



Australian Government

MSL974034 Perform biological procedures

Release: 1

MSL974034 Perform biological procedures

Modification History

Release 1. Supersedes and equivalent to MSL974021 Perform biological procedures. Element 3 removed as it was essentially knowledge. Minor changes to Performance Criteria. Clarification around allowing choice of multi-step staining method in Performance Evidence. Addition of test procedures and other minor changes to Knowledge Evidence.

Application

This unit of competency describes the skills and knowledge to interpret work requirements, prepare samples, and perform routine biological procedures. These procedures may involve several steps and are used to classify organisms or biologically active compounds by analysing their biological and/or chemical characteristics. This unit includes interpretation of results and troubleshooting obvious departures from standard procedures.

This unit of competency applies to technical assistants working in the biomedical, environmental, biotechnology and education industry sectors.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil.

Competency Field

Testing

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Interpret and schedule work requirements	1.1 Review work request to identify samples, required procedures and materials equipment involved 1.2 Identify hazards and workplace control measures associated with the sample, preparation methods, reagents and/or equipment 1.3 Plan parallel work sequences to optimise throughput of multiple sets of samples

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
2. Receive and prepare biological samples	2.1 Register samples in accordance with workplace procedures, recording details that allow accurate tracking and chain of custody traceable to employee 2.2 Match sample provided to accompanying documentation and report any discrepancies in accordance with workplace procedures 2.3 Prepare samples in accordance with testing requirements
3. Perform biological techniques on samples	3.1 Set up and use equipment and reagents in accordance with the method 3.2 Perform techniques in accordance with the standard operating procedures
4. Maintain a safe work environment	4.1 Use established safe work practices and personal protective equipment (PPE) to ensure personal safety and that of other laboratory personnel 4.2 Safely dispose of biohazardous wastes 4.3 Clean, care for and store equipment and reagents in accordance with workplace procedures
5. Maintain laboratory records	5.1 Record data and results in accordance with workplace procedures 5.2 Follow procedures to support traceability of sample from receipt to reporting of results

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and is equivalent to MSL974021 Perform biological procedures.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>

Assessment Requirements for MSL974034 Perform biological procedures

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Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- safely and accurately performed 3 different multistep biological procedures, using at least 2 different techniques from the following list:
 - multistep staining, either:
 - haematological
 - histological
 - microbiological
 - preparation and examination of samples to demonstrate mitosis microscopically
 - preparation and enumeration of microscopic samples
 - colorimetry
 - spectrophotometry
 - chromatography
 - electrophoresis
 - electrochemistry
 - multistep molecular technique
 - multistep immunological technique.
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Knowledge Evidence

There must be evidence the candidate has knowledge of:

- biological principles and concepts underpinning tests and procedures associated with job role, including:
- basic classification and taxonomy of organisms including prokaryotes and eukaryotes, bacteria, viruses, fungi, plants, animals, parasites and prions
- basic structure and function of a plant and/or animal cell and the respective organelles
- cell membrane activity, including diffusion (passive, facilitated and active), osmosis, tonicity
- phases of the cell cycle including phases of mitosis

- mendelian genetics including inheritance, meiosis, karyotypes, dominant, recessive, codominant and sex-linked traits, genotypes, phenotypes
- basic structure and function of organic molecules including carbohydrates, lipids,
- basic role of biologically significant ions, including calcium, iron, magnesium, sodium, potassium, chloride and phosphate
- purpose of procedures implemented (why they are used and what they demonstrate)
- importance and appropriate use of controls and certified reference materials
- legal, ethical and work health and safety (WHS) requirements specific to the work task.
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Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipped with appropriate laboratory equipment, safety equipment, reagents, materials and biological samples
- workplace procedures.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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