

CURRICULUM MAP

Subject: Earth Science

Grade Level: 9th/10th

Updated Review July 2024

FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
<p>UNIT 1: EARTH DIMENSIONS</p> <p>Introduction</p> <ul style="list-style-type: none"> ● metric system, density, graphing <p>Description of Earth</p> <ul style="list-style-type: none"> ● Shape - oblate spheroid ● Size - diameters ● Parts - atmosphere, hydrosphere lithosphere ● Maps <ul style="list-style-type: none"> -latitude & longitude -field maps & isolines -topo maps -contour lines -gradient <p>UNIT 2: ROCKS & MINERALS</p> <p>Earth Composition</p> <ul style="list-style-type: none"> ○ mineral resources ○ rocks - composed of minerals <p>Minerals</p> <ul style="list-style-type: none"> ○ identification & classification ○ arrangements & bonding <p>Igneous</p> <ul style="list-style-type: none"> ○ origin ○ texture, comp. ○ intrusive & extrusive <p>Sedimentary</p> <ul style="list-style-type: none"> ○ origin ○ types - clastic, chemical, organic <p>Metamorphic</p> <ul style="list-style-type: none"> ○ origin ○ characteristics & types <p>Conservation</p> <p>Current Events</p> <ul style="list-style-type: none"> ○Articles 	<p>UNIT 3: SURFACE PROCESSES & LANDSCAPES</p> <p>Weathering</p> <ul style="list-style-type: none"> ● physical & chemical ● particles & surface area ● mineral composition <p>Weathering Products</p> <ul style="list-style-type: none"> ● soil ● human influences <p>Erosion</p> <ul style="list-style-type: none"> ● residual vs. transported ● agents ● particles vs. stream velocity <p>Deposition - size, shape, density</p> <p>Landforms - climate, rocks & structures</p> <p>UNIT 4: DYNAMIC CRUST</p> <p>Earthquakes</p> <ul style="list-style-type: none"> ● zones of activity ● p & s waves ● epicenters <p>Earth's Interior</p> <ul style="list-style-type: none"> ● density & temp/w depth ● seismic & meteorite evidence <p>Place Movements</p> <ul style="list-style-type: none"> ● rock & fossil correlations ● heat flow ● hot spots ● rifting, subdivision, faults <p>Properties of Crust</p> <ul style="list-style-type: none"> ● ocean bottom - basaltic ● continent - granite 	<p>UNIT 5: EARTH HISTORY</p> <p>Geological Sequence</p> <ul style="list-style-type: none"> ● igneous - intrusion/extrusions ● faults & folds are younger <p>Correlation</p> <ul style="list-style-type: none"> ● walking the outcrop ● index fossils ● volcanic ash <p>Geologic History</p> <ul style="list-style-type: none"> ● time scale ● buried erosion surface ● wind - magnitude & direction <p>Absolute Ages</p> <p>Evolution</p> <p>UNIT 6: METEOROLOGY</p> <p>Description & Measurement</p> <ul style="list-style-type: none"> ● daily temp. & dew point ● relative humidity ● wind magnitude & direction <p>Relations Among Variables</p> <p>Clouds</p> <ul style="list-style-type: none"> ● adiabatic cooling concept ● cooling before dew point <p>Weather Maps</p> <ul style="list-style-type: none"> ● isolines ● fronts <p>Forecasting</p> <ul style="list-style-type: none"> ● movement of air masses ● geographic origin of air ● cyclones/anticyclones ● probability predictions <p>Hazardous Weather</p>	<p>UNIT 7: WATER CYCLE & CLIMATES</p> <p>Sources of Water</p> <ul style="list-style-type: none"> ● oceans - major source ● water cycle <p>Solar Energy</p> <ul style="list-style-type: none"> ● sun - major source ● intensity & angle ● seasons ● day length ● greenhouse effect <p>Climate Factors</p> <ul style="list-style-type: none"> ● uses of water budget ● effects of latitude & altitude ● prevailing winds ● mountain barriers <p>Water Quality</p> <p>UNIT 8: ASTRONOMY</p> <p>Celestial Observations</p> <ul style="list-style-type: none"> ● sun's path ● earth's rotation ● constellations ● geocentric - heliocentric theory <p>Revolution with Tilt</p> <ul style="list-style-type: none"> ● sun's path with season/latitude ● noon position ● changing positions of sunrise & sunset ● seasons <p>Cosmic Features</p> <p>Earth in Universe</p>

CURRICULUM MAP

Subject: Regents Biology

Grade Level: 9th

Updated Review July 2024

FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
<p>UNIT 1: Marathon Runner</p> <ul style="list-style-type: none">● Homeostasis● Feedback mechanisms in humans <p>UNIT 2: Humans vs Bacteria</p> <ul style="list-style-type: none">● Natural Selection	<p>UNIT 2: Humans vs Bacteria cont'd</p> <ul style="list-style-type: none">● Interdependence of Organisms <p>UNIT 3: Evolution of Sick Humans</p> <ul style="list-style-type: none">● Genetics● Protein synthesis● Mismatch hypothesis	<p>UNIT 4: Saving the Mountain Lion</p> <ul style="list-style-type: none">● Reproduction● Genetic variation <p>UNIT 5: Food for All</p> <ul style="list-style-type: none">● Energy	<p>UNIT 5: Food for All cont'd</p> <ul style="list-style-type: none">● Matter in ecosystems <p>UNIT 6: Woolly Mammoth</p> <ul style="list-style-type: none">● Ecosystem resilience● Climate change● Human impact

CURRICULUM MAP

Subject: Regents Chemistry

Grade Level: 11th

Updated Review July 2024

FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
<p>MATH SKILLS- VOCAB</p> <ul style="list-style-type: none"> Scientific notation Metric system Element names/symbols <p>ATOMIC STRUCTURE</p> <ul style="list-style-type: none"> Part of atom Rutherford model Avogadro's # mole concept Relative average at mass <p>ELECTRON CONFIGURATIONS</p> <ul style="list-style-type: none"> Bohr model Electron configuration notation Orbital config. notation Electron dot notation Orbital model Spectroscopy Quantum numbers - Honors <p>BONDING/ INTERPARTICLE BONDING/TABLE</p> <ul style="list-style-type: none"> Ionic bonding Covalent bonding Electronegativity Molecular shape/dipole Energy changes in bonding Metallic crystal Network crystal Molecular crystal Van der Waal's crystal Ionic crystals Melting/boiling points Periodic table history Groups and periods Periodic trends 	<p>NAMING & FORMULA WRITING</p> <ul style="list-style-type: none"> Oxidation rules Formula writing Polyatomic ions IUPAC system % composition <p>EQUATION WRITING</p> <ul style="list-style-type: none"> Composition Decomposition Cation replacement Anion replacement Double replacement Combustion Electrolysis Neutralization <p>STOICHIOMETRY</p> <ul style="list-style-type: none"> Mass-mass Mass-volume Limiting/excess reagents <p>GAS LAW MATERIAL</p> <ul style="list-style-type: none"> Kinetic molecular theory Graham/Boyle/Charles' Laws Avogadro's Law Ideal gas law Combined law Density of gasses Pressure Dalton's Law Molecular weight and density 	<p>PHASES OF MATTER</p> <ul style="list-style-type: none"> Phase characteristics Heating/cooling curves Heat equation Heat of fusion/vaporization <p>SOLUTION CHEMISTRY</p> <ul style="list-style-type: none"> Solute/solvent Solubility curves Arrhenius theory Energy changes % concentration by mass Molarity Molality-Honors Conductivity of solutions Changes in f.pt/b.pt <p>ACID/BASE THEORY</p> <ul style="list-style-type: none"> General Characteristics Arrhenius theory Bronsted-Lowry theory Titrations Naming acids/bases pH and pOH scales <p>KINETICS/EQUILIBRIUM</p> <ul style="list-style-type: none"> Potential energy diagrams Enthalpy changes React.rt./collision theory Equilibrium LeChatelier's principle Rate law/equil/ constant 	<p>EQUIL. CONSTANTS/ SPONTANEITY</p> <ul style="list-style-type: none"> Ka and Kb (w. acid-Honors) Kw Ksp Free energy change <p>REDUCTION/ OXIDATION CHEMISTRY</p> <ul style="list-style-type: none"> Half reactions Balancing redox equations Electrochemical cells Voltage Electrolytic cells <p>ORGANIC CHEMISTRY</p> <ul style="list-style-type: none"> Chemistry of carbon Aliphatic series Aromatic series Naming Functional groups Substitution reactions Addition reactions Polymerization reactions Esterification reactions <p>RADIOACTIVITY</p> <ul style="list-style-type: none"> Particle/rays Half life Decay equation Fusion/fission Nuclear power plants

CURRICULUM MAP

Subject: AP Biology

Grade Level: 12th

Updated Review July 2024

FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
<p>CHEMISTRY</p> <ul style="list-style-type: none"> ● Atoms, molecules, bonding ● Properties of water ● Organic molecule types ● Enzymes <p>CELLS</p> <ul style="list-style-type: none"> ● Prokaryote/eukaryote ● Organelles ● Membrane properties <p>PHOTOSYNTHESIS</p> <ul style="list-style-type: none"> ● Chloroplast structure ● Light reactions ● Dark reactions ● Oxidative phosphorylation ● Chemiosmotic theory ● C4 reactions <p>RESPIRATION</p> <ul style="list-style-type: none"> ● Glycolysis ● Krebs cycle ● ATP output ● Mitochondrial membranes ● Chemiosmotic theory ● Anaerobic respiration 	<p>CELL DIVISION</p> <ul style="list-style-type: none"> ● Why cells divide ● Stages of mitosis ● Stages of meiosis ● Sims/diffs between the two ● Genetic variation <p>HEREDITY & GENETICS</p> <ul style="list-style-type: none"> ● History of genetics ● Genetic crosses ● Incomplete dominance ● Multiple alleles ● Epistasis ● Linkage ● Sex-linkage ● Nondisjunction ● Human genetics <p>MOLECULAR GENETICS</p> <ul style="list-style-type: none"> ● DNA structure/replication ● RNA structure ● Transcription/translation ● viral/bacterial genetics ● recombinant DNA ● Regulation of gene expression <p>EVOLUTION</p> <ul style="list-style-type: none"> ● Evidence ● Natural selection ● Sources of variation ● Genetic equilibrium ● Patterns of evolution ● Origin of life 	<p>ANIMALS</p> <ul style="list-style-type: none"> ● Respiration ● Circulation ● Excretion ● Digestion ● Regulation ● Support/movement ● Immunity <p>ANIMAL REPRO & DEVELOPMENT</p> <ul style="list-style-type: none"> ● Sexual differences ● Human repro anatomy ● Gametogenesis ● Hormonal regulation ● Embryonic development 	<p>ANIMAL BEHAVIOR</p> <ul style="list-style-type: none"> ● Genetic basis ● Kinds of behavior ● Communication ● Social behavior <p>ECOLOGY</p> <ul style="list-style-type: none"> ● Population ecology ● Communities ● Ecosystems ● Biomes ● Ecological succession ● Biogeochemical cycles ● Human impact - biosphere <p>LABORATORY REVIEW</p> <ul style="list-style-type: none"> ● AP Bio test review ● Practice multiple choices ● Sample essays <p>SIX KINGDOM SURVEY</p> <ul style="list-style-type: none"> ● Bacteria ● Archaea ● Protista ● Fungi ● Plantae ● Animalia <p>PLANTS</p> <ul style="list-style-type: none"> ● Roots/stems/leaves ● Transport of water/sugar ● Hormones ● Reproduction ● Tropisms

CURRICULUM MAP

Subject: Human Biology

Grade Level: 11th/12th

Updated Review July 2024

FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
<p>ORGANIZATION OF HUMAN BODY</p> <ul style="list-style-type: none"> ● anatomical directions ● plan of human body ● levels of organization ● body planes/cavities ● body systems <p>MECHANISMS OF DISEASE</p> <ul style="list-style-type: none"> ● causes ● risk factors ● prevention and control ● cancers <p>SKELETON-THE FRAMEWORK</p> <ul style="list-style-type: none"> ● structure of bone ● axial skeleton ● appendicular skeleton ● joints and movement ● disorders of skeletal system <p>MUSCLE TISSUE</p> <ul style="list-style-type: none"> ● anatomy ● sarcomere structure ● sliding filament theory ● energy requirements ● disorders of the muscles ● Muscular System <ul style="list-style-type: none"> ○ types of movement ○ muscles of axial skeleton ○ disorders of muscular system 	<p>NERVOUS SYSTEM</p> <ul style="list-style-type: none"> ● structure of neuron ● transmission of impulse ● synaptic transmission ● disorders of neurons ● central nervous system/brain ● autonomic nervous system ● peripheral nervous system ● disorders of nervous system <p>THE HEART</p> <ul style="list-style-type: none"> ● structure/blood flow ● control of heart rate ● heart disorders ● arteries/veins/capillaries ● circulatory routes ● control of blood pressure ● disorders of vascular system <p>DIGESTIVE SYSTEM</p> <ul style="list-style-type: none"> ● Mouth <ul style="list-style-type: none"> ○ esophagus/peristalsis ○ disorders of upper GI tract ● Stomach <ul style="list-style-type: none"> ○ gastric secretions ○ chemical/mechanical digestion ○ disorders of stomach ● Intestines <ul style="list-style-type: none"> ○ small intestine/villi ○ large intestine ○ liver/gallbladder/pancreas ○ absorption/defecation ○ disorders of lower GI tract <p>RESPIRATORY SYSTEM</p> <ul style="list-style-type: none"> ● structures of respiratory tract ● diaphragm/breathing mech. ● control of breathing ● disorders of respiratory tract 		

CURRICULUM MAP

Subject: Current Topics in Biology

Grade Level: 11th/12th

Updated Review July 2024

FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
		<p>RIGHT TO DIE/ RIGHT TO REFUSE MEDICAL TREATMENT</p> <ul style="list-style-type: none"> • Dr. Kevorkian • Euthanasia <p>REPRODUCTIVITY</p> <ul style="list-style-type: none"> • Egg/sperm donors • Frozen embryos • Cloning • Surrogacy <p>AIDS</p> <ul style="list-style-type: none"> • Causes • Prevention • Treatment <p>SEX EDUCATION</p> <ul style="list-style-type: none"> • School's role • TV effects • Abstinence 	<p>DRUGS</p> <ul style="list-style-type: none"> • Trends • Legalization • HIV association • Alcohol <p>TRANSPLANTS</p> <ul style="list-style-type: none"> • Who? why? costs • Animal organs • Fetal tissues <p>GENETIC REVOLUTION</p> <ul style="list-style-type: none"> • DNA studies • Bio-engineered plants • Stem cell research

CURRICULUM MAP

Subject: Physics: The Physical Setting

Grade Level: 11th/12th

Updated Review July 2024

FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
<p>UNIFORM MOTION</p> <ul style="list-style-type: none"> ● Displacement ● Velocity ● Acceleration ● Graphing & graph ● Motion equations ● Centripetal accelerations <p>FORCES</p> <ul style="list-style-type: none"> ● Newton's 1st law ● Newton's 2nd law ● Frictional forces & equations ● Centripetal forces ● Gravitational Focus <ul style="list-style-type: none"> ○ universal gravitation ○ Kepler's laws <p>VECTORS</p> <ul style="list-style-type: none"> ● Scalars & vectors ● Parallel vectors ● Perpendicular vectors <ul style="list-style-type: none"> ○ parallelogram method ○ head to tail method ○ by components 	<p>MOTION IN TWO DIMENSIONS</p> <ul style="list-style-type: none"> ● Independent of perpendicular motions ● Projectile motion ● Circular motion <p>MOMENTUM</p> <ul style="list-style-type: none"> ● Impulses & momentum equations ● Newton's 3rd law ● Conservation of momentum ● Internal & external forces ● Conservation of momentum in 2 or 3 dimensions <p>ENERGY</p> <ul style="list-style-type: none"> ● Work ● KE & PE energy ● Simple machines ● Mechanical advantage ● Conservation of energy ● Conservation of energy in collisions ● Power ● Torques ● Mass - energy conservation 	<p>WAVES</p> <ul style="list-style-type: none"> ● Types of waves ● Wave characteristic ● Interference ● Polarization ● Diffraction ● Resonance & standing waves ● Doppler effect <p>SOUND & LIGHT</p> <ul style="list-style-type: none"> ● Reflection ● Refraction (Snell's law) <p>ELECTRONIC FIELDS)</p> <ul style="list-style-type: none"> ● Static electricity & charges ● Electrostatic fields ● Charging by conduction ● Charging by induction ● Potential differences ● Charge distribution & field strength <ul style="list-style-type: none"> ○ point charges ○ wires & rods ○ parallel plates 	<p>CURRENT ELECTRICITY</p> <ul style="list-style-type: none"> ● Electric current ● Resistance ● Ohm's law ● Electrical power ● Series circuit ● Parallel circuit ● Series - parallel circuits ● Resistivity <p>MAGNETISM & ELECTROMAGNET APPLICATIONS</p> <ul style="list-style-type: none"> ● Magnetic domain & field directions ● Magnetic field distribution & strength ● Electromagnetic induction <ul style="list-style-type: none"> ○ right hand rule #1 ○ right hand rule #2 ○ right hand rule #3 ● Motors ● Generators ● Transformers <p>MODERN PHYSICS</p> <ul style="list-style-type: none"> ● Photoelectric effect ● Light wave particle ● Emission spectrum ● Debroglie wavelengths ● Models of the atom <ul style="list-style-type: none"> ○ Rutherford model ○ Bohr model ● The Standard Model

CURRICULUM MAP

Subject: AP Chemistry

Grade Level: 11th/12th

Updated Review July 2024

FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
<p>Unit 1 – Matter & Atomic Structure</p> <ul style="list-style-type: none"> ● Significant figures, units ● Types of matter ● Atomic theory <p>Unit 2-Stoichiometry</p> <ul style="list-style-type: none"> ● Formulas and naming ● The mole ● Mass relations in reactions <p>Unit 3 – Chemical Reactions</p> <ul style="list-style-type: none"> ● Types of reactions ● Molarity ● Solutions ● Precipitation reactions ● Acid base reactions ● Redox reactions <p>Unit 4 -Gases</p> <ul style="list-style-type: none"> ● Gaseous state ● Ideal gas law ● Stoichiometry of reactions ● Partial pressure ● Mole fraction ● Kinetic molecular theory ● Real gasses <p>Unit 5 - Thermochemistry</p> <ul style="list-style-type: none"> ● Calorimetry ● Enthalpy ● Thermochemical equations 	<p>Unit 6- Electronic Structure & Periodic Table</p> <ul style="list-style-type: none"> ● Wave nature of light ● Quantum Numbers ● Historical aspects ● Periodic trends <p>Unit 7- Bonding & Molecular Geometry</p> <ul style="list-style-type: none"> ● Bond energy ● Intermolecular forces ● Electron Dot Diagrams ● VSEPR <p>Unit 8- Liquids & Solids</p> <ul style="list-style-type: none"> ● Vapor Pressure ● Phase Diagrams ● Types of solids <p>Unit 9 - Solutions</p> <ul style="list-style-type: none"> ● Concentration systems ● Solution stoichiometry ● Principles of solubility ● Colligative properties <p>Unit 10- Chemical Thermodynamics</p> <ul style="list-style-type: none"> ● Entropy and enthalpy ● Free energy equation ● State Functions 	<p>Unit 11 – Kinetics</p> <ul style="list-style-type: none"> ● Rate vs. concentration ● Concentration vs. time ● Activation energy ● Rate vs. temperature ● Reaction mechanism ● Catalysts <p>Unit 12 –Equilibrium</p> <ul style="list-style-type: none"> ● Equilibrium system ● Equilibrium constant ● Applications of Keq ● LeChatelier and stresses <p>Unit 13- Acid-Base Theory</p> <ul style="list-style-type: none"> ● Ka and Kb ● Buffers ● Indicators ● Titrations <p>Unit 14 – Solubility Equilibrium</p> <ul style="list-style-type: none"> ● Ksp ● Common ion ● Precipitation <p>Unit 15-Electrochemistry</p> <ul style="list-style-type: none"> ● Redox equations ● Electrochemical cells ● Electrolysis ● Nernst equation 	<p>Unit 16-Nuclear Chemistry</p> <ul style="list-style-type: none"> ● Nuclear equations ● Half-lives ● Nuclear particle emissions ● Fission & Fusion <p>REVIEW FOR AP EXAM Emphasize on:</p> <ul style="list-style-type: none"> ● Balanced net ionic equations ● Complex ions ● Solubility rules ● Organic nomenclature

CURRICULUM MAP

Subject: Astronomy

Grade Level: 11th/12th

Updated Review July 2024

FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
<p>I. Introduction to Astronomy Introduction to Our Solar System Planetary Geology Why only 8 planets?</p> <p>II. Origins of Astronomy Constellations (Mythology) Introduction to research and presentation methods Using Stars/Constellations as Reference Points</p> <p>III. Historical Astronomy Introduction to possible powerpoint devices Historical Astronomers</p> <p>IV. Cosmic Voyage</p>	<p>V. Space Science Human Exploration Modern Exploration Benefits of space science Deep Space Astronomy Extraterrestrial Life Self-Guided Research</p> <p>VI. Telescopes</p>		

CURRICULUM MAP

Subject: AP Environmental Science

Grade Level: 11th/12th

Updated Review July 2024

FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
<p>Unit 1 – The Living World: Ecosystems</p> <ul style="list-style-type: none"> ● Intro to Ecosystems ● Terrestrial Biomes ● Aquatic Biomes ● Carbon Cycle ● Nitrogen Cycle ● Phosphorus Cycle ● Hydrologic Cycle ● Primary Productivity ● Trophic Levels ● Energy Flow and the 10% Rule ● Food Chains and Food Webs <p>Unit 2 - The Living World: Biodiversity</p> <ul style="list-style-type: none"> ● Intro to Biodiversity ● Ecosystem Services ● Island Biogeography ● Ecological Tolerance ● Natural Disruptions to Ecosystems ● Adaptations ● Ecological Succession <p>Unit 3 – Populations</p> <ul style="list-style-type: none"> ● Generalist & Specialist species ● K-selected & r-selected species ● Survivorship Curves ● Carrying Capacity ● Population Growth & Resource Availability ● Age structure diagrams ● Total Fertility Rate ● Human Population Dynamics ● Demographic Transition 	<p>Unit 4 - Earth Systems & Resources</p> <ul style="list-style-type: none"> ● Plate Tectonics ● Soil Formation & Erosion ● Soil Composition & Properties ● Earth’s Atmosphere ● Global Wind Patterns ● Watersheds ● Solar Radiation & Earth’s Seasons ● Earth’s Geography & Climate ● El Nino & La Nina <p>Unit 5 - Land & Water Use</p> <ul style="list-style-type: none"> ● Tragedy of the Commons ● Clearcutting ● The Green Revolution ● Impacts of Agricultural Practices ● Irrigation Methods ● Pest Control Methods ● Meat Production Methods ● Impacts of Overfishing ● Impacts of Mining ● Impacts of Urbanization ● Ecological Footprints ● Introduction to Sustainability ● Methods to Reduce Urban Runoff ● Integrated Pest Management ● Sustainable Agriculture ● Aquaculture ● Sustainable Forestry 	<p>Unit 6 – Energy Resources & Consumption</p> <ul style="list-style-type: none"> ● Renewable & nonrenewable ● Global energy consumption ● Fuel types and uses ● Distribution of natural energy resources ● Fossil fuels ● Nuclear power ● Energy from biomass ● Solar energy ● Hydroelectric power ● Geothermal energy ● Hydrogen fuel cell ● Wind energy ● Energy Conservation <p>Unit 7 – Atmospheric Pollution</p> <ul style="list-style-type: none"> ● Intro to air pollution ● Photochemical smog ● Thermal inversion ● Atmospheric CO2 & particulates ● Indoor air pollutants ● Reduction of air pollutants ● Acid rain ● Noise Pollution <p>Unit 8 - Global Change</p> <ul style="list-style-type: none"> ● Stratospheric ozone depletion ● Reducing ozone depletion ● Greenhouse effect ● Increases in greenhouse gasses ● Global climate change ● Ocean warming ● Ocean acidification ● Invasive species ● Endangered Species ● Human Impacts on Biodiversity 	<p>Unit 9 - Aquatic & Terrestrial Pollution</p> <ul style="list-style-type: none"> ● Sources of pollution ● Human impacts on ecosystems ● Endocrine disruptors ● Human impacts on Wetlands & Mangroves ● Eutrophication ● Thermal pollution ● Persistent organic pollutants ● Bioaccumulation & biomagnification ● Solid waste disposal ● Waste reduction methods ● Sewage treatment ● Lethal dose 50% ● Dose response curve ● Pollution & human health ● Pathogens & infectious diseases <p>REVIEW FOR AP EXAM</p> <p>FINAL PROJECT FOLLOWING AP EXAM</p> <ul style="list-style-type: none"> ● Students will complete a culminating project that will demonstrate understanding of various concepts that were learned throughout the year.

CURRICULUM MAP

Subject: Forensics

Grade Level: 11th/12th

Updated Review July 2024

FIRST QUARTER	FIRST QUARTER cont'd	SECOND QUARTER	SECOND QUARTER cont'd
<ul style="list-style-type: none"> • Define forensic science or criminalistics • Describe the services of a typical comprehensive crime laboratory • Define physical evidence • Review the proper collection and packaging of common types of physical evidence • Define chain of custody • Explain the difference between the identification and comparison of physical evidence. • Define individual and class characteristics. • Define physical and chemical properties • List and define the metric system's basic units and prefixes • Define elements and compounds • Define phase • Describe the electromagnetic spectrum • Distinguish between the Celsius and Fahrenheit • Distinguish mass from weight • Define density • Define psychological and physical dependence • Describe the schedules of the Controlled Substances Act • Describe the process of chromatography • Explain the difference between thin-layer and gas chromatography • Name the parts of a simple absorption spectrophotometer • Explain how alcohol is absorbed into the bloodstream, transported throughout the body, and finally eliminated by oxidation and excretion. • Describe the design of the Breathalyzer 	<ul style="list-style-type: none"> • Explain the significance of a chemical equation • Define acid and base • List the parts of the compound microscope • List the A-B-O antigens and antibodies found in the blood for each of the four blood types: A, B, AB, and O. • Explain why agglutination occurs • Explain how whole blood is typed • Describe tests used to characterize a stain as blood • Define chromosome and gene • List the laboratory tests necessary to characterize seminal stains. • Describe the concept of base pairing as it relates to the double helix structure of DNA. • Explain how the sequence of bases along a DNA strand ultimately determines the structure of proteins that are synthesized within the body. • Describe how a double-strand DNA replicates itself. What are the implications of this process for forensic science? • Understand how DNA can be cut and spliced into a foreign DNA strand. • Explain the difference between DNA strands which code for the production of proteins and those strands which contain repeating sequences of bases. • Explain what is meant by a restriction fragment length polymorphism (RFLP). • Describe the process of typing DNA by the RFLP technique and explain how DNA band patterns are interpreted. • Explain the technology of polymerase chain reaction (PCR) and how it is applied to forensic science. • Explain the difference between nuclear DNA and mitochondrial DNA 	<ul style="list-style-type: none"> • Describe the three phases of hair growth • List hair features that are useful for the microscopic comparison of human hairs. • Classify fibers. • Describe the structure of a polymer. • Define protons, neutrons, and electrons, including their mass and charge relationships. • Define atomic number and atomic mass number. • Explain the phenomenon of an atom releasing energy in the form of light • Define an isotope • Define radioactivity. • Describe the components of paint • Define oxidation • Describe the role of heat energy in chemical reactions • Describe the difference between an exothermic and endothermic chemical reaction. • Define ridge characteristics • Explain why a fingerprint is a permanent feature of the human anatomy. 	<ul style="list-style-type: none"> • List the three major fingerprint patterns and their respective subclasses. • Explain what is meant by visible, plastic, and latent fingerprints. • List the class and individual characteristics of bullets and cartridge cases. • List some common individual characteristics associated with handwriting. • List some of the techniques utilized by document examiners for uncovering alterations, erasures, obliterations, and variations in pen inks. • Introduce search engines along with the mechanisms used to search for information on the Internet. • Describe other types of information retrieval, such as mailing lists and news groups, available through the Internet.

CURRICULUM MAP

Subject: AP Physics

Grade Level: 12th

Updated Review July 2024

FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
<p>Unit 1 – Kinematics</p> <ul style="list-style-type: none"> ● Scalars and vectors in one dimension ● Displacement, velocity, acceleration ● Representing motion ● Reference frames and relative motion ● Vectors and motion in two dimensions <p>Unit 2 - Force & Translational Dynamics</p> <ul style="list-style-type: none"> ● Systems and center of mass ● Forces and free-body diagrams ● Newton’s third law ● Newton’s first law ● Newton’s second law ● Gravitational Force ● Kinetic and Static friction ● Spring forces ● Circular motion <p>Unit 3 – Work, Energy, Power</p> <ul style="list-style-type: none"> ● Translational kinetic energy ● Work ● Potential Energy ● Conservation of Energy ● Power 	<p>Unit 4 – Linear Momentum</p> <ul style="list-style-type: none"> ● Linear momentum ● Change to momentum and impulse ● Conservation of linear momentum ● Elastic and inelastic collisions <p>Unit 5 – Torque & Rotational Dynamics</p> <ul style="list-style-type: none"> ● Rotational kinematics ● Connecting linear & rotational motion ● Torque ● Rotational inertia ● Rotational equilibrium & Newton’s first law in rotational form ● Newton’s second law in rotational form 	<p>Unit 6 – Energy & Momentum of Rotating Systems</p> <ul style="list-style-type: none"> ● Rotational kinetic energy ● Torque and work ● Angular momentum & angular impulse ● Conservation of angular momentum ● Rolling ● Motion of orbiting satellites <p>Unit 7 – Oscillations</p> <ul style="list-style-type: none"> ● Defining simple harmonic motion ● Frequency and period of SHM ● Representing and analyzing SHM ● Energy of simple harmonic oscillations 	<p>Unit 8 – Fluids</p> <ul style="list-style-type: none"> ● Internal structure & density ● Pressure ● Fluids and Newton’s laws ● Fluids and conservation laws <p>REVIEW FOR AP EXAM</p>

CURRICULUM MAP

Subject: Aquatic Ecology

Grade Level: 10th/11th/12th

rev 07/24

FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
Curriculum map coming soon.			

CURRICULUM MAP

Subject: Physics Elective - Intro to Motion

Grade Level: 11th/12th

rev 07/24

FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
Curriculum map coming soon.			

CURRICULUM MAP

Subject: Physics Elective - Electricity & Magnetism

Grade Level: 11th/12th

rev 07/24

FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
Curriculum map coming soon.			

CURRICULUM MAP

Subject: Environmental Science

Grade Level: 11th/12th

rev 07/24

FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
Curriculum map coming soon.			