

SEMLATA2-12 - H00C 04

Carry out simple scientific or technical tests using manual equipment



Overview

This unit covers the competences you need to carry out simple scientific or technical tests using manual equipment, in accordance with approved procedures and practices. You will be expected to select and use relevant knowledge, ideas, skills and procedures to complete well-defined tasks and address straightforward problems. You will be expected to complete tasks and procedures and exercise autonomy and judgement subject to overall direction or guidance. You will be required to work to the relevant workplace procedures, legislation and organisational policy, and to use good scientific or technical techniques and practices.

On completion of workplace activities, you will be required to show you have completed well-defined, generally routine tasks and can address straightforward problems, selecting and using the relevant scientific or technical skills and procedures. You will be expected to show you have identified, gathered and used relevant information to inform your actions and identify how effective these have been.

Your responsibilities will require you to comply with organisational policy and procedures for the scientific or technical activities undertaken, and to report any problems with the activities, materials or equipment that you cannot personally resolve, or that are outside your permitted authority, to the relevant people. You will work under a team leader, whilst taking responsibility for your own actions in the completion of tasks and procedures, whilst exercising a degree of autonomy and judgement. You will also be responsible for the quality and accuracy of the work that you carry out.

Your underpinning knowledge will provide a good understanding of scientific or technical facts, procedures and ideas to complete well-defined tasks and address straightforward problems in the workplace. You will have an understanding of the workplace process used, and its application, and will know about the scientific or technical equipment, materials and consumables in adequate depth to provide a sound background for carrying out the activities to the required specification. You will know how to interpret workplace information and ideas and be aware of the types of resources that are relevant to these scientific or technical activities.

You will understand the safety precautions required when carrying out the scientific or technical activities. You will be required to demonstrate safe working practices throughout, and will understand the responsibility you owe to yourself and others in the workplace.

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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 use safe practices and the appropriate personal protection equipment (PPE) when doing scientific or technical activities
- P3 obtain the appropriate equipment and materials for the manual tests required
- P4 conduct manual laboratory tests on samples in accordance with the correct procedures and techniques
- P5 record the results of manual tests in accordance with workplace procedures
- P6 dispose of waste items from manual laboratory tests in accordance with workplace procedures
- P7 return equipment and materials that can be used for future testing to the correct storage location
- P8 communicate the required information laboratory activities to authorised people in accordance with departmental and organisational procedures

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Knowledge and understanding

You need to know and understand:

Sector specific

- 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

You need to know and understand:

Organisation specific

- 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 lines of communication and responsibilities in your department, and their links with the rest of the organisation
- K7 the limits of your own authority and to whom you should report if you have problems that you cannot resolve

You need to know and understand:

Equipment/Process specific

- K8 the minimum size/volume of sample required for the scientific or technical tests conducted
- K9 the types of sample and container used for transport and scientific or technical testing
- K10 how to assess if a sample is suitable for analysis
- K11 how to use and take a reading from manual test kits used in the workplace
- K12 the procedure to be followed when samples do not match up with the test output specification or accompanying documentation
- K13 the procedure to be followed when a broken or leaking sample is identified in the workplace
- K14 the procedure to be followed if a hazardous or high risk sample was received in the workplace
- K15 the methods used for numbering and labelling samples in the workplace
- K16 the procedures for storing tested samples when archiving is required
- K17 the factors which might adversely affect the integrity of the sample during storage or transport

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Additional Information

Scope/range related to performance criteria

You must be able to:

1. carry out all of the following operations for manual equipment:
 - 1.1 transport samples in the workplace, and store them appropriately
 - 1.2 select a suitable work area for the manual tests
 - 1.3 select and set up the necessary equipment correctly
 - 1.4 use the necessary quantity of sample for the manual tests
 - 1.5 dispose of waste safely and correctly
 - 1.6 ensure that the test done meet the specification for the required quality and accuracy
2. use **one** of the following resources:
 - 2.1 materials
 - 2.2 utilities
3. check **two** of the following conditions for the scientific or technical test:
 - 3.1 health and safety environment
 - 3.2 time
 - 3.3 recording system
 - 3.4 cleanliness
 - 3.5 external influence giving rise to variations
4. record details of work activities, and communicate the details to the appropriate people, using:
 - 4.1 verbal reportplus **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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