**	5 - Edit Text	6 - Isometric sofa	7 - Isometric sofa	8 - Isometric sofa rendering - **set homework 2**	9 - Isometric interior - layout	10 - Isometric interior items	11 - Isometric Interior - **Assessment 2**	12 - Isometric interior rendering	13 - Design a car - side profile	14 - 2D Design a car - rendering	15 - 2D Design a car - rendering	16 - Present all work in a Powerpoint

Progress and assessment

Assessment 1 - CAD FAR Assessment 1 - Task 1 - rotate a wheel , Assessment 2 - CAD FAR Assessment 2 - Interior Design

Homework

Homework 1: TEAMS Multiple choice questions / Homework 2: TEAMS Multiple choice questions.

Overview: There will be 2 homework quizzes on Microsoft Forms online, this will be done via TEAMS. The assessments rea out of 12 and in the format of a multiple choice question and answer. The focus of the questions is to increase students understadning of the global goals, the national curriculum 6 key principles and careers linked to design. (The homeworks have been mapped across the department) ***Students absent from lessons in refocus or boost will use the legacy homework sheets.**

Key Vocabulary /Literacy opportunities

2D Design software, vectorise, bitmap, explode, mind-map, user requirements, pop-up, 3 dimensions, 2 dimensions, accuracy, precision, professional, health and safety, Architecture, engineering, structures, inspiration

Connected Knowledge

Reference to learning map: the big picture - 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 6th form as 3D Design BTec is the chosen course and again has an abundance of CAD aspects that can be utilised. Across the school this supports the Art, ICT and Business departments as these skills are transferable and are benefitial in the curriculum plan. Beyond school, the world of work is heavily automated and in engineering and design uses CAD/CAM skills. So this is a perfect stepping stone to further education, apprenticeships and university.

IMPACT: Students will be able to measure progress using department F.A.R tracking sheets and on SIMS through the PLC. This will show progress over time and prepare students for key stage 4 and 5 learning at Bilton School.

Character and Culture

END POINTS:
At the end of the CAD/CAM Unit students will be able to:
(REFERENCE TO TOPICS, SOL, NC)
1) Have embedded the skill to use CAD more confidently
2) Be able to use CAD terminology and recall key factors.
3) Be able to design an imaginative outcome: E.G Architecture
Buzz words/phrases: Interpret, Analyse, Evaluate
They will be able to do this by: Producing work to go in a
student e-folio, their best work will be evidenced in their assessment folder
1) This will be seen week by week
2) This will be seen week by week and embedded through to mastery
3) This will seen week by week with challenges that get more complex as the culmination of
skills is built upon.   **Cross
Curricular Links -**   **Art:** Within
this unit students learn sophisticated image manipulation skills that will be benefiticial to art. The
software is PowerPoint, 2D Design, Google Sketchup and students develop knowledge into
producing designs in 2D and eventually 3D. All these skilsl work hand in hand with art and
require creativity and an artistic flare to pull off successfully.