# Skills assessment 3

**Assessment event 4 of 5**

# Trainer & Assessor Marking Guide

## Criteria

### Unit code, name and release number

MSL973019 - Perform microscopic examination (1)

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

MSL50118 - Diploma of Laboratory Technology (1)

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:

Innovative Manufacturing, Robotics and Science SkillsPoint

Hamilton Campus

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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 skill based assessment and will be assessing the student on their ability to demonstrate skills required in the unit.  This assessment is in 5 parts:   1. Gram stain 2. Cheek cell slide 3. Onion cell slide 4. Observation Checklist 5. Assessment feedback   Students should have correct Köhler illumination at each objective to pass this task.  If student does not have the correct technique, you may question them to determine where they went wrong. If they come up with the answer themselves, you may use your expert judgement to determine whether or not they are satisfactory in this assessment.  Each student prepares three slides per section. Only one slide from each section needs to meet the marking criteria. The preparation of three slides is to give the student the opportunity to ensure that they have one clear slide for marking.  Model answers, sample responses or a criteria for each task or activity is 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.  Complete the Observation Checklist for each task and activity and the Assessment Feedback to the student. Ensure you have taken a copy of the assessment prior to it being returned to the student.  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.  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 task or activity must contain the criteria indicated in this marking guide in order for their response to be correct.  All tasks and activities must be completed correctly in order to satisfactorily complete this assessment event.  Assessors will need to make a judgement call as to whether each response meets the criteria based upon the:   * Rules of Evidence:   + Validity – does the answer address the skill required and does the evidence reflect the four dimensions of competency?   + Sufficiency – is the task or activity 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, appropriate clothing – long pants and sleeves, closed shoes and long hair tied back.  Personal protective equipment (PPE) – safety glasses and lab coat |
| **Assessor must provide** | Laboratory  Equipment and reagents listed in the following documents, as well as a copy of each per person attending the assessment event:   1. Standard operating procedure *M405: Specimen preparation and mounting* 2. Standard operating procedure *M403: Compound light microscopy* 3. Form *F406: Organelle and organism ID worksheet*   Please note that standard operating procedures and forms will be available on Learning Bank at the start of 2020. Contact IMRS SkillsPoint if you require a copy earlier. |
| **Due date/time allowed/venue** | TBA / 3 hours / microbiology laboratory |

## Part 1: Gram stain

To complete this part of the assessment, the student is required to participate in a practical demonstration of how to complete a task or activity.

These practicals will be observed by you, or the student can digitally record them and submit them as evidence.

The student’s responses will be used as part of the overall evidence requirements of the unit.

You should refer to the list of criteria provided in the Observation Checklist to understand what skills the student is required to demonstrate in this section of the assessment. This Checklist outlines the Performance Criteria, Performance Evidence and Assessment Conditions you will be marking the student on.

Once completed the student is required to submit this assessment and the tasks and activities required to be completed to you for marking.

**Task A: Gram stain slides and view under Köhler illumination**

Your task is to successfully make three gram stain slides and view them under Köhler illumination.

**To complete this task, you will be provided:**

* Standard operating procedure *M405: Specimen preparation and mounting*
* Standard operating procedure *M403: Compound light microscopy*
* Form *F406: Organelle and organism ID worksheet*
* The materials, reagents and equipment required to complete this task

**Step 1: Read and review**

* 1. Read sections 7.4 and 7.5 of *M405: Specimen preparation and mounting*
  2. Read sections 7.4 and 7.6 of *M403: Compound light microscopy*
  3. Read all of *F406: Organelle and organism ID worksheet*
  4. Put on the correct PPE

**Step 2: Complete task**

YOU MUST MAKE TRIPLICATE SLIDES

* 1. Follow *M405: Specimen preparation and mounting*, section 7.4 and heat fix the smear on each slide
  2. Now complete section 7.5 of *M405: Specimen preparation and mounting*, and gram stain each slide
  3. Your slide is now ready for viewing
  4. Swap to *M403: Compound light microscopy* and follow section 7.4 to achieve Köhler illumination at 10x – choose your best slide out of the three

**STOP!** Your assessor needs to observe your Köhler illumination before you proceed further.

* 1. Use *F406: Organelle and organism ID worksheet* to identify the characteristics of the organism.
  2. Follow *M403: Compound light microscopy* section 7.6 to achieve Köhler illumination at 100x

**STOP!** Your assessor needs to observe your Köhler illumination before you proceed further.

## Part 2: Cheek cell slide

To complete this part of the assessment, the student is required to participate in a practical demonstration of how to complete a task or activity.

These practicals will be observed by you, or the student can digitally record them and submit them as evidence.

The student’s responses will be used as part of the overall evidence requirements of the unit.

You should refer to the list of criteria provided in the Observation Checklist to understand what skills the student is required to demonstrate in this section of the assessment. This Checklist outlines the Performance Criteria, Performance Evidence and Assessment Conditions you will be marking the student on.

Once completed the student is required to submit this assessment and the tasks and activities required to be completed to you for marking.

**Task A: View cell slides under Köhler illumination**

Your task is to successfully make three cheek cell slides and view them under Köhler illumination.

**To complete this task, you will be provided:**

* Standard operating procedure *M405: Specimen preparation and mounting*
* Standard operating procedure *M403: Compound light microscopy*
* Form *F406: Organelle and organism ID worksheet*
* The materials, reagents and equipment required to complete this task

**Step 1: Review**

* 1. Read section 7.6 of *M405: Specimen preparation and mounting*
  2. Read sections 7.4 and 7.5 of *M403: Compound light microscopy*

**Step 2: Complete task**

YOU MUST MAKE TRIPLICATE SLIDES

* 1. Follow all steps in section 7.6 of *M405: Specimen preparation and mounting*
  2. Open *M403: Compound light microscopy* and follow section 7.4 achieve Köhler illumination at 10x – choose your best slide out of the three

**STOP!** Your assessor needs to observe your Köhler illumination before you proceed further.

* 1. Follow *M403: Compound light microscopy* section 7.5 to achieve Köhler illumination at 40x

**STOP!** Your assessor needs to observe your Köhler illumination before you proceed further.

* 1. Use *F406: Organelle and organism ID worksheet* to identify the characteristics of the cell.

## Part 3: Onion cell slide

To complete this part of the assessment, the student is required to participate in a practical demonstration of how to complete a task or activity.

These practicals will be observed by you, or the student can digitally record them and submit them as evidence.

The student’s responses will be used as part of the overall evidence requirements of the unit.

You should refer to the list of criteria provided in the Observation Checklist to understand what skills the student is required to demonstrate in this section of the assessment. This Checklist outlines the Performance Criteria, Performance Evidence and Assessment Conditions you will be marking the student on.

Once completed the student is required to submit this assessment and the tasks and activities required to be completed to you for marking.

**Task A: View onion slide cells under Köhler illumination**

Your task is to successfully make three onion cell slides and view them under Köhler illumination.

**To complete this task, you will be provided:**

* Standard operating procedure *M405: Specimen preparation and mounting*
* Standard operating procedure *M403: Compound light microscopy*
* Form *F406: Organelle and organism ID worksheet*
* The materials, reagents and equipment required to complete this task

**Step 1: Review**

* 1. Read section 7.7 of *M405: Specimen preparation and mounting*
  2. Read sections 7.4, 7.5 and 7.6 of *M403: Compound light microscopy*

**Step 2: Complete task**

YOU MUST MAKE TRIPLICATE SLIDES

* 1. Follow all steps in section 7.7 of *M405: Specimen preparation and mounting*
  2. Open *M403: Compound light microscopy* and follow sections 7.4 and 7.5 achieve Köhler illumination at 40x – choose your best slide out of the three

**STOP!** Your assessor needs to observe your Köhler illumination before you proceed further.

* 1. Follow *M403: Compound light microscopy* section 7.6 to achieve Köhler illumination at 100x

**STOP!** Your assessor needs to observe your Köhler illumination before you proceed further.

* 1. Use *F406: Organelle and organism ID worksheet* to identify the characteristics of the cell.
  2. Follow section 7.8 of *M405: Specimen preparation and mounting* to decontaminate your workstation
  3. Place all rubbish into correct bins and biohazard bags, and recyclables into steriliser buckets

## Part 4: Observation Checklist

The Observation Checklist will be used by you to mark the students’ performance in any of the previous three event types. Use this Checklist to understand what skills the student is required to demonstrate in this section of the assessment. This Checklist outlines the Performance Criteria, Performance Evidence and Assessment Conditions you will be marking the student on. All the criteria must be met. The student’s demonstration will be used as part of the overall evidence requirements of the unit. You may ask questions while the demonstration is taking place or if appropriate directly after the task/activity has been completed.

Table 3 Observation Checklist

| Item # | Observation | S | U/S | Assessor Comments  (Describe the student’s ability in demonstrating the required skills and knowledge, including recording any questions asked and the student responses) |
| --- | --- | --- | --- | --- |
| 1 | Student is wearing the correct PPE |  |  | Student is wearing safety glasses, a lab coat and long pants and sleeves, hair tied back. |
| 2 | A heat fixed smear and gram stain has been completed on triplicate slides |  |  | Student has followed *M405: Specimen preparation and mounting*, section 7.4 and 7.5 and produced a slide with a monolayer of cells. |
| 3 | Wet mount – cheek cell |  |  | Student has followed *M405: Specimen preparation and mounting*, section 7.6 and produced a slide with a monolayer of cells.  The stain is correctly applied and the cells are clearly visible.  The slide contains whole undamaged cells. |
| 4 | Wet mount – onion cell |  |  | Student has followed *M405: Specimen preparation and mounting*, section 7.7 and produced a slide with a monolayer of cells.  The stain is correctly applied and the cells are clearly visible.  The slide contains whole undamaged cells. |
| 5 | **Köhler illumination**  The following must be observed by the assessor:  Gram stain – 10x and 100x  Cheek cell – 10x and 40x  Onion cell – 40x and 100x |  |  | Student has correctly illuminated the slide, as per *M403 – Compound light microscopy*, sections 7.4, 7.5 and 7.6.  For all objectives, the student ensured that the:   1. Slide and coverslip clean 2. Specimen centred and focussed 3. Condenser focussed and adjusted 4. Condenser centred 5. Field iris diaphragm adjusted   For the 100x objective, the student made sure that the immersion oil was applied correctly |
| 6 | **Organelle and organism ID worksheet:**  Gram stain  Cheek cell  Onion cell |  |  | Worksheet is completed as per benchmark response:  MSL973019\_AE\_MG\_Sk\_4of5\_SR1  MSL973019\_AE\_MG\_Sk\_4of5\_SR2  MSL973019\_AE\_MG\_Sk\_4of5\_SR3 |
| 7 | **Housekeeping** |  |  | Student correctly disposed of rubbish and biohazardous wastes and also placed recyclables into sterilising bucket. |