

## Level 2 Principal Learning in Engineering (2760-02)

Summer 2014

### Unit 1: The engineered world

#### Preparation Sheet for the 15 May Series 2014 Examination

##### Instructions

This Preparation Sheet will be given to you on or after 1 April 2014. It gives you the context for **some** of the examination questions.

You may research the context with the guidance of your teacher before the examination date.

This Preparation Sheet may be taken into the examination room. Do **not** annotate or write on this sheet. No other material should be taken into the examination room.

An essential requirement of this unit is that you will form into a team and divide the work fairly between yourselves. Each member will then report their findings back to the rest of the team who will record the relevant information. Team members should make a note of the role(s) they each played and the essential features of how a successful team should function.

**Research context:** Transport infrastructure and vehicle systems

**Theme:** Formula One racing car – chassis

One of the **most** important components of a Formula One racing car is the chassis. In the past, these were often made from metals. Today they are manufactured from strong composite materials. Developments in the materials have led to substantial changes in the processes used to manufacture the chassis.

- 1 Research the developments in materials used to make the chassis including:
  - the different materials that have been used
  - the impact of these materials on the performance and safety of the car
  - methods of manufacturing the chassis using these materials.
- 2 Consider how these developments in materials have an impact upon:
  - industry
  - future products
  - people's lives.
- 3 Investigate types of engineering jobs and typical activities of people associated with the Transport Infrastructure and Vehicle Systems industry sector.

Suggested websites (correct at the time of going to press).

- [http://formula1.about.com/od/car1/a/carbon\\_fiber.htm](http://formula1.about.com/od/car1/a/carbon_fiber.htm)
- <http://auto.howstuffworks.com/auto-racing/motorsports/formula-one2.htm>
- <http://www.formula1.com/>
- [http://en.wikipedia.org/wiki/Formula\\_One](http://en.wikipedia.org/wiki/Formula_One)