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## Overview

This standard covers the competences you need to demonstrate scientific or technical methods, techniques and skills to others in the workplace in accordance with approved procedures and practices.

You will be required to prepare and demonstrate scientific or technical methods, techniques and skills in a manner appropriate to learner/student's needs in accordance with the relevant workplace procedures.

The activity is likely to be undertaken by someone in a science related work setting, including individuals working in hospitals, scientific laboratories, schools and universities.

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## Performance criteria

- You must be able to:*
- P1 ensure that your work is carried out in accordance with workplace procedures
  - P2 safe practices and the appropriate personal protection equipment (PPE) when doing scientific or technical activities
  - P3 agree the learning/training objectives of the demonstration with the relevant people
  - P4 gather relevant and accurate information for the demonstration
  - P5 prepare the content of the demonstration to meet the learning needs of learner/students
  - P6 confirm that the location for the demonstration allows for optimum visibility and conforms to health and safety requirements and regulations and guidelines
  - P7 prepare answers to anticipated questions
  - P8 demonstrate scientific or technical methods, techniques and skills in a manner appropriate to learner/student's needs
  - P9 work safely at all times, complying with health and safety, environmental and other relevant regulations and guidelines
  - P10 communicate the required information about the work done, in accordance with departmental and organisational procedures

## Knowledge and understanding

### *You need to know and understand:*

- K1 the health and safety requirements of the area in which you are carrying out the scientific or technical activities
- K2 the implications of not taking account of legislation, regulations, standards and guidelines when conducting scientific or technical activities
- K3 the scientific or technical techniques and processes you must use correctly in the workplace.
- K4 the importance of wearing protective clothing, gloves and eye protection for scientific or technical activities
- K5 the importance of correct identification, and any unique workplace coding system
- K6 the organisational requirements for maintaining the security of the workplace
- K7 the lines of communication and responsibilities in your department, and the links with the rest of the organisation
- K8 the limits of your own authority and to whom you should report if you have problems that you cannot resolve
- K9 what are the approved scientific or technical working practices and why it is important to follow them at all times
- K10 what workplace procedures apply and why it is important to follow them at all times
- K11 what are the basic techniques and skills required to help prepare for scientific or technical demonstrations
- K12 how to select the materials and equipment for the demonstration activity
- K13 how to prepare resources for demonstration activity
- K14 how to demonstrate the scientific or technical methods, techniques skills to others in the workplace
- K15 how to promote best working practice amongst learners/students
- K16 how to monitor learner/student's learning activities
- K17 how to encourage learners/students to ask questions
- K18 what learning activities can be prepared by learners/students, and how to help them to prepare for the demonstration activities
- K19 what hazards are associated with the demonstration activities
- K20 the range of scientific or technical methods and skills that can be demonstrated
- K21 how to deal with spillages and what action to take
- K22 what are the procedures for the safe storage and handling of materials and equipment
- K23 how to identify problems that might occur in the demonstration
- K24 what are appropriate actions to take in the event of problems
- K25 when and how to use remedial, supportive and / or prohibitive actions
- K26 the reasons why effective communication is important, and the methods used for communicating effectively

## Scope/range

1. agree the requirements for the demonstration with one of the following people:
  - 1.1 supervisor
  - 1.2 team leader
  - 1.3 health and safety officer
  - 1.4 manager
  - 1.5 head of department
  - 1.6 teacher or trainer
  
2. establish both of the following for the demonstration:
  - 2.1 scientific or technical methods and skills
  - 2.2 health and safety precautions plus six of the following:
    - 2.3 place for the demonstration
    - 2.4 start and finish time for the demonstration
    - 2.5 the number of learners/students
    - 2.6 equipment required
    - 2.7 services required (e.g. gas, electricity)
    - 2.8 materials required
    - 2.9 workplace procedures to be used
    - 2.10 consumables required
  
3. demonstrate methods and skills in one of the following locations:
  - 3.1 timetabled lessons
  - 3.2 other supervised events
  - 3.3 outside activities
  
4. record and communicate the details of the work done, to the appropriate people, using:
  - 4.1 verbal report plus one method from the following:
    - 4.2 written or typed report
    - 4.3 computer-based record
    - 4.4 specific workplace documentation
    - 4.5 electronic mail

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