The Ellesmere Port C of E College

Part of the Frank Field Education Trust

Year 9 Design & Technology - Computer Control & Metals
Learning Programme 3

The LORIC skill focus for his LP is: RESILIENCE
The Moral Virtues focus for this LP are: RESPECT and JUSTICE

Respect - treat others how you would wish to be treated yourself.
Justice - our College rules are fair and reasonable.

What will I be learning about in this Learning Programme?
How to apply computing to embed intelligence in products; how to use programmable components that respond to inputs and control outputs. How to use block-based programming language to control a buggy. The source, categories and types of metals; the impact of metal processing has on the environment. How designers use a range of design influences and tessellation to create original ideas.

Where have I seen this learning before?
In Year 8 design & technology you will have learnt about electronic systems using input, process and output components. You will have used computer aided design. You will have learnt about the sources of different materials and how they are processed including their impact on the environment.

What could I use it for?
You will apply your knowledge of computer control and metal materials when studying the GCSE Design & Technology exam. You can use hand tools to create metal items in your everyday life.

Literacy:
- Capital letters must be used at the start of sentences and for the first letter of proper nouns
- Full stops must be used at the end of a sentence
- Question marks must be used at the end of a question
- Apostrophes should only be used for possession or omission
- Days of the week and months must be spelled correctly
- Key words must be spelled correctly

In LP3.1, I will know: 06/01/25 - (WK 2)	Key Vocabulary	Homework
how computing can embed intelligence in product through the use of programmable components; that the Crumble microcontroller is a programmable component that has inputs and outputs; how to construct a crumble programmable buggy structure.	Microcontroller	Microcontrollers in everyday products.
In LP3.2, I will know: 13/01/25 - (WK 1)	**Key Vocabulary**	**Homework**
how to create simple block-based programming to control crumble output components.	Coding	Design a livery for the Crumble Buggy.
In LP3.3, I will know: 20/01/25 - (WK 2)	**Key Vocabulary**	**Homework**
how to programme the crumble buggy to create motion.	Analogue	Advantages & disadvantages of programmable components.
In LP3.4, I will know: 27/01/25 - (WK 1)	**Key Vocabulary**	**Homework**
how to programme the crumble buggy so that it performs a variety of tasks; how to problem solve errors in a code. Extended Task.	Autonomous	New and emerging technologies.
In LP3.5, I will know: 03/02/25 - (WK 2)	**Key Vocabulary**	**Homework**
the source of metals and how they are processed into stock forms; the difference between ferrous, non-ferrous and alloy metals.	Ore	Identifying metals.
In LP3.6, I will know: 10/02/25 - (WK 1)	**Key Vocabulary**	**Homework**
the names, properties and uses of different metal types; how to present original ideas for the mobile phone holder, using sources of inspiration.	Inspiration	Metals & the environment.
LP3 RLW, I will: 24/02/25 - (WK 2)		
review my learning, recalling and applying key knowledge, and focus on closing any gaps in my knowledge.	Revision strategy	Revise for summative assessment.
In LP3.7, I will know: 03/03/25 - (WK 1)	**Key Vocabulary**	**Homework**
how tessellation is used in manufacturing and why it is important; the four different scales of production and the differences between them. Extended Task.	Tessellation	Orthographic projection of mobile phone.

PRT Task 1

PRT Task 2

Resources to support learning:

The following websites contain extensive revision material and information to increase design & technology subject knowledge:
www.technologystudent.com;
www.mr-dt.com;
www.bbc.co.uk/bitesize.

FFET Award Challenge for this Learning Programme:

Computer Control - Create an informative poster/ video/ blog/ vlog about New & Emerging Technologies