

# Edexcel Principal Learning

## Engineering

Level 2

**Unit 8: Exploring Engineering Innovation,  
Enterprise and Technological Advancements**

Pre Release Material  
June 2011

Paper Reference  
**EG208/01**

**You do not need any other materials.**

You are not allowed to take your pre release work into the examination.

Turn over ►

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Joseph has designed a battery powered buggy that is suitable for disabled users. The idea of such battery powered buggies is not new, but Joseph's design is different because he has developed a method of allowing the buggy to go up high kerbs easily. This makes it much easier to use on public pavements than more common designs.

Joseph's friend has seen his designs and has suggested that, because there are some innovative features, the idea should be protected. Joseph and his friend will research various sources to establish how this can be done.

Joseph and his friend are going to research the various materials and processes that are available to them. They will look at existing products and markets and identify the competition.

Joseph has stipulated that the product should be manufactured from as many sustainable and recyclable materials as possible.



### **Instructions**

You are required to investigate the viability of the battery powered buggy product. Your study should identify the steps Joseph will need to undertake if the battery powered buggy is to be a success.

Your study should include an investigation of the following areas.

- Intellectual property
- Research and development including modelling
- Financial support
- Developments in materials and processes
- Suitability of materials for the battery powered buggy (chassis, wire basket, mud guards and body)
- Joining processes (welding)
- Impact of new technologies
- Social impact of engineering and sustainability of resources