CONNECT2COLLEGE

ENGINEERING

PRE-ENROLMENT RESOURCE PACK

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No.1 COLLEGE IN GREATER MANCHESTER

Foundation and Extended BTEC Diploma in Engineering Level 3

BTEC Level 1/Level 2 Tech Award in Engineering

Summer Bridging Task

The purpose of giving you a summer bridging task

To provide a bridge from school to college study, and lead into the early stages of the course
To engage you in independent learning
To encourage you to develop your work ethic and commitment to study
To measure your suitability for the course and assess your initial levels of achievement

All of your work must be typed and clearly presented – please reference your work where possible

Task 1: Define the following key terms and draw some diagrams to help explain the definition (30mins):

- Vector
- Displacement
- Velocity
- Micrometer
- Force
- The Joule (Not the Weatherspoon's in Sale)

Task 2: Produce a PowerPoint presentation to outline what you think engineering is and include an area of Engineering that you find interesting. It can be something you learnt about at GCSEs or from a documentary you have watched or a topic you have read about. You should include:

- What is the role of the engineer
- What challenges do you think will engineers be needed for in the future
- Information about the topic you find interesting
- What you find interesting about the topic
- What you would to like learn more about the topic

Task 3:

Find out about the level 2 and level 3 BTEC course in engineering:

https://qualifications.pearson.com/en/subjects/engineering.html and have a look at the useful documents!

What units might you be doing? Which ones interest you?

Task 4: From https://bit.ly/2VM9bVQ find the data sheet for Rocol Cutting Paste 500 g Tin.

From that data sheet:

What is it used for?

What does it smell of?

A company uses 10g of cutting fluid for each part it manufactures. It has received an order for 10000 parts.

How much cutting fluid would be used?

How many 500g tins would it need to order and how much would this cost?

Find the price of a 5kg tin of ROCOL cutting fluid on https://uk.rsonline.com/ Is there a saving in buying a bigger tin? How much?

Show working and prices.

Task 5: Research transistors and produce a presentation on them. You should include:

- Some history of the discovery and development of the transistor
- What they are used for, now and in the past.
- How do they work/ what do they DO?
- What different types are there?

Task 6: Much of engineering is applying physics and maths to the world to make sure that the thing we design will do what we say it will do so here are some quick bits of algebra to get you warmed up:

Solve the following equations for (x):

1) $5x-7=3x+3$	2) $3x+4=13$
3) $4(x-2)=-20$	4) $4x=3x+6$
5) $3(x+2)= 1 \quad 4\ (x-3)$	