

Tips and Comments on

the Preparation and Evaluation of Reports

1. The content of the report should be arranged logically and chronologically. It should be formatted in an orderly and legible manner. It should contain the following information:
 - **Name and surname**, date of the exercise.
 - **Title** and purpose/aim/goal of the exercise.
 - **The results** (experimental data, calculations, tables and charts). The results should be prepared according to the guidelines in a specific Task book provided by the instructor.
 - **Conclusions** and observations resulting from the exercise.
 - If the experimental data are not digital, a photo of the data registered in the class should be added.

2. The report file should be named in the following name:

number of task_name and surname_specialization

Separate each part of the file name with ‘_’ sign.

Example: A student of Materials Chemistry, John Doe doing a report from task 2 should name a report file in the following way: T2_John_Doe_MC

3. The report should be delivered to the instructor *via* e-mail no later than two weeks from the date of the exercise. The final term for the first report submission is the commencement of the examination session.
4. The report can be delivered to the instructor as an editable MS Word, Open Office, or PDF file.
5. The instructor checks the report **for correctness and quality** of data presentation. The evaluation can be **positive or negative**. If significant errors are found in the report, the instructor sends feedback to a student. The student is obliged to correct the report and resubmit a revised version of the report to the teacher for reassessment as soon as possible. If the evaluation of the report is positive, a student will receive information that He/ She has completed the task.



Editorial Tips for the Text

1. Choose one font for the report's body text and use it consecutively. Optionally, headings in the report can be written in a font different from the paragraph text. You can select any font, provided it does not negatively affect readability. **Arial** or **Times New Roman** fonts are most recommended for scientific reports.
2. Use a **font size** ranging from **10-12 points** for a paragraph or text. The title of the exercise and the headings separating individual parts of the report may be larger (from 13 points to 16 points). Larger font sizes should not be used.
3. The text of the paragraph should be **aligned to both sides**, i.e. justified.
4. **Use superscripts and subscripts consistently!**

Examples:

'dm3' is not the same as 'dm³',

'n1' is not the same as 'n₁',

'10-4' is not the same as '10⁻⁴',

'CH4 is not the same as CH₄',

'Ph is not the same as pH'.

5. No space is used before punctuation marks (dot, comma, colon, semicolon).
6. No space is used after opening the bracket and before closing it.
Example: '..., laboratories (including field exercises and industrial practices).'
7. The report is a 'mini scientific work'. Avoid using loud and strong colours and their combinations. Using such colours is not professional.
8. Greek letters are often used to denote specific physical quantities (e.g. the wavelength of electromagnetic radiation is denoted by a small Greek letter, i.e. lambda – λ). Ask an instructor if you don't know what letter is used in the task book. Using random signs from the sign palette is not recommended.

Editorial Tips for the Equations, Digits and Units

9. Use the built-in Equation editor to write equations in your report.

Examples: $\Delta H = -\frac{Q_{zob}}{V_{kw} \cdot C_m}$ **YES**

$H = -Q_{zob} / (V_{kw} * C_m)$ **NO**

10. The **multiplication sign** in equations is a raised dot '·' or a '×' sign. You can also omit the multiplication sign. Do not use the asterisk '*' or 'x' or the dot '•'.



11. Between digits and units, always use a space.

Example:

YES	NO
158 g/mol	158g/mol
30 °C	30°C
278 K	278K
56 %	56%

12. In English, the character used to separate the integer part from the fractional part of a number is a **dot** (not a comma).

Example:

25.5589 YES

25,5589 NO

13. If a certain value is calculated for several experimental points in the same way, at least one example of calculation should be provided (this will make it easier for the instructor to find an error). In other cases, it is enough to provide the final result.

14. If several different values are calculated in the report, each 'new series' of calculations should be preceded by an introductory heading.

Example:

'(...) Calculation of the entropy change in the tested system related to the ice melting process: $\Delta S_1 = (\dots)$ ' **YES**

'(...) Calculations: $\Delta S_1 = (\dots)$ ' **NO**

15. When writing a result, take into account the so-called **significant digits**.

Example:

- 'It is invalid to provide a precise/calculated value for the concentration of a 30% solution to six decimal places (although the calculator can display this value).'

16. Small numbers (less than one thousandth) or large numbers (greater than ten thousand) are expressed **in exponential form**.

Example:

'Task: Record the weight of the elephant (5 tons) in micrograms.'



Answer: The mass of an elephant is 5×10^{12} μg . **YES**

Answer: The mass of an elephant is 5,000,000,000,000 μg . **NO**

17. If the calculated value is not dimensionless, **always provide a unit**.

Example:

The half-life (τ) was calculated to be 30 seconds.

If a student writes ' $\tau=30$ ' in the report, the result is incorrect because the instructor does not know whether the student meant seconds, minutes or hours. The correct notation is: ' $\tau=30$ s'

Tips on Graphs/Charts/Plots

18. Use 'scatter chart' as **the default** (in Excel 2016, it is '**X Y Scatter**', in Libre Office and Open Office it is '**Scatter (XY)**').

19. If more than 20 experimental points are presented in a single chart, use a 'scatter chart' in which a line connects the marker points.

20. **Always label both axes with Axis titles.**

21. Instead, descriptions **use well-recognized symbols.**

Example: instead of writing 'Volume' in the Axis title, write 'V'.

22. Do not use a double-axis description.

Example:

Do not write '**Temperature T [K]**' next to the axis on which the temperature change values are presented. A more correct writing is '**Temperature [K]**' or briefly '**T [K]**'.

23. Always provide the correct unit for dimensional quantities in the Axis title.

Examples:

V [cm^3] **YES**

V **NO**

V [cm3] **NO**

24. The unit can be written in Axis title in brackets [] or () or after /.

Examples: T [$^{\circ}\text{C}$] or T ($^{\circ}\text{C}$) or T / $^{\circ}\text{C}$ **YES**

25. Legend is not necessary if there is only one curve on the chart.

26. The title of the chart is not necessary.

27. Use tick marks on both axes so that after printing the chart, you can still easily read the numerical values presented on it.



28. Do not paste the print screen of a spreadsheet as a graph in your report.
29. Insert a graph/chart/plot as an object into the report file.

Tips on Tables

30. Do not paste the print screen of a spreadsheet as a table in your report. Use MS Word or Open Office features/options to prepare a table in a report.
31. Present units of dimensional quantities only in the header line.

Example:

NO		YES	
T	SEM	T [K]	SEM [V]
273,5 K	1,420 V	273,5	1,420
283,0 K	1,385 V	283,0	1,385
293,7 K	1,257 V	293,7	1,257

32. Units in the table header row can also be given in round brackets or after a slash (so-called right slash or fractional slash).

Example:

YES		YES	
Temperature (K)	SEM (V)	Temperature /K	SEM /V
273,5	1,420	273,5	1,420
...

33. Values presented in the table should be given with the same accuracy.

Example:

NO		YES	
Temperatura [K]	SEM [V]	Temperatura [K]	SEM [V]
273,5	1,42	273,5	1,420
283	1,385	283,0	1,385
293,7	1,2569	293,7	1,257
300	1,15	300,0	1,150
313,5	1	313,5	1,000

34. The table should not have empty cells.
35. Cell content in the table should be centred.
36. Dimensions of the table should be adjusted to the content of the table.



Example:

NO	
T [K]	SEM [V]
273,5	1,420
283,0	1,385
293,7	1,257

YES	
T [K]	SEM [V]
273,5	1,420
283,0	1,385
293,7	1,257

Plagiarism

Please remember that the instructor will reject the report if the student commits plagiarism. Plagiarism occurs when the 'author' claims authorship of a work that he/she did not create. If the instructor can **clearly and without much effort** point out an undeniable similarity in the arrangement of content or in the way of presenting data between two reports submitted by different people, this is a sufficient premise to consider that one of the works has been copied and is not independent. It should be noted that this note does not apply to the specific data presentation requirements described in the task book. If the task book for a given laboratory exercise specifies that the report should present data in a specific way (table, graph), following the recommendations from the task book will not be considered plagiarism by the instructor. In the event of a justified suspicion of plagiarism by a student, the teacher may:

1. Require the report to be prepared 'under the supervision' of the teacher.
2. Demand the report in writing, handwritten with graphs on graph paper.
3. Inform the relevant university authorities (Head of the Department of Physical Chemistry, Dean of the Faculty of Chemistry) about the student's behaviour violating the basic principles of studying at UMCS.

