The Ellesmere Port C of E College

Part of the Frank Field Education Trust

Year 9 D&T - Computer Control & Smart/ Modern/ Composite Materials Learning Programme 2

The LORIC skill focus for his LP is: ORGANISATION

The Moral Virtues focus for this LP are: COMPASSION and HONESTY

Compassion - the quality of feeling pity and concern for the sufferings or misfortunes of others.
Honesty - the quality of being truthful.

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 types and uses of smart, modern and composite materials. 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, their types and uses.

What could I use it for?

You will apply your knowledge of computer control and smart and modern materials when studying the GCSE Design & Technology exam. You can also use workshop tools 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 LP2.1, I will know: 19/10/26 - (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 LP2.2, I will know: 02/11/26 - (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.
LP2 RLW, I will: 09/11/26 - (WK 2)		
review my learning, recalling and applying key knowledge, and focus on closing any gaps in my knowledge.	Revise	Use revision techniques to prepare for summative assessment.
In LP2.3, I will know: 16/11/26 - (WK 1)	**Key Vocabulary**	**Homework**
how to programme the crumble buggy to create motion. Extended Task.	Analogue	Advantages & disadvantages of programmable components.
In LP2.4, I will know: 23/11/26 - (WK 2)	**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.	Autonomous	New and emerging technologies.
In LP2.5, I will know: 30/11/26 - (WK 1)	**Key Vocabulary**	**Homework**
the names and uses of different smart materials; the names and uses of different modern materials.	Smart materials	Smart and modern materials and their uses.
In LP2.6, I will know: 07/12/26 - (WK 2)	**Key Vocabulary**	**Homework**
the names, properties and uses of different composite materials; how to present original ideas for the clock, using sources of inspiration. Extended Task.	Composites	Composite materials and uses.
In LP2.7, I will know: 14/12/26 - (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.	Tessellation	Calculating area and tessellation.

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.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