

SCH 3U Chemistry Portfolio Assignment

The portfolio assignment is to provide you with an opportunity to progressively develop your understanding, learning skills, learning style, appreciation and application of chemistry concepts covered by or related to this course. You will be constructing a **working portfolio** you will be adding distinctly different contributions as the school year progresses to improve and build on your chemistry learning skills to enrich your understanding. However, keep in mind that each submission itself acts as a component of a **showcase portfolio** in that it represents a final or summative representation of your learning at that time and so it must be your best and final work for that learning period. The end product will then form an **evaluation portfolio** because your work will be kept as part of your final summative evaluation.



Overall Portfolio Structure:

- All portfolio components must be typed in 10 or 12 pitch font and double spaced (some exceptions will be portfolio items such as comics and concept maps).
- All of your portfolio components must have an underlined title (except concept maps) and underlined date.
- Research portfolio items must follow APA format including citations and a reference page and must be submitted to turnitin.com by the start of class on the same day each portfolio item is due and will be marked for originality.
- Spelling, grammar, formatting and grade-level quality of each portfolio submission will be evaluated.
- The personal reflection associated with the first portfolio item must be submitted using turnitin.com by the start of class on the same day each portfolio item is due.
- Portfolio item submissions will be accumulated and kept on file by the teacher as part of the final summative evaluation.
- The performance task will be completed by the entire class on a specific date and outlined on that date.

Portfolio Components:



1. Portfolio Items

Throughout the course, you must complete **THREE** different and distinct portfolio items. Two of the portfolio items will be submissions while the last portfolio item will be a performance task. For the submissions, you may choose which category items you complete, but you cannot choose two options from the same category. Thus, each item category can only be used once throughout the year. Also, **ONE** of the two portfolio submissions must also be a making connections; that is, societal, application. Portfolio submissions not relating to the appropriate course material will **NOT** be evaluated. The emphasis of each portfolio item is on demonstrating understanding and learning of chemistry concepts **AND** how enriching your appreciation for application of chemistry in society. Portfolio categories and items are outlined on the next page.

Submission 1: must relate to matter or bonding or gas temperature/pressure or gas particles

Submission 2: must relate to chemical reactions or stoichiometry or gas laws (unless you already used a gas topic)

Performance Task: will relate to stoichiometry and/or solutions and/or solubility and/or gas laws

2. Personal Reflection

The first portfolio submission must be accompanied by a personal reflection. The purpose of this reflection is to help you engage in self-diagnosis of your learning skills/outcomes. That is, it is designed to help you reflect on the **LEARNING PROCESS** (not chemistry content) to help you become a better chemistry student thereby enhancing success on subsequent portfolio items and other chemistry evaluations. The personal reflection form must be completed as directed and is **ONLY** posted in turnitin.com by the start of class on the same day that the portfolio item is due. Teacher comments will be posted digitally on your personal reflection posting in turnitin.com to guide subsequent work.



3. Performance Task

The final portfolio item will be an in-class performance task. At the beginning of the class, you will be given an experimental task to complete either alone or with a partner. You will have to determine the optimum procedure and equipment needed to complete the task in a timely manner. Your experimental data will be collected and at the end of the task, you may be given a short conclusion sheet to complete individually.



Portfolio Evaluation:

The year-long portfolio project is worth 10% of your final mark and each portfolio item is worth equal marks.

Submission 1: a portfolio item worth 80% of the mark and a personal reflection worth 20% of the mark for that submission.

Submission 2: a portfolio item worth 80% of the mark and 20% of the mark for successful completion of the making connections component as part of either submission 1 or 2 (**but not both**). There is no personal reflection.

Submission 3: performance task comprised of experimental technique marks, experimental data marks and any required write-up but mark allocation will be determined based on the task assigned.

Portfolio Categories and Items

Select **ONE AND ONLY ONE** option from any of the following categories. A category can only be used once and you must **state the category used** for submissions 1 and 2. For each category, a pre-approved alternative is also a possible option. The Chemistry in Society category counts as the making connections component of the portfolio and must be **used once and only once** for either submission 1 or 2.

Item Category	Options (select 1)
Chemistry in Society (must use once)	<ul style="list-style-type: none"> ● develop and conduct an in-depth interview of a chemist (not a teacher) focusing on how they use chemical concepts outlined/used in class ● research and report on a specific chemistry career (not a teacher) and work typically conducted focusing on the use of chemical concepts outlined/used in class (APA format and turnitin submission required) ● research and report on the chemistry-related work involving at least 2 different concepts outlined/used in class for a specific chemistry or chemistry-related industry (APA format and turnitin submission required) ● select 2 different news reports on the same chemistry concept and explain how the chemistry in this report relates to what was covered in class ● write a summary report on a significant (at least 4 pages long), current (within 2 years) chemistry article from a credible research magazine (seek approval first) such as Scientific American related to a chemistry concept outlined/used in class (include the article and APA format and turnitin submission required) ● watch a 1 hour educational television show relating chemistry concepts outline/used in class to a societal issue and explain the chemistry/societal connections and impact ● research and report on the chemistry involved in a controversial chemistry topic and defend a position (include your research articles and APA format and turnitin submission required)
Concept Attainment	<ul style="list-style-type: none"> ● develop a proper detailed concept map demonstrating understanding and interconnectedness of at least 10 major terms outlined/used in class ● write a journal outlining your initial thoughts about a new chemistry concept presented in class and how your thoughts changed regarding this concept over time finishing with your thoughts about this concept after some form of assessment/evaluation (via lab, quiz, test, etc.) ● watch a 1 hour educational television show explaining and relating chemistry concepts outline/used in class in a new manner and explain what aspects of the show enhanced learning of these concepts ● research and expand on a chemistry concept outlined/used in class by extending the theory and application above course expectations (APA format and turnitin submission required) ● create a slide show or online blog demonstrating with visuals and explanations, how your understanding of a chemistry concept presented in class progressed from initial exposure to mastery
Concept Creativity	<ul style="list-style-type: none"> ● develop an analogy (see example) to explain a chemistry concept outlined/used in class ● create a dynamic model (capable of motion/interaction) relating two or more concept outlined/used in class such that predictions can made (e.g. a solar system model) and include a short (one page or less) report explaining what is depicted in the model and how it works ● write a poem or song demonstrating understanding and relationships amongst at least 15 chemistry terms outlined/used in class ● create one 6-10 panel cartoon strip demonstrating understanding and relationship between at least 2 chemistry concepts outlined/used in class to reveal aspects of the concepts and relationships ● create a website/blog to reveal a detailed explanation of a chemistry concept outlined/used in class using links/expansions/etcetera typical of web pages ● create an animation or movie demonstrating understanding and relationship between at least 2 chemistry concepts outlined/used in class to reveal aspects of the concepts and relationships
Learning Challenges	<ul style="list-style-type: none"> ● select a chemistry concept that you found the most challenging to understand noting what aspects of the concept made it difficult for you to learn and outline what you attempted to overcome this learning obstacle ● select a chemistry concept that you found challenging to understand noting what aspects of the concept made it difficult for you to learn and explain an alternate method of teaching/instruction that you think would help future students learn this concept ● write a journal outlining your work to tutor a peer regarding a challenging chemistry concept noting what you think the learning obstacle was and what you attempted to help your peer overcome this learning obstacle
Problem Solving	<ul style="list-style-type: none"> ● research and explain a math solution that demonstrates mathematical work related to, but extends classwork (APA format and turnitin submission required) ● research and explain mathematical work associated with theory outlined/used but was not associated with math in class (APA format and turnitin submission required)