

Engineering

Internal and externally moderated coursework
+ Practical Examination
Exam Board = Pearson
HOF = Mrs Beuvink

Overview:

Component 1 and component 3 have been awarded Teacher Assessed Grades, therefore the focus in year 11 is to complete Component 2

A: Understand materials, components and processes for a given engineered product

The scenario you have been given is related to a bicycle multitool.

- Write a detailed description of the tool including size, materials, product usage and design attributes.
- List all the components that make up the tool and identify if they are proprietary or product specific.
- Explain the material each component is made from. For a distinction, you should also explain the processes used to make the components.
- Analyse the bike multitool using ACCESS FM
- Use the internet to find similar tools and compare these with the tool you disassembled.

B: Investigate a given engineered product using disassembly techniques

In class you disassembled the product and took photos of each part.

- Label and insert the photo of each component.
- Explain how you disassembled it and evaluate the process.
- Explain, in detail, why materials and components have been selected for use in the bike tool.
- Explain the environmental impact of using these materials.
- Discuss alternative manufacturing materials and processes could have been used.
- Create a detailed product design specification.

C: Plan the manufacture of and safely reproduce. Inspect/test a given engineered component

Using 2D software design your own bike tool.

- Create a plan of manufacture for making your own bike tool which includes the correct sequence, processes, equipment, materials, and inspection techniques.
- Complete a risk assessment for the making process.
- Create a template for the design out of wood or plastic.
- Make the bike tool out of steel and inspect against the quality standards.
- Evaluate the success of the planning and production of the bike tool and recommend how the process could be improved.

Useful websites:

[Cablematic - 16 in 1 multifunction bicycle tool kit](#)

[Oldpinch – 16 in 1 Mountain Bicycle Repair Tool Sets](#)

[ViralGads – 16 in 1 Multi-Function Bike Mechanic Repair Tool Kit](#)

[Kings Motorbikes - 16 in 1 multifunction mechanic fix tools set](#)

Useful websites:

[Scoot A Boot – 16 in 1 Portable Bike and Scooter Repair Tool Kit](#)

[Amazon – 15 in 1 Multifunction Bike Tool Kit](#)

[Shopee – 15 in 1 Bicycle Repair Kit](#)

[16 in 1 Portable Allen Key Hex Spoke Wrench Bike](#)

Useful websites:

[AliExpress – Multifunction Bike Tool](#)

[AliExpress 16 in 1 Multi-Function Bike Repair Tool Kit](#)

[Alibaba Bicycle Repair Multitool](#)

[ALLKIND – Bicycle Tool Set](#)

Where to get help?

There are resources on **TEAMS** for each unit. There are catch up lessons after school.

Remember

Higher grades are achieved by explaining the points you make in detail. Check your spelling and grammar before you hand the work in to be marked.

