# Knowledge Assessment

**Assessment event 1 of 2**

# Trainer & Assessor Marking Guide

## Criteria

### Unit code, name and release number

MSL913003 - Communicate with other people (1)

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

MSL30118 - Certificate III in Laboratory Skills (1)

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For queries, please contact:

Innovative Manufacturing, Robotics and Science SkillsPoint

Hamilton Campus

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RTO Provider Number 90003 | CRICOS Provider Code: 00591E

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. The Assessment is a take-home assessment.  This assessment has 4 parts and includes Assessment Feedback:   1. Multiple choice questions (Questions 1 – 15) 2. True or False questions (Questions 16 – 30) 3. Match the response (Question 31) 4. Short answer questions (Questions 32 – 45)   Model answers, sample responses or a criteria for each question are provided below. However, for some questions it will be important for the Assessor to have accessed the particular laboratory as some responses will rely on specific information from that laboratory. For example, lines of communication, laboratory mapping.  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 and Pencils |
| **Assessor must provide** | Assessment document*.* |
| **Time allowed** | 4 weeks from issue. |

## Part 1: Multiple choice (Questions 1 – 15)

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

1. Standard operating procedures (SOPs) for processes in the laboratory include information on:

Table 2 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. standard methods |  |
| 1. optimal instrumental parameters |  |
| 1. WHS guidelines |  |
| 1. all the above | X |

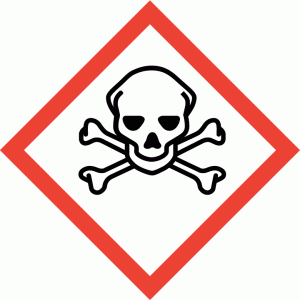
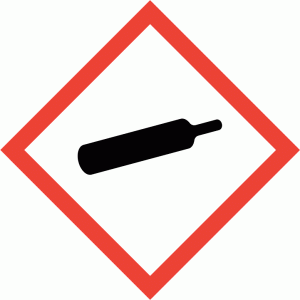
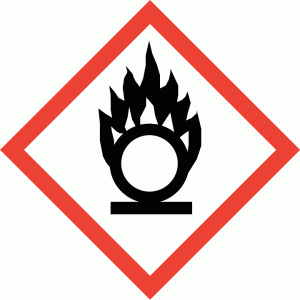
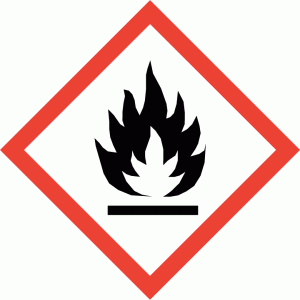
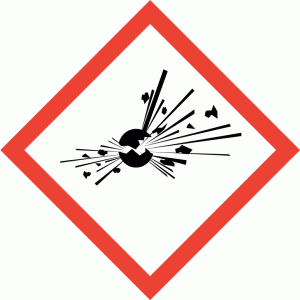
1. The most appropriate way to let someone know you are listening and interested in what they are saying is to:

Table 3 Multiple choice

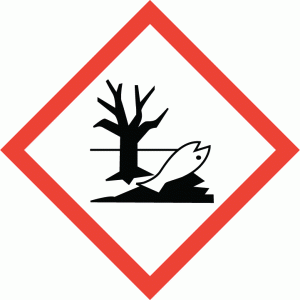
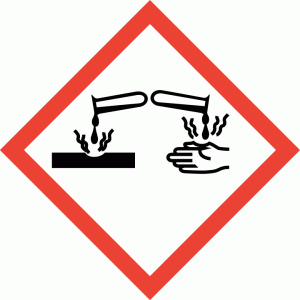
| Answer choices | Put X next to your answer |
| --- | --- |
| 1. look at the floor |  |
| 1. make eye contact | X |
| 1. send text messages while they speak |  |
| 1. talk to the person next to you |  |

1. There are 9 pictograms in the GHS classification system as shown below.

https://www.safeworkaustralia.gov.au/classifying-chemicals



**A B C D E**



**F G H I**

The four pictograms that represent, in order:

* the environment
* corrosive substances
* low-level toxicity
* flammable liquids

are:

Table 4 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. H, G, E, D |  |
| 1. G, A, B, I |  |
| 1. I, G, F, B | X |
| 1. C, G, D, H |  |

1. A SDS is a document that should accompany all chemicals found in a laboratory. A typical SDS would contain:

Table 5 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. hazard identification |  |
| 1. physical and chemical properties |  |
| 1. disposal procedures |  |
| 1. all of the above | X |

1. You find a document on the floor near your work area. The document has very sensitive information you do not have authority to view. You should:

Table 6 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. do nothing as it is not your problem |  |
| 1. notify your supervisor immediately without reading | X |
| 1. read the document |  |
| 1. make contact with the owner |  |

1. Which of the following is unlikely to be covered in an induction to a laboratory?

Table 7 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. PPE required to work in the laboratory |  |
| 1. Working hours |  |
| 1. How to operate the new equipment just delivered | X |
| 1. Evacuation procedures |  |

1. Good customer service aims to provide an excellent standard of service to both internal and external customers. This includes when receiving requests for information and providing a response. Which three of the following four would be examples of good customer service in your laboratory?

Table 8 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. Dealing with the enquiry promptly | X |
| 1. Passing on the request to the appropriate person | X |
| 1. Going on leave and not passing on the enquiry |  |
| 1. Redirecting the enquiry to the appropriate personnel | X |

1. Chemwatch is an online SDS database that can provide information related to:

Table 9 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. labelling required for chemicals |  |
| 1. chemical storage |  |
| 1. asset management |  |
| 1. all of the above | X |

1. The advantages of written requests for information rather than verbal requests include:

Table 10 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. a record exists of what was requested |  |
| 1. a record exist of who made the request |  |
| 1. there is a reduced chance of receiving incorrect information |  |
| 1. all the above | X |

1. When completing a Laboratory result sheet it is important to:

Table 11 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. use legible handwriting |  |
| 1. make numbers very clear |  |
| 1. ensure the information is correct |  |
| 1. all of the above | X |

1. If you needed to find out when a piece of laboratory equipment was last serviced you would read the:

Table 12 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. equipment and service logbook | X |
| 1. Standard Operating Procedure |  |
| 1. Chemical Safety Data Sheet |  |
| 1. operator manual |  |

1. You work as a technician in the research facility laboratory monitoring a fermentation tank to culture yeast strains. The fermentation needs to be monitored around the clock at regular intervals when running. This can sometimes take as long as three days. There are at least four shifts of technicians when a fermentation batch is running.

When it is your turn to start your shift, you need to get information about how the fermentation was going in the previous shift so you can continue on from this. You most likely would get this information from:

Table 13 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. scribbled notes made by the previous technician |  |
| 1. talking to the previous technician and asking questions only |  |
| 1. reading the shift logbook report only |  |
| 1. talking to the previous technician and reading the shift logbook | X |

1. Which is the best approach if the Senior technician’s son calls to leave a message?

Table 14 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. Tell him you are not a secretary and hang up |  |
| 1. Tell him that you will let her know he called |  |
| 1. Take a detailed message including contact number (he may not be home) and pass the message on | X |
| 1. Give the phone to someone else in the office |  |

1. Read the following statements from a team meeting and select what would be the most appropriate response from the team leader.

*Analyst 1: I need to use the computer close to the end of the month to produce the monthly staff newsletter. I can’t finish it if others are using the computer.*

*Administrative assistant: I need to use the computer for about an hour a day on Wednesdays to Fridays.*

*Analyst 2: Twice this week I have had to wait until after lunch to record test results because others have been using the computer.*

Table 15 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. Can’t you all stop complaining |  |
| 1. I am sure we can come up with a satisfactory solution | X |
| 1. Work it out amongst yourselves |  |
| 1. Tell me when you have it sorted |  |

The following question follows on from question 14.

1. Read the following statement from a team meeting and select what would be the most appropriate response from the team leader.

*Analyst 1: How about we organise a roster for computer usage?*

*Analyst 2: Let’s give it a try. We can meet again in two weeks to see if working.*

Table 16 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. It will not work, it has been tried before |  |
| 1. If you can’t work together you shouldn’t be here |  |
| 1. I could draw up a roster and put a copy next to the computer | X |
| 1. Just try and get on |  |

## Part 2: True or false (Questions 16 – 30)

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

Table 17 True or false

| Question | Write *True* or *False* |
| --- | --- |
| 1. When following laboratory instructions and a conflict is found between the written instructions and the WHS guidelines, the WHS guidelines should take precedence. | T |
| 1. Feedback is another term for asking a person to repeat their request. It is important to seek feedback if you are unclear about a request that has been made to you. | T |
| 1. To let a client know there will be a delay in sending through their analysis results, you should only send them a letter to explain. | F |
| 1. A SOP is a document that is used primarily to record laboratory incidents. | F |
| 1. NATA stands for National Association of Tasting Authorities. | F |
| 1. A laboratory is designed to produce results only, therefore there are no customers. | F |
| 1. Job, batch or barcodes can provide a way of tracking a sample from sample receipt through to final result. | T |
| 1. Shift handover reports occur only if there is a problem. | F |
| 1. Equipment manuals and service logs are important parts of the quality system that relates to maintenance of equipment. | T |
| 1. Laboratory protocols for communication may include protocols for answering the phone, sending emails and use of the internet. | T |
| 1. This action is ethical.   As a trusted laboratory technician you have full access to the laboratory records. One afternoon is particularly slow with little to work to be completed. You type your surname into the database and discover some information about a prominent politician with the same surname as yourself. | F |
| 1. This action is ethical.   You do blood tests for the Dig-it-up Mine Group. Dr Plumb sends in specimens and the results are returned to him. | T |
| 1. Confidentiality is not important in the laboratory. | F |
| 1. If you do not understand a test request slip it is alright to just do the tests you do understand. | F |
| 1. In order to ensure you fully understand a request, you should seek clarification by asking a question. | T |

## Part 3: Match the response (Question 31)

1. Match the type of laboratory document with its main intended function by writing the letter that matches the term in the box provided. The first one is done for you.

Table 18 Match the response

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Term |  | Answer choices |  |
| c. | Gives specific information on tasks required to be completed |  | Shift handover reports | **a.** |
| g | Allows for tracking of hours and details of work conducted in the testing laboratory by staff |  | Induction manuals | **b.** |
| b | Contains usual information for new staff members about their place of work and job responsibilities |  | Job (batch) cards | **c.** |
| a | Is a way of communicating information about what happened during a shift to a work colleague on the following shift |  | Information directories for staff | **d.** |
| f | Contains information on equipment and service requirements |  | Australian Standards and Codes of Practice | **e.** |
| d | Lists contacts and allows for easy retrieval of contact information |  | Equipment manuals and service logs | **f.** |
| h | Can be used to gather information for research, store data and retrieve data, as well as communicate via email |  | Timesheets and logbooks | **g.** |
| e | Can provide guidance on best practice in a testing laboratory |  | Online information systems | **h.** |

## Part 4: Short answer (Questions 32 – 45)

Read the question carefully. Your answer should be a maximum of 100 words for any question or part of a question. Where there is a table or list to complete the word count does not apply.

1. You are employed at AllSci as a laboratory assistant. The local council has contacted your laboratory with an enquiry for a lead (Pb) survey of a large parcel of land they want to release for a residential development. You are employed at AllSci laboratories as a laboratory assistant and have limited experience and little authority to answer this enquiry.

You will need to redirect this question to an appropriate person in your organisation. How would you do this?

1. Ask for as many details as you can and note these (contact person, contact number, position of the contact, email)
2. Record this information
3. Advise the person on the phone that you will have the relevant person contact them
4. Discuss with supervisor the most appropriate person for this enquiry
5. Pass on the information
6. Your laboratory AllSci is seeking NATA accreditation. One category they are seeking accreditation for relates to quantitative glassware. This means calibration of items such as pipettes and burettes. There are SOPs in your laboratory for this task. List 6 things that a SOP should contain.
7. Organisation name and logo
8. SOP Title
9. Document number
10. Name and signature of approver
11. Review dates
12. Purpose of SOP
13. Scope of SOP
14. Step-by-step procedure
15. Definitions
16. Revisions

Any six of the above would be appropriate

1. There is a lot of scientific and technical terminology in the job role of a laboratory technical officer which is a much more than just test tube and beaker.

Suggest six scientific or technical terminology terms that relate to the laboratory you work in and what they mean in your laboratory environment.

Terms provided by the student will be specific to the type of laboratory the student is familiar with.

PPE: Personal protective equipment e.g. safety glasses, enclosed shoes, lab coat

Balance: most non-scientific people call them scales

Spikes: used to validate a method

Blanks: used to provide a starting point for a reading from an instrument

Control: used to account for the surroundings in an analysis

Fume cupboard: exhaust fan in a space that can be isolated from the rest of the lab

Muffle furnace: often called an oven

SDS: Safety Data Sheet provides information regarding materials

Chemwatch: Data base of chemicals

Autoclave: used for sterilisation of equipment

1. Explain the general principles of equal opportunity, anti-discrimination and non-harassment as they apply to your laboratory.

In any laboratory there will be a hierarchy in work roles these would all be available to all employees depending on their level of training, experience etc, not with their gender.

The employer is not permitted to discriminate against any employee. Some allowances may be made for specific work conditions as they relate to particular religions. For instance working on a Saturday, or requiring specific periods for prayer.

Harassment in any form is not permitted. All employees should be treated with mutual respect.

1. The AllSci organisation has a multifaceted laboratory structure. The areas include:

* Mining
* Pathology
* Construction
* Food
* Analytical
* Environmental
* Research
* Production Process
* Specialised Training

Choose the area that fits a laboratory you are familiar with and list four services that are available:

Area: e.g. **Analytical** (\*suggested response for one of these)

Services: solution preparation

Sample analysis

Water sampling

Laboratory training

Monitoring

Area: e.g. **Environmental**

Services: monitoring water contamination

Monitoring Air pollutants

Field surveys

Soil contaminants

Noise pollution levels

1. Some examples of types of communication are shown below.

**Verbal Non verbal Visual Written**

*Face-to-face waving signs letters*

*Teleconferences facial expressions symbols reports*

*Interviews crossing your arms diagrams emails*

*Meetings frowning video instructions*

Complete the table below by identifying the most common from each group that is available in your laboratory. You can add additional types of communication that may suit the laboratory. One is shown as an example.

| Type of communication | At work | At home | How often each day |
| --- | --- | --- | --- |
| Email |  |  | 6 |
| A number are identified, the student only has to identify one from each group | | | |
| Teleconferences |  |  | 2 |
| Meetings |  |  | 3 |
| Facial expressions |  |  | 4 |
| Crossing your arms |  |  | 2 |
| Reports |  |  | 5 |
| Signs |  |  | 10 |
| Symbols |  |  | 8 |

1. You have commenced work at AllSci laboratories. A client has just contacted the laboratory by phone and you have taken their call. The client is enquiring about getting results for an asbestos survey done on a large warehouse they have just purchased. They seem to be in a hurry for the results and you do not know anything about this particular job request.
2. What should you initially tell the client?

This is not in your area but you are happy to take details and then provide the information to the most appropriate person or if they would prefer have them hold why you try and contact a person able to provide more information.

1. What steps(s) should you take to locate these results?

Write down as much information as you can including the contact details of the person on the phone

Check with supervisor to see where the enquiry should go.

Make contact with person advised by supervisor

Pass on the information

If it is within your level of authority obtain the results and pass to the client or at least determine a contact for the client.

1. Josephine has commenced work at AllSci Laboratories. She is one of 4 laboratory assistants in area Z. Each of these report to the same laboratory supervisor. There are three laboratory supervisors that report to the Laboratory Manager. The Laboratory Manager reports directly to the Quality Control Engineer, who reports to the Site Manager. Draw a flow chart that will provide a guide to Josephine as to how the lines of communication work.

Site Manager

Quality Control Manager

Laboratory Manager

Lab Supervisor

Lab Supervisor Z

Lab Supervisor

Josephine

Lab Assist 4

Lab Assist 2

Lab Assist 1

## You have arrived at your first job as a laboratory technician at AllSci. Your supervisor has provided you with your first job card with the following task:

**Job Card:**

*Perform pH on 20 water samples from customer VIVAWATER. The results are required in 30 minutes. Send the completed results via email to the supervisor.*

1. When you read this job card, you realise you do not have all the necessary information. What questions (at least 2) could you ask your supervisor to enable you to complete your task?

Assessor should use their professional judgement to consider all the responses provided by the student.

Which probe is available for use?

Is the instrument calibrated?

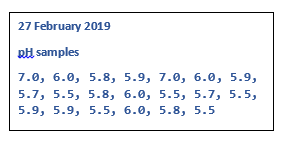
Do they require QC standards?

Are they just samples 1-20 is there any other code?

What is the email address of the supervisor?

1. You have completed all 20 tests from part ‘a’ and you need to email the results to your supervisor.

The following is taken from your laboratory record sheet for the 20 samples.



The results of tests are within the range pH range of 5.5 to 6.0 for 18 of the 20 samples. Samples 1 and 5 had values of 7.

Compose an email of your results (as they appear in the sample above) to your supervisor.

To: supervisor

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

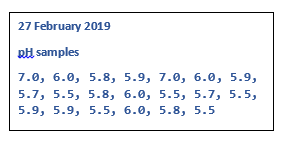
Cc: Lab technician

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Subject: \_\_\_\_\_\_\_pH \_results for VIVAWATER

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The results for the pH analysis are:



Regards

Student

1. Your supervisor has received your results and asked that you provide the details in a better form. He has suggested you use a table. Complete the table of results below and indicate why this is format would be more useful.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Date: Customer: | | | | | | | |
| **Sample ID** | **pH** | **Sample ID** | **pH** | **Sample ID** | **pH** | **Sample ID** | **pH** |
| 1 | 7.0 | 6 | 6.0 | 11 | 6.0 | 16 | 5.9 |
| 2 | 6.0 | 7 | 5.9 | 12 | 5.5 | 17 | 5.5 |
| 3 | 5.8 | 8 | 5.7 | 13 | 5.7 | 18 | 6.0 |
| 4 | 5.9 | 9 | 5.5 | 14 | 5.5 | 19 | 5.8 |
| 5 | 7.0 | 10 | 5.8 | 15 | 5.9 | 20 | 5.5 |

Easier to read numbers in a table

Sample number has been provided

1. Your task is to draw a map of your laboratory area. This map is for both safety and general information about where things are in the laboratory.
2. List at least four (4) safety items you should show on this map

List could include but is not limited to:

1. Emergency exits
2. Firefighting equipment/ emergency/hazard equipment
3. Eye wash/ safety shower
4. Specialised storage cupboards
5. First Aid Equipment or contact details
6. SDS
7. Safety alarms
8. PPE storage areas
9. Emergency stop button
10. List at least two (2) other items that would be applicable on your map

Student response can include, but is not limited to:

1. Services- water, electricity, gas, vacuum, purified water
2. Glassware storage
3. Chemical storage
4. Standard Procedures
5. WHS Personnel
6. Waste disposal
7. Fume cupboards
8. Draw a schematic map of your laboratory area and show the items identified in ‘a’ and ‘b’

This could be different for each participant

Each of the things noted in ‘a’ and ‘b’ should be located. (1-16)

6

15 14 5 13 15

1

12

16

11

9

2 / 7/ 9

8

2 / 7

4

4

3

1

10

15

Work

Bench

15

10

1. AllSci have just employed a new person who has recently arrived in Australia. They will be accompanying you on a field trip to collect important environmental samples for subsequent analysis. You will be sampling in mid-January. They have plenty of laboratory experience across many different laboratory types (micro-biology, analytical, mining and construction) but little knowledge of field work in Australia.

What safety information should you pass on to ensure they are safe on this field trip? (Identify 5 things)

Give them a safety briefing noting: (Responses could include, but are not limited to)

The expected environmental conditions and associated hazards.

Hot dry weather typical of January

Take lots of drinking water, insect repellent, sunscreen, hat, ensure enclosed shoes (particularly if there are snakes about)

Provide details of where they will be going (maps, GPS co-ordinates)

A requirement to be physically up to the task noting there may be lots of walking, climbing, hills etc.

Giving them contact details for emergencies

The type of work to be undertaken

1. AllSci, in seeking NATA registration, uses Australian Standard AS ISO/IEC 17025:18 General requirements for the competence of testing and calibration laboratories as a guideline for its operations.

6.2.4 of the standard, AS ISO/IEC 172025:2018, indicates that *the management of the laboratory shall communicate to personnel their duties, responsibilities and authorities.*

Briefly describe how this information could be conveyed to a new employee at AllSci and why the process should be ongoing.

An induction should provide the new employee with information regarding their employment, expectations, clarify communication pathways, provide information on qualify protocols importantly where to go or who to approach for these or clarification.

The process should be ongoing and as changes are made all employees should be informed of all changes. Changes may be updated in SOP’s, quality manuals etc but employees should still be informed of changes. This could be via on-going training, on-line information, toolbox talks or personal emails to employees and contained in induction manuals.

1. Provide an example of how you have/could:
2. Treat a colleague with equal opportunity

Talk to all colleagues politely and with respect and fairly

1. Be anti-discriminatory to a laboratory colleague

Not acting on pre-conceived concept of stereotypes or be accepting of others being discriminatory in the workplace

1. Respond to actions causing a colleague to be harassed in the laboratory

Without embarrassing the particular colleagues try to point out that their actions may be taken as harassment. Speak with the person that may feel harassed and offer them support.

1. Good interpersonal interactions are important for the functioning of a laboratory. These could include the ability to be courteous, empathetic, flexible and co-operative for example. Explain these principles and how you can relate these to yourself and fellow workers in the laboratory by your actions.

Student response could mention some of the following as they apply to their workplace:

Be honest for example if related to completion of a task, do not promise something you cannot manage.

Listen to what people tell you and ensure that you understand.

Fulfil your promises for requests made of you or by you.

Be helpful where you can and offer assistance if possible.

Be friendly and approachable.

Admit and rectify mistakes if they occur.

Seek advice when needed

Be willing to reprioritise tasks as changing work conditions/demands occur