# Topic Test 5 – Presenting data

## Criteria

### Unit code, name and release number

MSL924003 - Process and interpret data Release 1

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

MSL60118 Advanced Diploma of Laboratory Operations Release 1

MSL50118 Diploma of Laboratory Technology Release 1

MSL40118 Certificate IV in Laboratory Operations Release 1

MSL30118 Certificate III in Laboratory Skills Release 1

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

## Student details

### Student number

### Student name

## Assessment Declaration

* This assessment is my original work and no part of it has been copied from any other source except where due acknowledgement is made.
* No part of this assessment has been written for me by any other person except where such collaboration has been authorised by the assessor concerned.
* I understand that plagiarism is the presentation of the work, idea or creation of another person as though it is your own. Plagiarism occurs when the origin of the material used is not appropriately cited. No part of this assessment is plagiarised.

### Student signature and Date

Version: *1.0*

Date created: *1 November 2018*

Date modified: *23/04/2019*

For queries, please contact:

*Innovative Manufacturing, Robotics and Science Skills Point*

*TAFE 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 |
| --- | --- |
| **Assessment overview** | The objective of this assessment is to assess your knowledge in working with data from a range of sources. |
| **Assessment Event number** | 5 of 7 |
| **Instructions for this assessment** | This is a written assessment and it will be assessing you on your knowledge of the unit.  This assessment has 10 questions. It is open book and will be conducted as a supervised test.  Assessment feedback is provided at the end of this document. |
| **Submission instructions** | This assessment will be undertaken in the presence of a teacher or assessor. |
| **What do I need to do to achieve a satisfactory result?** | To achieve a satisfactory result for this assessment all questions must be answered correctly. |
| **What do I need to provide?** | You should bring a pen/s, calculator, ruler/straight edge and your Student Workbook. |
| **Due date/time allowed** | You will have one hour to complete this assessment. |
| **Assessment feedback, review or appeals** | Your assessor will provided feedback as set out in the Unit Assessment Guide. Appeals are addressed in accordance with Every Students Guide to Assessment. |

## Short answer

The instructions and the criteria in the tasks and activities below will be used by the assessor to determine whether the tasks and activities have been satisfactorily completed. Use these instructions and criteria to ensure you demonstrate the required knowledge.

1. Explain the *difference* between a *plot*, a *chart* and a *graph*.

Answer correct  Yes  No

1. Provide an *example* of the types of data that you would use the following graphs to display;
   1. Bar or column chart

Answer correct  Yes  No

* 1. Line graph

Answer correct  Yes  No

* 1. Scatter plot

Answer correct  Yes  No

* 1. Pie chart

Answer correct  Yes  No

1. Why is it essential that graphs have a title and labelled axes?

Answer correct  Yes  No

1. What must a graph have in order to be considered ‘honest’?

Answer correct  Yes  No

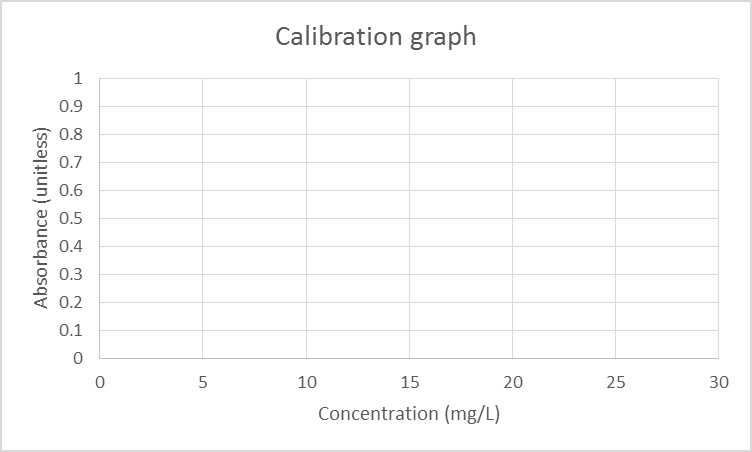
1. Identify and list three ways that data can be presented/reported.

Answer correct  Yes  No

1. The following data is for a calibration graph.
   1. Plot the following data on the space below. Ensure that you include a title and label the axes including the units.

Table 2 Calibration graph data

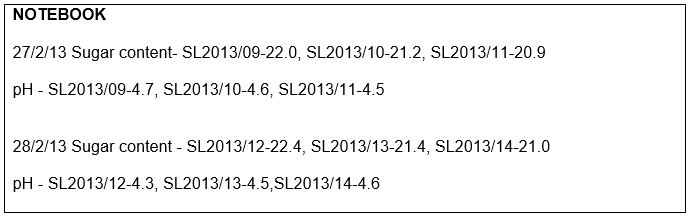
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| **Solution ID** | **Concentration (mg/L)** | **Absorbance (unitless)** |
| Blank | 0 | 0 |
| Std 1 | 5 | 0.186 |
| Std 2 | 10 | 0.395 |
| Std 3 | 15 | 0.601 |
| Std 4 | 20 | 0.789 |
| Std 5 | 25 | 0.893 |
| Sample | ? | 0.554 |

Answer correct  Yes  No

* 1. Use the graph to determine the concentration of the sample. Use a horizontal and a vertical line on the graph to show how you got your answer.

Answer correct  Yes  No

1. Test details, that is, date of test, sample number (SL2013-#) and result for sugar content and pH, were recorded in a notebook.



**Task:** You need to examine the data from the notebook above and design a table to record the data. Your table must have a title, column headers and row headers. Use the space below to create your table.

Answer correct ☐ Yes ☐ No

1. A histogram is a plot of the frequency of an occurrence. It is useful when dealing with large amounts of data or when data has been collected in groups or classes.

**Task:** Complete the frequency table and draw a histogram of these marks for 32 students on the grid provided. Make sure you label your graph appropriately with a title and axis labels.

**Student marks:** 52, 64, 16, 48, 25, 52, 85, 96, 90, 87, 77, 78, 37, 68, 62, 60, 51, 55, 57, 64, 54, 51, 62, 43, 68, 71, 76, 68, 65, 83, 47 and 44.

| Group (Bins) | Frequency |
| --- | --- |
| 10-19 | I (1) |
| 20-29 | I (1) |
| 30-39 |  |
| 40-49 |  |
| 50-59 |  |
| 60-69 |  |
| 70-79 |  |
| 80-89 |  |
| 90-99 |  |

Table 2 - partially completed table for frequency of marks

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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Answer correct ☐ Yes ☐ No

1. Prepare a column graph showing the following data. Ensure that you include a title and label the axes.

**Table 3: Blood groups in Australia**

Table 4 Source data for bar chart: Blood groups in Australia

| Blood group | O+ | A+ | B+ | AB+ | O- | A- | B- | AB- |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Blood group % in 2012\*** | 40.0 | 31.0 | 8.0 | 2.0 | 9.0 | 7.0 | 2.0 | 1.0 |

* \*Source: <https://en.wikipedia.org/wiki/Blood_type_distribution_by_country>

Table 5 Grid lines for use in creating a bar chart using blood group data

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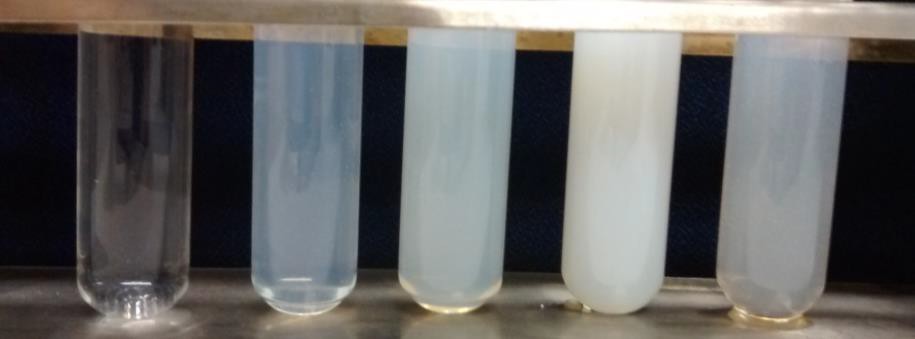
Answer correct ☐ Yes ☐ No

1. Examine the figure below. Use the information in Table 4 to rate each solution. Place the symbol that corresponds to the amount of turbidity of the liquid in the box below each tube.

**Table 4 Symbols for indicating amount of turbidity of liquids**

Table 6 Symbols for indicating amount of turbidity of liquids

| Amount of turbidity of liquid in test tube | Symbol |
| --- | --- |
| Clear, not turbid, | - |
| Slight turbidity or cloudiness | + |
| Moderate turbidity or cloudiness | ++ |
| Heavy turbidity or cloudiness | +++ |
| Extremely heavy turbidity or cloudiness | ++++ |



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Answer correct ☐ Yes ☐ No

## Assessment Feedback

*NOTE: This section* ***must*** *have the assessor signature and student signature to complete the feedback.*

### Assessment outcome

Satisfactory

Unsatisfactory

### Assessor Feedback

Was the assessment event successfully completed?

If no, was the resubmission/re-assessment successfully completed?

Was reasonable adjustment in place for this assessment event?  
*If yes, ensure it is detailed on the assessment document.*

Comments:

### Assessor name, signature and date:

### Student acknowledgement of assessment outcome

Would you like to make any comments about this assessment?

### Student name, signature and date

***NOTE: Make sure you have written your name at the bottom of each page of your submission before attaching the cover sheet and submitting to your assessor for marking.***