

SEMLATA2-04 - H00G04

Carry out routine maintenance, cleaning and checking of scientific or technical equipment



Overview

This unit covers the competences you need to assist with the routine maintenance, cleaning and checking of scientific or technical equipment used, 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 confirm that the scientific or technical equipment is in a safe and usable condition, according to established procedures
- P4 identify and report any equipment faults accurately to the team leader
- P5 perform routine maintenance in accordance with manufacturers' instructions and relevant health and safety legislation
- P6 confirm the correct operation and operating tolerances of the scientific or technical equipment, in accordance with established procedures
- P7 record details of maintenance and operation checks, according to departmental procedures
- P8 test the equipment to confirm that it functions correctly, and record the equipment status
- P9 communicate the required information about the work done, 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 manufacturers' specifications and recommendations for the maintenance and calibration of the scientific or technical equipment
- K9 the methods used for visually checking, and cleaning, of scientific or technical equipment
- K10 the different types, condition and quantities of consumables required for the range of scientific or technical equipment maintained
- K11 the methods for maintaining personal health and safety during the maintenance of equipment
- K12 how to check that the scientific or technical equipment is working correctly and in accordance with the manufacturer's specifications
- K13 the common types of equipment fault, and how these must be dealt with
- K14 the department or person to whom equipment faults should be reported
- K15 the methods used for keeping records of the maintenance, cleaning and calibration of scientific or technical equipment, and why this is important
- K16 the procedures for disposal of any waste produced or of any equipment beyond repair

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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:
 - 1.1 adhere to procedures for compliance with risk assessment, COSHH, use of personal protective equipment and other relevant safety regulations
 - 1.2 ensure the safe isolation of laboratory equipment (such as electrical and fluids supply)
 - 1.3 follow manufacturers' instructions, drawings and procedures for routine maintenance
 - 1.4 check that the scientific or technical tools and equipment used are in a safe and usable condition
 - 1.5 ensure that the equipment is kept free from foreign objects, dirt or other contamination
 - 1.6 carry out auditory and visual checks on the operation of scientific or technical equipment
 - 1.7 confirm that the scientific or technical equipment is operating correctly and is ready for use
 - 1.8 return all tools, equipment and waste to the correct locations on completion of the maintenance activities
 - 1.9 ensure that accurate, complete and legible records are kept of the maintenance activities
2. carry out maintenance and cleaning on **two** of the following scientific or technical categories:
 - 2.1 biological equipment and/or instruments
 - 2.2 chemical equipment and/or instruments
 - 2.3 electronic equipment and/or instruments
 - 2.4 weighing and measuring equipment and/or instruments
 - 2.5 information technology equipment
 - 2.6 engineering machines, equipment and/or instruments
 - 2.7 other technical equipment or instruments
3. record and communicate details of work done, to the appropriate people, using:
 - 3.1 verbal reportplus **one** method from the following:
 - 3.2 written or typed report
 - 3.3 computer-based record
 - 3.4 specific workplace documentation
 - 3.5 electronic mail

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