Secondary Science Map

	August	September	October	November	December	January	February	March	April	May
Grade 7 Life Science	Scientific Method Lab Safety Rules Exploring and Classifying Life	Cell Structure Cell processes Viruses Viewing Cells	Cell reproduction Hurricane tracking	Heredity Hurricane recovery	Introduction to Animals	Preparing for exam over chapters 4, 5, 12 Cell reproduction Heredity Introduction to animals After exam Mollusks, Worms Arthropods Echinoderms	Fish Amphibians Reptiles	Amphibians Reptiles Frog anatomy and dissection	Reptiles and Frog anatomy continued Birds	Mammals
Grade 8 Earth Science	What is Earth Science Science & Technology: Application Solving problems: Scientific method & problem solving strategies Measurement & Safety Earth's atmosphere Science & Society: Ozone layer	Energy from the sun Water Cycle Movement of air Weather & types of clouds Weather patterns	Forecasting weather Technology: Changing weather Types of landforms	Viewpoint: Latitude and longitude/Earth time Map projections Minerals, gems, and ores Titanium Types of rocks and rocks cycle Coal mining	Weathering Soil Land use and soil loss	Erosional forces (gravity, glacier, and wind) Water erosion and deposition (surface and groundwater system) Science and Society-water wars Ocean shoreline	Forces inside Earth Earthquake information Destruction by earthquakes Science and Society technology: Living on a fault	Volcanoes and Earth's moving plates Science and society technology: energy from Earth Eruptions and forms of volcanoes Igneous rock features	Ocean water, waves and tides Science and society issue: Tapping tidal energy Life in the ocean Pollution and marine life Radiation from space Light pollution Artificial satellite, space shuttle and space probes	Planet Earth Earth's moon Exploration of the moon The Solar systems – Inner and outer planets Science and society issue: Mission to mars Other objects in the solar system
Grade 9 Physical Science	Scientific Method Lab Safety Rules Standards of Measurement Graphs Velocity Acceleration Gravity	Motion Forces Acceleration Momentum	Energy Work Temperature Heat Thermal Pollution Thermal Energy Engines	Simple Machines Mechanical Advantage Matter Boyle's Law Charles' Law Archimedes' Principle Pascal's Principle Bernoulli's	Composition of Matter Physical Properties Physical Changes Chemical Properties Chemical Changes Conservation of Mass	Structure of the atom Masses of atoms The Periodic Table Why atoms combine Kinds of chemical bonds Chemical	Metals Science and society Nonmetals Mixed groups Simple Organic compounds Other Organic compounds Biological compounds	Fossil fuels Nuclear energy Alternative energy sources Alloys Ceramics Plastics Synthetic materials How solutions form Solubility and	Chemical changes in matter Chemical equations Types of chemical reactions Energy and chemical reactions Acids and	Characteristics of waves The nature of sound Using sound in medicine Music Radioactivity Nuclear decay Detecting radioactivity Nuclear

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				Principle		risks Writing chemical formulas Naming compounds		concentration Particles in solution	bases Salts	reactions Using radiation in medicine
Grade 10 Biology	Scientific Method Lab Safety Rules Use of the Microscope Biomes of the Earth	Food chains in ecology Food webs in ecology Ecological pyramids Populations & demography Biodiversity Chemistry of the cell	Cell Theory Prokaryotic and eukaryotic cells Characteristics of plant cells Characteristics of animal cells Parts of cells Cellular transport Cell energy requirements	Mitosis and the Cell Cycle Control of the cell cycle and cancer Types and functions of cells Cellular organization Photosynthesis Cellular respiration Fermentation	Origin of Life - Creation - Theory of Evolution	Genetics -DNA/DNA to proteins (transcription, translation, the genetic code) -Meosis -Gregor's work -Terminology Modern genetics	Human genetics Complex patterns of inheritance Blood types Sex-linked traits Classification of living things/characteristics and uses for Viruses Bacteria Protists Fungi	Plants Vascularity Alternation of generations/plant life cycles Types of seed-bearing plants Monocots and dicots Seeds, stems, roots, leaves, flowers, fruit cells and tissues and functions Tropisms Careers in biology	Animals Classification of animals Contributions of animals Animal characteristics	Comparison of the human body systems and physiology to those of other "animals"
Grade 11 Chemistry	Classification of Matter States of Matter Chemical/Physical Properties Chemical/Physical Changes Scientific Notation Significant Figures	Dimensional Analysis Atomic Theory Mass number and Atomic Number Isotopes Average Atomic Mass Electromagnetic Radiation	Quantum Mechanics Electron Configuration Orbital Diagram	Periodic Table Classification of Elements Periodic Laws Properties of Elements	Chemical Compounds Chemical Bonding Naming Ionic Compounds Naming Molecular Compounds Lewis Structures Molecular Shapes Polarity	The Mole concept Mole- particle calculation Mole-mass calculation Percent composition Empirical formula Molecular formula	Chemical reactions Types of chemical reactions Redox reactions Stoichiometry	Solutions Solubility Concentration units Arrhenius definition of acids/bases Bronsted-Lowry definition of acids/bases Strengths of acids/bases The pH scale	Hydrocarbons Hydrocarbon derivatives	The chemistry of life
Grade 12 Physics	Dimensional Analysis Measurement Significant Figures Graphing Data Velocity Position and Displacement	Acceleration Displacement at constant Acceleration Falling Objects Force	Vectors Frictional Force Motion in 2-D	Projectiles Circular Motion Planetary Motion	Law of Universal Gravitation Describing Rotational Motion Rotational Dynamics	Momentum Impulse Law of Conservation of Momentum	Forms of energy Law of Conservation of Energy Heat Specific heat Change of state and energy	Fluids Gas laws Properties of liquids Buoyancy Solids	Periodic motion Static electricity Electric field	Nuclear physics Radiactivity Nuclear reactions0
Grade 12 Anatomy	Define anatomy and physiology	Four major body tissues	Structure of a long bone	3 types of muscle tissue	Developmental aspects of the	Functions of the nervous	Functions of the special senses	Functions of the cardiovascular	Anatomy of the knee and	Overview of digestive

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and Physiology	Explain how A&P are related Name all 11 organ systems List functions that maintain human life Locate the major body cavities Define homeostasis	Wound healing Classification of body membranes Structure and Functions of the skin Layers of the skin Skin disorders and cancers	Microscopic anatomy of bone tissue Classification of bones Name the types of fractures Types of joints Causes of bone and joint problems	Define muscular system Criteria for naming muscles Name and locate the major muscles of the body Changes that occur in aging muscles	muscular system	system Define CNS, PNS and their major parts Structure of a neuron Define reflex arcs Structure of a nerve	The eye and vision Explain rod and cone differences The ear: hearing and balance Function of organ of Corti in hearing Structure and function of the external, middle, and inner ear Chemical senses: taste and smell	sys. Blood supply and conduction of the heart Heart valves Structure and function of arteries and veins Factors affecting blood pressure	related structures Assessing knee injuries Prevention of knee injuries Recognition and management of knee injuries	system Video on digestion
Space Exploration	Ch 1 Why Space Elements of a Space Mission Ch 2 Early Space Explorers Entering Space Space Come of Age	Ch 2 Entering Space Space Comes of Age Ch 3 Cosmic Perspective The Space Environment and Space Craft Living and Working in Space <u>Astronomy</u> Ch 1 The Scale of the Cosmos Ch 2 The Stars	Ch 2 The Sky and Its Motion The Cycles of the Sun The Motion of the Planets Astronomical Influences on Earth's Climate Ch 3 The Changeable Moon Lunar Eclipses Solar Eclipses Predicting Eclipses	Ch 6 Radiation: Information from Space Optical Telescopes Special Instruments Radio Telescopes Ch 7 Starlight Atoms	Ch 7 The Interaction of Light and Matter Stellar Spectra	Ch 8 The Solar Atmosphere Nuclear Fusion in the Sun Solar Activity Ch 9 Measuring the Distance to Stars Intrinsic Brightness The Diameter of Stars The Masses of Stars	Ch 9 A Survey of the Stars Ch 14 Neutron Stars Black Holes Compact Objects with Disks and Jets Ch 19 Theories of Earth's Origins A Survey of the Solar System The Story of Planet Building Planets Orbiting Other Stars	Ch 20 Earth Ch 21 The Moon and Mercury Ch 22 Venus and Mars Ch 23 Jupiter and Saturn	Ch 4 Orbital Motion Newton's Laws Laws of Conservation The Restricted Two Body Problem Constants of Orbital Motion	Ch 9 Launch Window and Times When and Where to Launch Launch Velocity Ch 11 Space Mission Design Remote Sensing Payloads