Course name

Grade 10 Science

Course summary and expectations

* Welcome to Grade 10 Science! This course covers a variety of different topics from various areas of science. In this course you will learn about ecosystems, chemical reactions, the physics of motion, and the science of weather. Different modules will emphasize different skills, for example, the module on ecosystems requires learning a lot more new vocabulary, the topic on motion requires reading graphs and using mathematical formulas.
* A module is due about once per month on average, though some are longer or shorter. For each module, read all content, complete all practice problems, and submit assignments and tests. If you find a particular module is more challenging for you, seek out extra support from your teacher. If you find a module comes more easily, challenge yourself by aiming to excel on every assignment and test.

Module listing

Module 1: Dynamics of Ecosystems

* food webs, the roles of producers, consumers, and decomposers
* carbon, oxygen, and nitrogen cycles through the atmosphere and ecosystem
* factors limiting population growth, human effects on wild species populations
* the dynamic relationship between predator and prey population sizes
* biodiversity, species extinction, and conservation of endangered species

Module 2: Chemistry in Action

* the atomic model, Bohr atoms, protons, neutrons, and electrons
* the periodic table, differences between groups (alkali metals, noble gases, etc.)
* the structure of ionic compounds and covalent compounds
* determining ionic compound formulas, naming ionic compounds
* determining covalent compound formulas, naming covalent compounds
* balancing chemical equations
* types of chemical reactions
* introduction to acids and bases

Module 3: In Motion

* calculating distance versus displacement, speed versus velocity, acceleration
* reading position-time and velocity-time graphs
* vehicle safety devices, momentum, impulse, and energy
* friction, reaction time, and total stopping distance

Module 4: Weather Dynamics

* the atmosphere and the hydrosphere
* the Sun, Earth’s energy budget
* forecasting and tracking severe weather
* climate change

Evaluation/grading summary

Assignments: 15 module assignments (including labs) weighted at 50%.

Tests: 4 module tests weighted at 50%.