The Ellesmere Port C of E College

Part of the Frank Field Education Trust

Year 8 Design & Technology - Systems Night Light
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?
Electronic systems and their input, process and output. The function of electronic components. How to solder safely to produce a functioning Night Light. How to use CAD/CAM to create a lamp shade.

Where have I seen this learning before?
In KS2 design & technology you will have used simple electronic components to make electrical systems in a product.

What could I use it for?
You can use electronic components to manufacture electronic systems in design & technology over your next 6 years; you will apply your knowledge of electronic systems in the GCSE Design & Technology exam.

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**
which steps to follow to safely solder; how to safely and precisely solder components onto a circuit board.		Soldering	Produce a step-by-step storyboard to explain how to use the soldering iron safely.
In LP3.2, I will know: **13/01/25 - (WK 1)**		**Key Vocabulary**	**Homework**
how to use CAD 2D Design to present a Night Light shade final design.		CAD (Computer aided design)	Explain the positives and negatives of using CAD.
In LP3.3, I will know: **20/01/25 - (WK 2)**		**Key Vocabulary**	**Homework**
the advantages and disadvantages of using the CAM laser cutter.		CAM (Computer aided manufacture)	Explain the positives and negatives of using CAM.
In LP3.4, I will know: **27/01/25 - (WK 1)**		**Key Vocabulary**	**Homework**
how to convert my 2D design file to the laser cutter. Extended Task.	PRT Task 1	Convert	Explain the laser cutting process.
In LP3.5, I will know: **03/02/25 - (WK 2)**		**Key Vocabulary**	**Homework**
what the main stages of the vacuum forming process are; how to safely use the vacuum former to manufacture the night light base.		Vacuum forming	Describe the stages of the vacuum forming process.
In LP3.6, I will know: **10/02/25 - (WK 1)**		**Key Vocabulary**	**Homework**
how to finalise the soldering of my circuit; how to test and troubleshoot any problems on my circuit board.		Troubleshooting	Manufacturing Diary.
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 to assemble, test and evaluate my final manufactured night light. Extended Task.	PRT Task 2	Improvements	Primary user feedback of the night light in use.

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:

Create a safe soldering fact sheet for pupils to use a guide when soldering.