# Knowledge assessment

**Assessment event 1 of 3**

# Trainer & Assessor Marking Guide

## Criteria

### Unit code, name and release number

MSL953003 - Receive and prepare samples for testing (1)

### Qualification/Course code, name and release number

MSL40118 - Certificate IV in Laboratory Techniques (1)

MSL30118 - Certificate III in Laboratory Skills (1)

\*\*Amend the qualification box before distributing to the student. The information here should only contain the qualification the student is enrolled in\*\*

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For queries, please contact:

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This assessment can be found in the: [Learning Bank](https://share.tafensw.edu.au/share/access/searching.do?doc=%3Cxml%2F%3E&in=P7ac4831b-430a-4b8d-8b56-f7b32ed5b9cf&q=&type=standard&sort=rank&dr=AFTER)

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## Assessment instructions

Table 1 Assessment instructions

| Assessment details | Instructions |
| --- | --- |
| **Instructions for the trainer and assessor** | This is a written assessment and will be assessing the student on their knowledge of the unit.  This assessment is in 3 parts and an Assessment Feedback form is provided at the end of the student facing document:   1. Multiple choice questions 2. True or False questions 3. Short answer questions   Model answers, sample responses or a criteria for each question are provided below.  Use these to support your judgement when determining a satisfactory result.  The student’s response to each question must contain the information indicated in this marking guide in order for their response to be correct. However, if a student provides information other than indicated below, and in the professional opinion of the assessor it is appropriate and meets the intent of the question, it may be considered correct.  The assessment feedback page must be signed by both the student and the assessor so the student displays that they have received, understood and accepted the feedback.  Complete the assessment feedback to the student and ensure you have taken a copy of the assessment prior to it being returned to the student.  Ensure the students name appears on the bottom of each page of the submitted assessment. |
| **About this marking guide** | The student’s response to each question must contain the information indicated in this marking guide in order for their response to be correct.  All questions must be answered correctly in order to satisfactorily complete this assessment event.  Assessors will need to make a judgement call as to whether each answer/response meets the criteria based upon the:   * Rules of Evidence:   + Validity – does the answer address the assessment question and does the evidence reflect the four dimensions of competency?   + Sufficiency – is the answer sufficient in terms of length and depth?   + Currency – has the work been done so recently as to be current?   + Authenticity – is this work the student’s own authentic work? * Principles of Assessment:   + Fairness – individual student’s needs are considered in the assessment process   + Flexibility – assessment is flexible to the individual student   + Validity – any assessment decision is justified, based on the evidence of performance of the student   + Reliability – evidence presented for assessment is consistently interpreted and assessment results are comparable irrespective of the assessor conducting the assessment * Dimensions of competency   + Task skills   + Task Management Skills   + Contingency Planning Skills   + Job Role Environment Skills |
| **Student must provide** | Pens |
| **Assessor must provide** | This assessment task, a suitable classroom for an exam and a timer |
| **Time allowed** | 1.5 hours |

## Part 1: Multiple choice

Read the question and each answer carefully. Put an X in the table next to your chosen answer.

1. How do laboratories make sure that all samples and documentation can be traced at any point in time?

Table 2 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. Australian and International Standards |  |
| 1. NATA accreditation |  |
| 1. LIMS, COCs and quality management |  |
| 1. All of the above | x |

1. What system is used to keep records of samples and testing safe and secure in a testing environment?

Table 3 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. The Quality Management System |  |
| 1. NATA accreditation |  |
| 1. The Laboratory Information System | x |
| 1. Australian Standards |  |

1. Why is it important to maintain customer confidentiality?

Table 4 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. To ensure your customer’s right to privacy |  |
| 1. To meet your workplace’s legislative requirements |  |
| 1. To protect your customer’s business interests |  |
| 1. All of the above | x |

1. If a customer comes in without a request form, you should:

Table 5 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| a) send them away |  |
| b) check to see if they have an ongoing request |  |
| c) report this to your supervisor as you might be required to contact the doctor to request a copy |  |
| d) b) and c) | x |

1. If the paperwork accompanying a sample is incorrect, what should you do?

Table 6 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. Tell your customer to go away and come back when it is fixed |  |
| 1. Wait until your customer leaves and fix it yourself |  |
| 1. Ask your supervisor for assistance | x |
| 1. None of the above |  |

1. Why is it important to maintain a clean workstation?

Table 7 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. So that you don’t get into trouble from your supervisor |  |
| 1. To make sure customers are impressed with your workplace |  |
| 1. To ensure that you are safe while performing your duties | x |
| 1. So that you can see the paperwork you are using at all times |  |

1. If you are receiving samples and one container is broken and leaking, what should you do?

Table 8 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. Report this immediately to your supervisor and the client |  |
| 1. Pick up the container in bare hands and throw it away |  |
| 1. Wear appropriate Personal Protective Equipment (PPE) and clean up the mess |  |
| 1. a) and c) | x |

1. Why should you minimise the generation of wastes and environmental impacts?

Table 9 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. Because it’s a workplace policy |  |
| 1. It is a legal obligation in all workplaces |  |
| 1. To reduce the impact of human activities on the natural environment | x |
| 1. To reduce the impact of human activities on other workplaces |  |

1. When disposing of chemical or biological waste in the laboratory you should:

Table 10 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. never pour it down the drain or in the bin |  |
| 1. put it in the appropriate receptacle |  |
| 1. store it in unlabelled containers in the fume cupboard |  |
| 1. a) and b) | x |

1. Why would you group samples with similar testing requirements?

Table 11 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. To create efficiency in the workplace |  |
| 1. To save time and reduce the number of QCs and standards required |  |
| 1. To reduce the amount of waste created |  |
| 1. All of the above | x |

## Part 2: True or false

Read the question and then write **True** or **False** in the space provided.

Table 12 True or false

| Question | Write *True* or *False* |
| --- | --- |
| 1. Personal protective equipment (PPE) is not required in all laboratories | F |
| 2. Customers should be told what to do and when to do it | F |
| 3. It is important to provide customers with accurate information that is authorised for release | T |
| 4. It is okay for me to talk about my customer’s samples and results with my friends | F |
| 5. Workplace procedures for environmental samples require samples to be left on the bench until testing | F |
| 6. Chemical and environmental samples that have been tested should be stored for at least 1 month according to workplace procedures | T |
| 7. Pathology samples that have been tested have a variety of storage conditions, according to workplace and regulatory requirements | T |
| 8. Biological samples require some form of preservation before storage, according to workplace procedures | T |

## Part 3: Short answer

Read the question carefully. The word count is at the end of each question.

1. When completing a Chain of Custody (CoC) for a customer, what are the four key sections you should fill in (4 words)?

Date, time, name and signature

1. When receiving samples, what are the steps taken prior to entering them into the LIMS (5 to 10 words)?

Check against CoC

Confirm correctly identified and correct number of containers

1. What is the key thing you should do before entering any laboratory (1 to 5 words)?

Put on appropriate PPE

1. List five common non-conformances that a laboratory technician might find at the sample receipt stage (5 to 15 words):

Answers may include any of the following, but not limited to:

Samples: samples missing, not labelled, not enough sample for test, sample not dated/technician identified/illegible

CoCs: missing signatures/contact details, testing regime not identified, illegible, samples missing

1. Give an example of when you would use each of these processes:
   1. Chemical separation (3 to 10 words)

Answers may include any of the following, but not limited to:

To remove chloride from water before testing for sulfate

Use EDTA to stop blood coagulating

* 1. Sub-sampling (3 to 10 words)

Answers may include any of the following, but not limited to:

To send sample to another laboratory for testing

To separate into testing batches

To separate for different procedures

To remove excess (i.e. pathology, environmental)

* 1. Preservation (3 to 10 words)

Answers may include any of the following, but not limited to:

To maintain sample integrity

To ensure the sample reflects the source as possible

To process the tissues before analysis

1. What is the purpose of workplace procedures (5 to 15 words)?

To ensure workers are safe and that all samples are treated and tested in the same manner. Procedures ensure quality of information and consistency in work practice

1. Give three examples of processes in the laboratory that are controlled by workplace procedures (3 to 10 words):

Answers may include any of the following, but not limited to:

Sample receipt Work health and safety Waste disposal

Procedures Biological materials storage

Forms Chemical storage

Laboratory information management system

1. List and describe three aspects of laboratory work that are influenced by the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) (5 to 25 words):

Answers may include any of the following, but not limited to:

Chemical storage and handling Safety data sheets

How to safely store and handle chemicals SDS

What details are on SDS WHS

What formatting must be used for SDS Work health and safety

How to safely manage chemicals in the workplace, controls etc.

Workplace procedures

1. Explain three key principles of labelling chemicals in the laboratory as set out in the GHS (3 to 10 words):

Any three of:

Consistency in chemical labelling globally

Hazard and risk statements

Pictograms

First aid

Firefighting

Storage

Packaging measures

1. Why is it important to maintain effective customer relations (5 to 20 words)?

To keep the customer satisfied with the service and outcomes provided by the laboratory and ensure repeat business

1. Why is it important to store samples correctly and maintain their integrity (5 to 15 words)?

To have the most accurate results possible for the given sample

1. How do you maintain the integrity of a sample you need to sub-sample prior to analysis (10 to 30 words)?

By mixing the contents prior to sub-sampling, to make sure that the sample is as close to the original mix as possible

By using clean and uncontaminated equipment and containers

1. List four items of PPE required in a laboratory and explain how they keep you safe (10 to 50 words):

Answers may include any of the following, but not limited to:

Glasses – stop chemical splashes in eyes

Safety boots – stop chemicals from getting onto bare skin and protect feet from equipment falling on them

Lab coat – protects clothes from laboratory contamination

Long sleeves/pants – protect skin from spills

Mask – protection from inhalation of chemicals/biological materials

1. Why is regularly decontaminating equipment and workstations an essential part of Workplace Health and Safety (WHS) (5 to 20 words)?

Answers may include any of the following, but not limited to:

To make sure you don’t injure yourself or others on unknown liquids or solids on the workbench

1. Explain what is meant by traceability in the workplace (5 to 30 words):

That all samples belonging to a specific client and chain of custody have a job number and can be located by that number at any point within the receipt, analysis and reporting process

1. Give three examples of measures that keep client information secure in a laboratory (3 to 10 words):

Answers may include any of the following, but not limited to:

LIMS

Laboratory information management system

Job IDs

Sample IDs

Locked filing cabinets

Secure computer systems

Authorised users

1. Name one laboratory system that is essential for ensuring that laboratory data and records are secure. Explain how this system keeps data and records secure (5 to 40 words):

Name of system: LIMS / laboratory information management system

Explain how: packages all information regarding the client, and each job they deliver to the laboratory. The system is accessed by individual user IDs and their actions can be traced.

1. Fill in the table below, listing the preservation techniques and pre-treatment required. Note: not all tests require preservation or pre-treatment (1 to 5 words per cell):

Table 13 short answer

|  |  |  |  |
| --- | --- | --- | --- |
| Sample type | Test | Preservation | Pre-treatment |
| Example – water | Oil and grease | Sodium bisulphate | None |
| Water | Total metals | Nitric acid 50% | Filtration |
| Example – solids | Dust deposition | Copper sulfate | Removal of water |
| Solids | Total nitrogen | Refrigeration | None |
| Example – food | Phosphate determination | None | Molybdate, hydroquinone, and carbonate sulfite reagent |
| Food | Yeast and mould | Refrigeration | None |
| Example – Pathology | Full blood count | EDTA | None |
|  | Cerebrospinal fluid (CSF) | Must be received within 1 hour | None |

1. Fill in the table below, listing the hazards that may be associated with the samples below (2 to 10 words per cell):

Table 14 short answer

|  |  |  |
| --- | --- | --- |
| Sample type | Test | Potential hazard |
| Environmental liquid | Total metals | Acid preservative burns |
| Blood | NA | Risk of biological contamination |
| Raw sewage | Ammonia | Risk of biological contamination |
| Weet-bix | Moisture content | Dust inhalation |
| Compost | NPK | Dust inhalation, microbe inhalation |

1. In the table below, write down what you would use the procedures for (2 to 10 words per cell):

Table 15 short answer

|  |  |
| --- | --- |
| Procedure | What would you use this procedure for? |
| Process Control | To manage the daily processes occurring in the laboratory |
| Water testing | To test a water sample for a specific analyte |
| LIMS | To manage samples receipt, testing, reporting and customer information |
| Preservation | To maintain the integrity of samples |

1. In the table below, write down what you would use the equipment for (2 to 10 words per cell):

Table 16 short answer

|  |  |
| --- | --- |
| Equipment | What would you use this equipment for? |
| Computer | To enter data into LIMS |
| Digital scales | To accurately weigh samples |
| Centrifuge | To separate blood |
| Air sampler | To sample environmental dusts |
| Vacuum storage | To keep reagents dry |
| Sintered funnel | To filter water samples for testing |

1. For the listed items below, write yes for those that relate directly to environmental sustainability, and no for the rest (1 word per cell):

Table 17 short answer

|  |  |
| --- | --- |
| Item | Is this directly related to environmental sustainability? Write yes or no |
| Putting waste into the correct waste receptacles | Y |
| Cleaning your workstation regularly | N |
| Printing on both sides of the page | Y |
| Sending chemical waste to be recycled rather than disposed | Y |
| Putting biological matter into a yellow hazard bin | Y |
| Using air pumps instead of water pumps for vacuum suction | Y |
| Receiving and preparing samples for testing | N |

1. For the items listed below, write yes for the answers that relate to maintaining sample integrity during transportation, and no for the rest (1 word per cell):

Table 18 short answer

|  |  |
| --- | --- |
| Item | Is this related to sample integrity during storage and transport? (y/n) |
| Bubble wrapping sample bottles | Y |
| Taping the esky shut | Y |
| Packing ice into bags to avoid leakage | Y |
| Putting samples into the refrigerator at the lab | N |
| Completing a chain of custody or pathology request form | Y |
| Ensuring the paperwork matches the sample | Y |
| Completing analysis in the field | N |