Engineering

Health and safety in engineering

BTEC unit covered

Engineering: Unit 3 Health and safety in engineering

Key terms

Hazard: anything with the potential to cause harm or an adverse health effect on a person or persons

Risk: the likelihood that a person or persons may be harmed or suffer adverse effects if exposed to a hazard

Risk assessment: a careful examination of what, in a workplace, could cause harm to people

PPE: Personal Protective Equipment. All equipment (including clothing offering protection against the weather) which is intended to be worn or held by a person at work which protects them against one or more risks to their health and safety

Learning objectives

- To gain awareness of the dangers of not working within appropriate legislation and procedures
- To identify risks in an engineering environment

Suggested activities

- What is a hazard? Use slide 2 to define the meaning of the word 'hazard' and to address the importance of procedures and legislation in protecting staff and general public in potentially hazardous scenarios. Slides 3-4 define the meaning of the word 'risk' and demonstrate how the two terms work together
- **Student task**: Students to consider the role of a Thames Water field technician. What possible hazards could he or she encounter during a call-out to unblock a customer's drain? Discuss the potential hazards shown on slide 7

Recommended resources Slides 2-7 of supporting presentation

- Slides 8-11 explain the importance of PPE in engineering and the types of PPE students might expect to see in an engineering workplace. The Thames Water PPE booklet is useful to review here as it sets out the minimum PPE requirements for various roles within the business
- **Student task**: Students to look at the two images on slide 12 which show two scenarios attended by Thames Water engineers. Students should explain what PPE is being used in each image and why

Recommended resources Slides 8-12 of supporting presentation, Thames Water PPE booklet

- Slides 13-15 look at the importance of a risk assessment within the workplace and detail the steps to writing one. Students should review this and familiarise themselves with the process. They should also read the Thames Water risk assessment booklet, which is given to employees to reinforce the importance of the risk assessment process
- As a group, read the article from 'Get reading' on slides 16-18 which describes the scene at an engineer call out (as experienced by an accompanying journalist)
- **Student task**: Students should write a risk assessment for this job using a copy of the Thames Water risk assessment template provided. Copies of the following Thames Water health and safety procedures are available in this section for students to download to help produce their risk assessments:
  - Working at height
  - Working in explosive atmospheres
  - Lifting manhole covers
  - Working with fixed power tools

Recommended resources Slides 13-18 of supporting presentation, Thames Water risk assessment template, Thames Water risk assement booklet

Further information relating to health and safety in the workplace can be found at hse.gov.uk - Great Britain's independent regulator for work-related health, safety and illness