



Topic: Collecting and documenting scientific data

Objective

Enhance students' ability to incorporate the skills they learn in school with real-life examples. Students will research substances and foods, identify some of their properties and illustrate their importance in improving our lives.

Assessed Subjects

Subject	Subject-specific objective
Chemistry	Investigate and describe exothermic and endothermic changes of some substances when dissolved in water. Search for the chemical properties of these substances and their uses in our lives.
Biology	Provide a chart or a graph comparing the energy content of at least three examples of food from each food group.
Math	Plot findings on a coordinate grid.
ICT	Use Excel to calculate: Change in temperature caused by dissolving different substances. Draw a bar chart to represent the results. Create a table that shows the amount of energy in different types of food

Teams and work

Groups of 3-4 students per group

Students will work in the period between May 1st to May 15th.

During this time, students will be given 2 science classes (Chemistry) , 1 ICT class and 1 Math class. All other work will be done at home



Outcome

Subject	Deliverable / Outcome
Chemistry & Biology	PowerPoint presentation & Poster (Hand drawn or any online pre-made templates) Both outcomes should be submitted.
Math	Hand-drawn graph on a graph paper
ICT	Excel spreadsheet

Audience

Grade 7 students

Submission deadline

May 15th, 2023

Submission Format / Details

The designated group leader will upload the attached task document on LMS for every subject as shown in the table above.

Resources

Students can refer to the Learning Centre at school, or refer to safe and acknowledged search engines, introduced and discussed in class.

Students need to refer to 3 different resources at least.

Assessment Criteria

Students' work will be assessed based on the following rubrics.



Sciences

Chemistry & Biology

Skill / Proficiency	Level 3 Needs Improvement (1/3)	Level 2 Acceptable (2/3)	Level 1 Excellent (3/3)	Student Level / Grade
Content	Content is minimal; there is no detail in content.	There is little detail in the content; it does not go deeply into the topic. Incomplete and/or unfocused.	Content is detailed; covers topic in-depth with details.	
Required elements	Several required elements are missing from the project.	Missing one or more of the required elements as stated in the outcome.	Includes all of the required elements as stated in the outcome.	
Outcome (quality of the project/attr activeness)	The PPT/ Poster format and organization of material are confusing to the reader. Project does not show effort.	The PPT/ Poster has some organized information with random formatting with some evidence of effort.	The PPT/Poster has excellent formatting and very well organized information with strong evidence of effort.	
Visual aids and images	Visual aids are not used	Visual aids are messy or does not support the presentation	Visual aids are readable and attractive.	
Teamwork	Team did not collaborate or communicate well. Some members would work independently, without regard to objectives.	The team worked well together most of the time, with only a few occurrences of communication breakdown or failure to collaborate.	The team worked well together to achieve objectives. Each member contributed in a valuable way to the project.	
Total				/15



ICT :

Category	Developing 1 Points	Accomplished 2 Points	Exemplary 3 Points
Data Entry	Some data required is missing.	Most data required is entered with 100% accuracy.	All data required is entered with 100% accuracy.
Computations, & Formulas	Several errors in formula calculations	Most formulas used are correct applicable formulas as required	100% use of correct applicable formulas as required.
Graph	There are graphs present but only most elements were missing.	The graphs required for the project were correct. Most elements were depicted.	The graphs required for the project were correct. All elements were depicted.
Organization / Formatting	Some Information is organized, using standard formatting tools. Some labels or other important formatting tools are missing.	Information is organized by using appropriate formatting, such as shading, alignment tools, borders, fonts, labels, and column/row height/width.	Advanced formatting is used to create well-organized information, such as shading, alignment tools, borders, special fonts, labels, and column/row height/width.
Visual Appearance & Output	Spreadsheets are difficult to read due to omitting important information.	Spreadsheets are visually appealing, easy to read, and printable.	Spreadsheets are attractive and easy to read, with all required information printed.
Total out of 15			



Math:

Requirement	Mark
Scale of the axes	/1
Points plotted correctly	/2
Labeling the axes	/1
Overall neatness of the graph	/1
Total	/5