Study Aids

What are study aids?

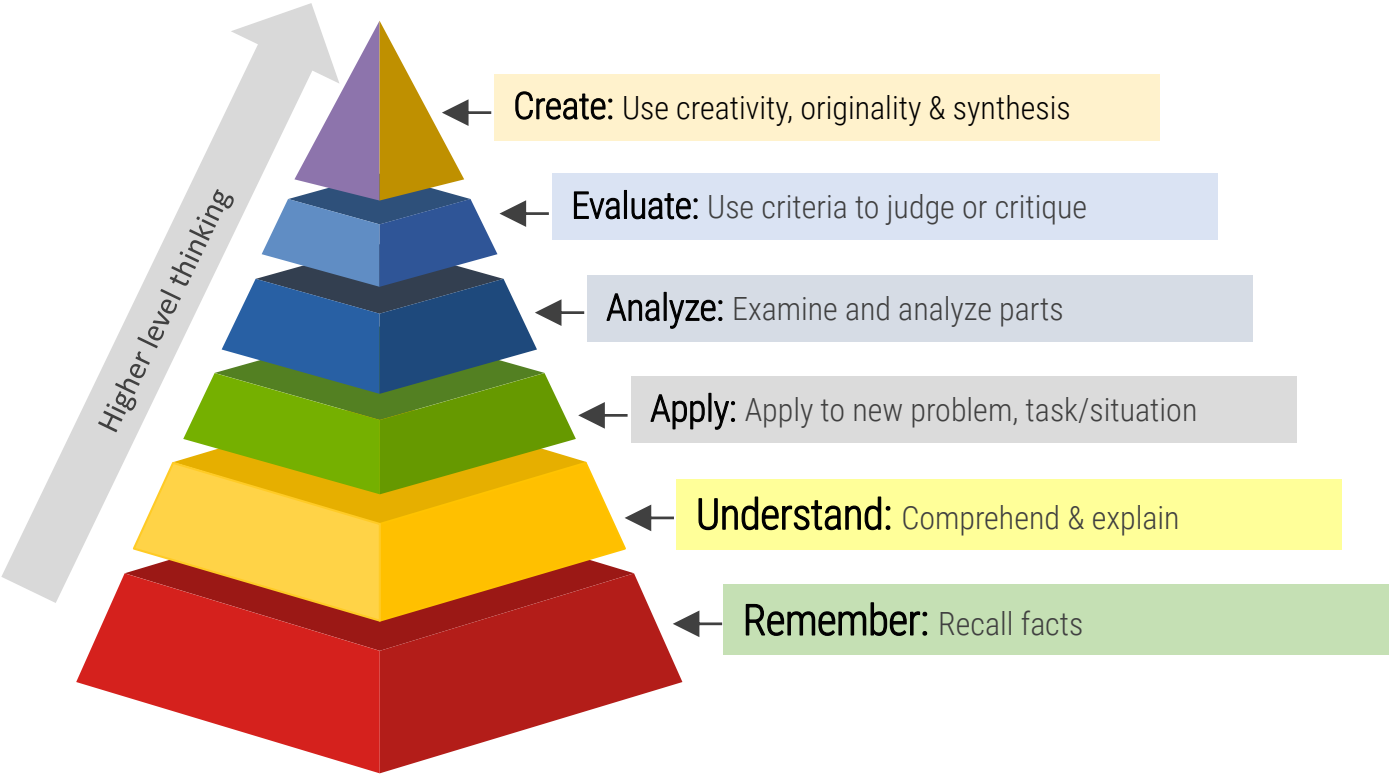
A standard multiple-choice test item consists of two basic parts: a problem (stem) and a list of suggested solutions (alternatives).

Study guides are meant to help you organize lecture notes and textbook material so that you can increase your comprehension and memory of large amounts of information. Preparing study guides that are visual is even more effective, as the visual organization helps you see related concepts and make meaningful connections with the material, thus acquiring the higher levels of learning expected by many of your professors.

Preparing for tests often involves more than knowing facts, figures, formulas, and definitions. Many professors expect you to demonstrate critical thinking, which involves more than rote memorization. Therefore, you must organize and process course materials so that you can increase your comprehension and ability to think critically.

Learning Levels: How do we process information?

Bloom's Taxonomy



3. Blooms Taxonomy Explained

Bloom’s taxonomy consists of 6 levels of thinking ranging from the lowest to the highest levels of thinking. The first 3 levels of thinking (remembering, understanding, and applying) involve lower level and the last 3 levels involve higher level thinking skills (analyzing, evaluating, and creating). In order to move onto the higher level thinking skills, you must master the lower level thinking tasks first. To deepen your understanding and become a critical thinker, you
can complete the tasks and the question stems associated with each level of thinking,
progressing from the lowest to the highest
thinking levels.
Engaging information at levels 4,5 & 6 are crucial for designing effective study aids. Examinations at university level are primarily concerned with higher-order thinking skills.

Adapted from:
www.center.iupui.edu
Wong, Linda. Essential Study Skills, 8th Edition. Cengage Learning, 2015.

Remember

Definition: retrieve, recall, or recognize relevant knowledge from long-term memory (e.g., recall dates of important events in U.S. history, remember the components of a bacterial cell).

Appropriate learning outcome verbs for this level include: *cite, define, describe, identify, label, list, match, name, outline, quote, recall, report, reproduce, retrieve, show, state, tabulate, and tell*.

Understand

Definition: demonstrate comprehension through one or more forms of explanation (e.g., classify a mental illness, compare ritual practices in two different religions).

Appropriate learning outcome verbs for this level include: abstract, arrange, articulate, associate, categorize, clarify, classify, compare, compute, conclude, contrast, defend, diagram, differentiate, discuss, distinguish, estimate, exemplify, explain, extend, extrapolate, generalize, give examples of.

Apply

Definition: use information or a skill in a new situation (e.g., use Newton's second law to solve a problem for which it is appropriate, carry out a multivariate statistical analysis using a data set not previously encountered).

Appropriate learning outcome verbs for this level include: apply, calculate, carry out, classify, complete, compute, demonstrate, dramatize, employ, examine, execute, experiment, generalize, illustrate, implement, infer, interpret, manipulate, modify, operate, organize, outline, predict, solve, transfer, translate, and use.

Analyze

Definition: break material into its constituent parts and determine how the parts relate to one another and/or to an overall structure or purpose (e.g., analyze the relationship between different flora and fauna in an ecological setting; analyze the relationship between different characters in a play; analyze the relationship between different institutions in a society).

Appropriate learning outcome verbs for this level include: analyze, arrange, break down, categorize, classify, compare, connect, contrast, deconstruct, detect, diagram, differentiate, discriminate, distinguish, divide, explain, identify, integrate, inventory, order, organize, relate, separate, and structure.

Evaluate

Definition: make judgments based on criteria and standards (e.g., detect inconsistencies or fallacies within a process or product, determine whether a scientist's conclusions follow from observed data, judge which of two methods is the way to solve a given problem, determine the quality of a product based on disciplinary criteria).

Appropriate learning outcome verbs for this level include: appraise, apprise, argue, assess, compare, conclude, consider, contrast, convince, criticize, critique, decide, determine, discriminate, evaluate, grade, judge, justify, measure, rank, rate, recommend, review, score, select, standardize, support, test, and validate.

Create

Definitions: put elements together to form a new coherent or functional whole; reorganize elements into a new pattern or structure (design a new set for a theater production, write a thesis, develop an alternative hypothesis based on criteria, invent a product, compose a piece of music, write a play).

Appropriate learning outcome verbs for this level include: arrange, assemble, build, collect, combine, compile, compose, constitute, construct, create, design, develop, devise, formulate, generate, hypothesize, integrate, invent, make, manage, modify, organize, perform, plan.

Common Types of Study Aids:

Concept map and branching diagram, Flashcards, Diagrams

Example:

Aristotle (Golden Mean)
The Golden Mean is a sliding scale for determining what is virtuous. Aristotle believed that being morally good meant striking a balance between two vices. You could have a vice of excess or one of deficiency. Aristotle's Golden Mean describes the perfect medium found between two extremes. Those two extremes being excess and deficiency. Under the Golden Mean behaviors which are viewed as acceptable are courage, modesty and generosity.

Kant (Categorical Imperative)
. Kant's Categorical Imperative dictates that you must do unto others what you would want them to do unto you, or to act as if your personal decisions and actions could become universal law. Deontological theory emphasizes the importance of the motive behind the action in an ethical decision, rather than focusing on the possible outcome of the decision. **What is good for one is good for all. Categorical Imperative.**

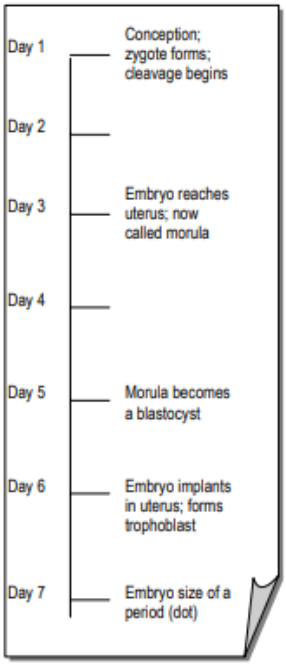
Mills (Utilitarianism)
Utilitarianism is a philosophy based on the principle that what is good for the community is paramount to what is good for the individual. **If the means justify ends, the ethical action is ok. Utalitarianism**

Rawls (Veil of Ignorance)
"protect the weakest" & remove your own internal biases to put yourself in the shoes of those you are writing about.

5. Time Line

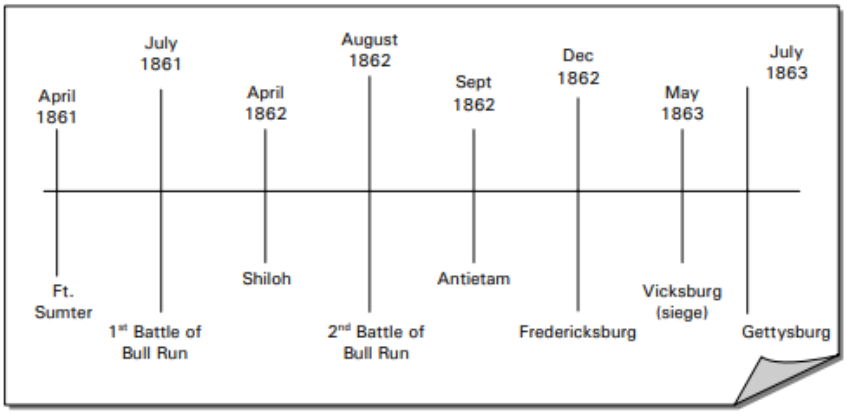
A time line allows you to organize information chronologically. You are able to review information that must be understood and remembered in sequence. Time lines would be effective for classes in which you are presented:

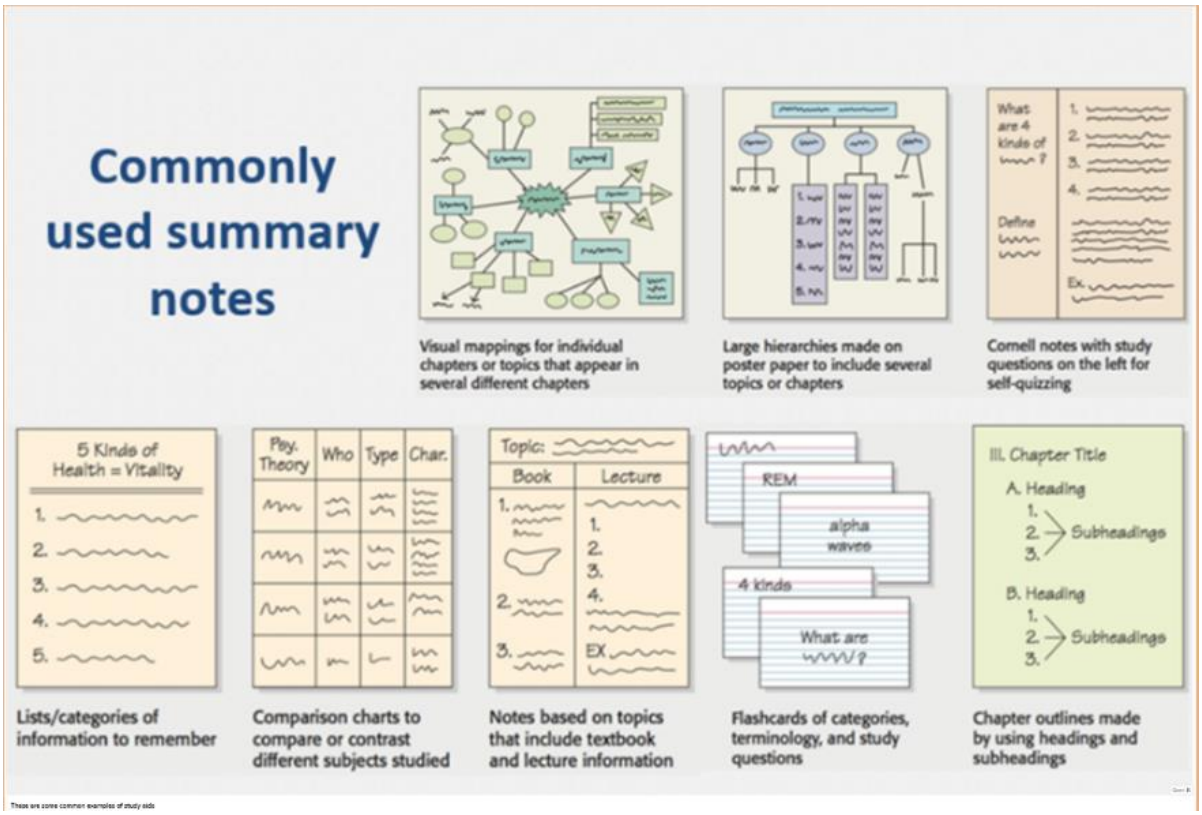
- historical developments: history, anthropology, political science, music, art
- biological developments: biology, anatomy, physiology
- human or other developments: psychology, biology, natural resources



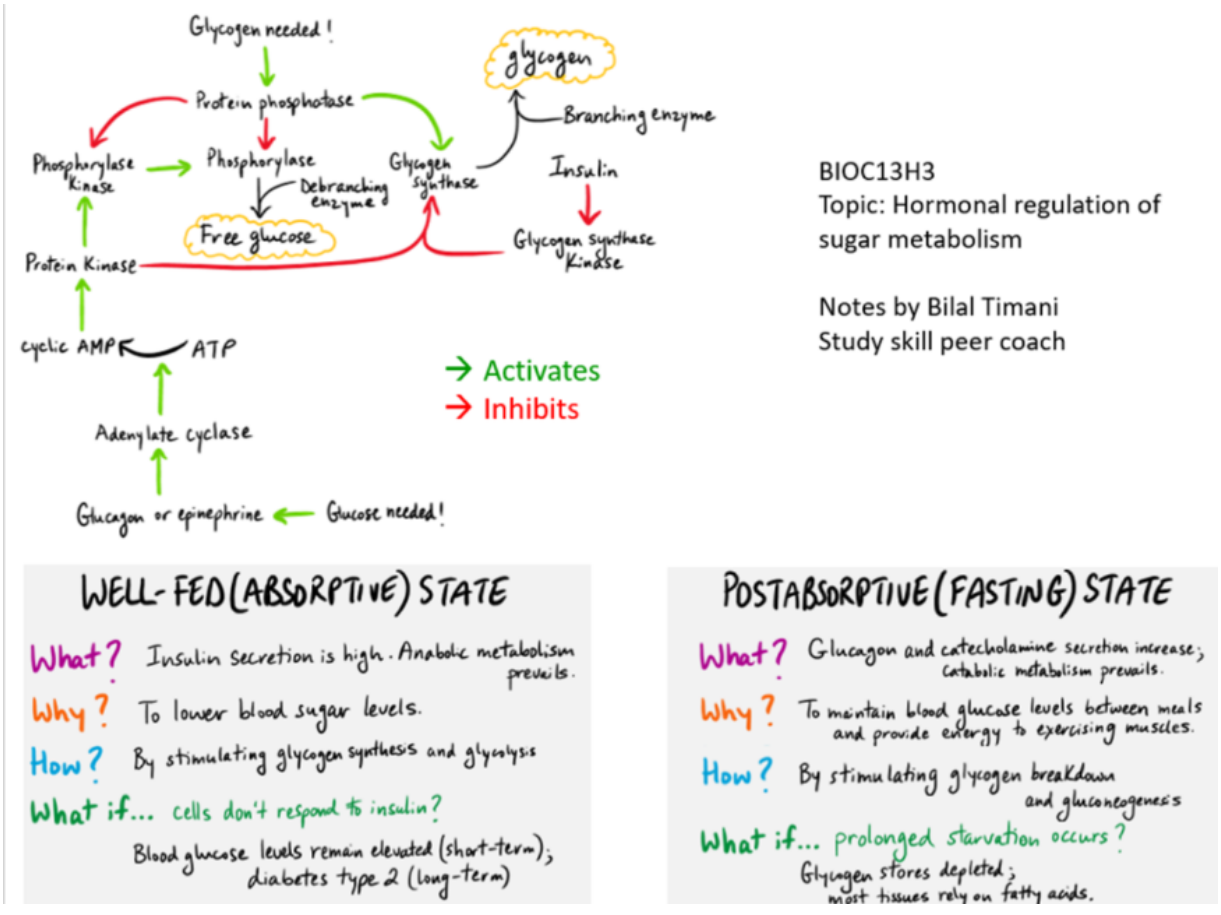
Example 1: Development of an embryo

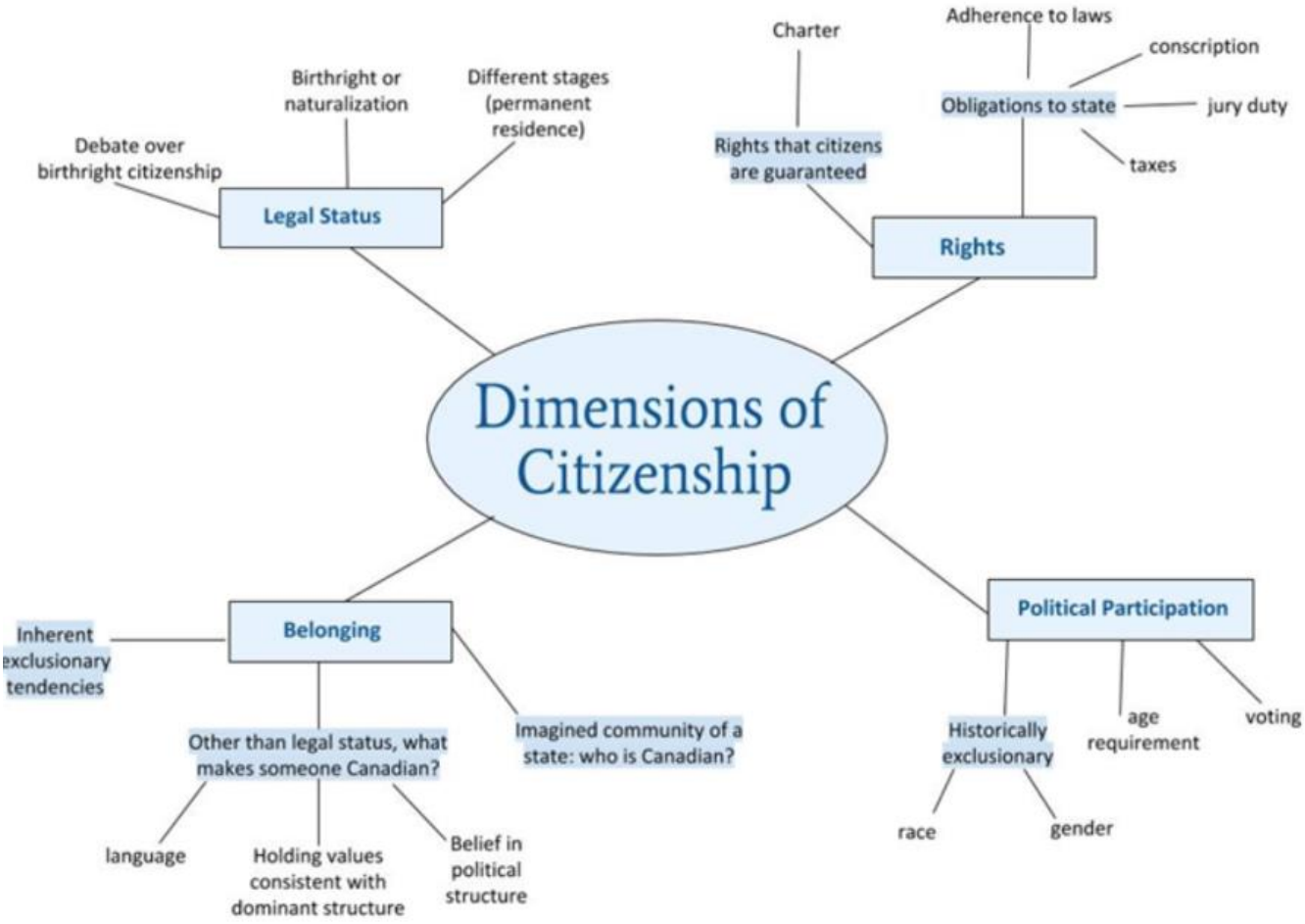
Example 2: Major Civil War Battles 1861-1863





Visual Mapping Diagrams

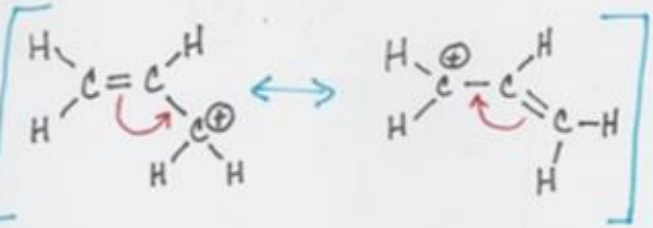



Dimensions of Citizenship
Legal Status
Birthright or naturalization
Different stages (permanent residence)
Debate over birthright citizenship
Rights
Charter
Rights that citizens are guaranteed
Obligations to state
Adherence to laws
conscription
jury duty
taxes
Belonging
Inherent exclusionary tendencies
Other than legal status, what makes someone Canadian?
language
Holding values consistent with dominant structure
Belief in political structure
Imagined community of a state: who is Canadian?
Political Participation
Historically exclusionary
race
gender
age requirement
voting

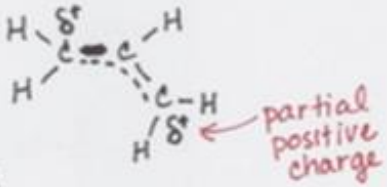
What is the difference between resonance structures & true structures?

Why does charge delocalization stabilize a molecule?

Resonance Hybrid: True structure of molecule represented by a set of resonance structures

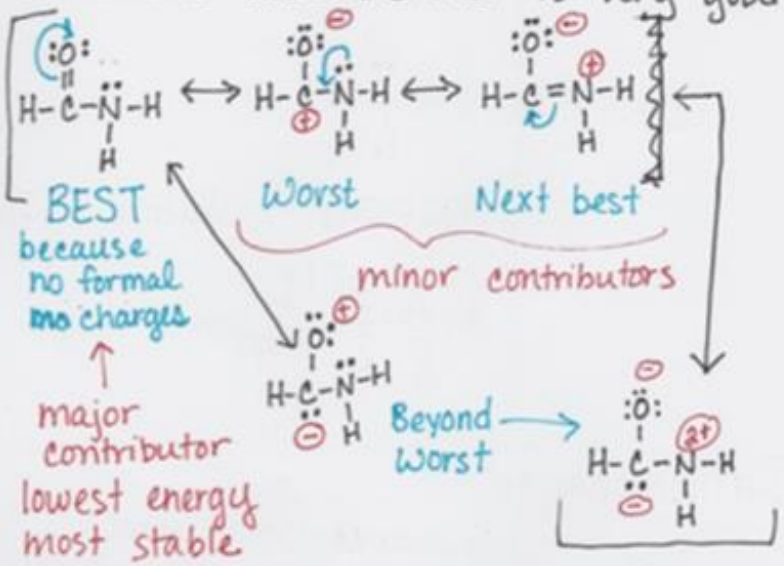


"True Structure"



Positive charge is delocalized over carbon 1 & 3

Some sets of resonance structures have one structure that is very good.



Resonance structures are used to represent true structure of molecule. The more resonance structures you can draw, the more stable the molecule due to delocalization of e^-.

Useful Resources for creating study aids:

Notion(www.notion.so/)

Notion is an application that provides components such as databases, kanban boards, wikis, calendars and reminders. Users can connect these components to create their own systems for knowledge management, note taking, data management, project management, among others. It allows you to take notes, add tasks, manage projects & more. Notion provides the building blocks and you can create your own layouts and toolkit to get work done

Canva (Canva.com)

Canva is a free to use software for graphic design that has loads of templates for mind maps and designs. The platform is free to use and offers paid subscriptions like Canva Pro and Canva for Enterprise.

Quizlet (https://quizlet.com/latest)

With this site, you provide the information and Quizlet provides the study tools. Users can create “sets” like flash cards in any subject under the sun. Based on the set, the website will generate flashcards, quizzes, practice tests, matching games, and even auditory tools. Quizlet also has a free app for learning on the go and studying even offline.

The two games, Scatter and Space Race, allow you to learn the material and have fun doing it. In Scatter, users drag definitions or information to their related counterparts as quickly as they can, clearing the screen. In Space Race, definitions scroll across the screen and you type in the correct word or phrase associated with it before the definition reaches the end of the screen. With leader-boards and high-scores, you can compete to get the best times, adding the motivation of competition to your studying

Grammarly(https://www.grammarly.com/)

Grammarly can help make sure that your studying and resulting work are correct. The add-on for browsers is easy to use, informative, and will help correct your writing, teaching you where your work can be improved.

Anki: https://apps.ankiweb.net/

Anki is a program which makes remembering things easy. Because it's a lot more efficient than traditional study methods, you can either greatly decrease your time spent studying, or greatly increase the amount you learn.

IDoRecall: https://www.idorecall.com/

Spaced-repetition flashcards linked to all the concepts and facts in your learning materials that you want to remember. iDR’s spaced-repetition algorithm will schedule only the recalls for retrieval practice that you are likely getting close to forgetting. This keeps your practice time to a minimum.