

Semester Plan – Fall 2015

Science 9 & 10

Part A: Calendar

Grade 9 Calendar

Unit	Date	Weight
B: Matter and Chemical Change	Sept. 2 – Oct. 1	7.5%
A: Biodiversity	Oct. 5 – Oct. 27	7.5%
C: Environmental Chemistry	Oct. 28 – Nov. 20	7.5%
D: Electrical Principles and Technologies	Nov. 23 – Dec. 9	7.5%
E: Space Exploration	Dec. 10 – Jan. 8	7.5%
Individual Performance Tasks	Throughout units	37.5%
Final Exam (PAT)	TBD	25%

Grade 10 Calendar

Unit	Date	Weight
A: Energy and Matter in Chemical Change	Sept. 2 – October 8	12%
B: Energy Flow in Technological Systems	Oct. 13 – Nov. 5	12%
C: Cycling of Matter in Living Systems	Nov. 9 – Dec. 2	12%
D: Energy Flow in Global Systems	Nov. 9 – Dec. 2	6%
Individual Performance Tasks	Throughout units	28%
Final Exam	TBD	30%

Part B: Assessment

- Most assessments are formative with fast and meaningful feedback: worksheets, practice problems, Venn diagrams, SEE-I, research projects, individual whiteboards, exit slips, practice tests, review booklets, poster boards, concept maps
- **Quizzes** – usually 2 or 3 per unit and generally on a weekly basis (summative). Quizzes are also used as assessment *as learning*
 - **Lab reports** are weighted the same as quizzes and are completed individually during class time.
- **Unit Tests** (summative)
- **Final Exam** (summative)

Part C: Broad Instructional Strategies

Direct Instruction: “Direct Instruction (DI) is a model for teaching that emphasizes well-developed and carefully planned lessons designed around small learning increments and clearly defined and prescribed teaching tasks. It is based on the theory that clear instruction eliminating misinterpretations can greatly improve and accelerate learning.” <http://www.nifdi.org/what-is-di/basic-philosophy>

Experiential Learning: “The purpose of this experience is to create the conditions in which students, through engagement in the interactive tasks, can deepen their understanding of key course goals. In experiential education the ‘experience’ can be ‘hands on’ (ie. laboratory or field/community-based) or can be ‘thinking’ activities.” <http://www.usask.ca/gmcte/experiential-learning>

- Labs
- Role-plays & simulations
- Technology: virtual simulations/labs, game-based learning, collaboration, online presence/portfolio

Flipped Learning: students are first exposed to content outside of school (i.e. at home as homework) so that the class period can be spent engaging in activities that support deeper connections to the content.

Case-based learning: group discussion of events that actually occurred

Problem-based learning: “typically involves four steps:

1. a problem, often hypothetical, is posed by the instructor
2. students decide what they need to learn in order to address the problem
3. they go to textbooks and other sources to acquire knowledge of the areas that have relevance to the problem, and
4. they apply what they have learned to that particular problem.

The defining characteristics are that learning is driven by challenging, open-ended, teacher-defined problems, where students work in small collaborative groups and the teachers take on the role of facilitators of learning.” <http://www.usask.ca/gmcte/problem-inquiry-based-learning>