

MHSD 193 Science Curriculum Map

Grade/Course	September	October	November	December	January	February	March	April	May/June
Grade 7 Life Science	Characteristics of life What is life science Scientific method Safety rules/symbols Measurement Technology tools	Basic units of life/cells Characteristics of Living things Cell cycle/chemistry/ theory/components Organelles	Heredity Gene theory Genes & technology DNA / RNA Mendel's Laws Mitosis/Miosis	Classification levels Scientific names Inate/learned behavior Kingdoms of species	Metamorphosis Simple invertebrates Worms/arthropods Echinoderms Chordates/fish/ Amphibians/reptiles	Birds/mammals Structure/function Human body systems cells/tissues/organs/ skeletal/muscular/ excretory/endocrine	Circulation/respira- tion/heart/vessels/ blood/lymphatic/ digestive/urinary/ waste systems Intestinal tract	Nervous system Peripheral system Senses Animal/human growth Mutation	Plants & plant processes Characteristics Seedless/seed Plant bacteria/viruses Protists/monerans
Grade 8 Physical Science	Matter/states Inquiry/hypothesis/ Analysis/Critical Thinking Lab Safety Metric System	States of Matter Atoms Research Graphing	Atoms Periodic Table Lab Safety Research Gas laws	Chemical Bonds Chemical Reactions Scientific Method Research	Chemical Reactions Acids/Bases/Solutions Scientific Method Lab Safety Research	Motion Forces Scientific Method Lab Safety Research	Forces Energy Scientific Method Lab Safety Research	Waves Sound Scientific Method Lab Safety Research	Light Rocketry Synthesis Scientific Method Lab Safety Research
Grade 9 Earth Science	Metric System Scientific Method Branches of Earth Science Earth's Interior Mapping	Plate Tectonics Crust Deformation Earthquakes Volcanoes Natural Disaster Safety	Earth Chemistry Minerals Rock Cycle Energy Resources	Weathering Processes River Systems Groundwater Glaciers Wind and Waves	Rock Record Fossils Geologic Time History of Continents	Ocean Basins Properties of Seawater Ocean Life Waves/Currents	Atmosphere Wind Moisture Precipitation Air Masses/Climates	Life Cycle of Stars Galaxies The Sun Origin of Solar System	The Planets Moon, Rings, Comets, Asteroids Earth's Moon Space travel/ exploration
Chemistry	Math Review/Metrics Atomic Structure Functions Characteristics Notable Scientists/ Contributions	Electron Orbitals Periodicity Basic electrical properties Problem Solving Notable Scientists	Bonding Nomenclature Interaction of atoms Compound Properties Molecular interactions	Chemical Reactions Stoichiometry Involve energy/occur around us/occur in different time frames Problem solving	Carries over from December	Gas Laws Changes of State Solids/liquids/gases differ in energy that bonds them together	Solutions Acids/Bases Physical properties	Equilibrium Reaction Rates Forces and changes	Nuclear Chemistry Structure of atoms Social/economic impact of historic scientific events
Biology	Scientific Method Cell Biology Microscope skills Metric measurement Lab Safety	Energy Cell Production Photosynthesis Respiration Mitosis Diagrams/models	Meiosis Heredity DNA Protein System Analyzing/Probability	Genetic Engineering Evolution Pedigrees Graphs/concept Mapping	Classification History of life on earth/evolution Ecology Charts/analogies Presentation skills	Kingdoms Classification Ecology Charts/analysis Critical thinking	Invertebrates Vertebrates Dissection Viruses/bacteria Protists Presentation skills	Vertebrates Dissection Fungi Plants Animals	Nervous system Behavior Vertebrates Dissection Diagrams Study skills
Physics	Math Review/Metric system Kinematics Concepts of Motion / Force	Vectors Forces Problem Solving Concepts of motion and force	Newton's Laws Rotational Motion Problem Solving	Torque Conservation of Momentum Problem Solving	Momentum Problem Solving	Waves Energy classifications Problem Solving	Electricity Waves/electrons Gravitational and Electrical forces Problem Solving	Magnetism Atomic Physics Fission Fusion	Design/conduct Scientific investig. Read for information Technical writing Critical thinking
AP Biology	Animal behavior Biochemistry Enzyme catalysis	Cells, cellular energy, cell reproduction Diffusion and osmosis Respiration Photosynthesis, mitosis and meiosis	Medelian genetics Molecular genetics Tranformation Electrophoresis	Evolution	Taxonomy Monera Protists Fungi	Plants Transpiration	Animals Physiology Lab	Ecology Dissolved oxygen and productivity	Review Fetal pig dissection
	States of matter Solutions Atomic theory Chemical bonding Nuclear chemistry Parts/functions of	Reactions Reaction types Stoichiometry Equilibrium Kinetics Know the types of	Thermodynamics Understand the First and Second Laws Know the relationship to free energy Know claorimetry	Descriptive chemistry Know the chemistry of the main group and transition elements Know physical and chemical properties of	Semester Exam	Kinetics Know the rate and order of reactions, and the energy of activation	Nuclear chemistry Understand half-life and radioactivity	Review all material for AP Exam	AP Exam

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AP Chemistry Grades 11-12	atoms States and basic electrical properties	reactions Know about acids and bases		simple organic compounds					
General Science I	Atoms Elements, mixtures, and compounds Natural resources Living things Three states of matter Functions of atoms, scientific inquiry, critical thinking	Human biology and interdependence of organs and organisms Plants and animals Importance of water to human body Basic knowledge of plant and animal reproduction & physiology	Chemical reactions Water quality and ecology Ecosystems and their interactions Reactions-time period Rel. between form and function Identify enviro. issues & undst. pollution	Nutritional needs and body function Tracing of flow of energy in ecosystem Form and function in GI tract Need of energy for all living things to live and function	Digestion and absorption of food, parts of a diet Trace matter cycles and energy flows Chemical bonds in food Competition and cooperation of organisms in an ecosystem	One semester course	One semester course	One semester course	One semester course
Zoology	Introduction Importance/Roles Animal tissues/organs/systems	Reproduction(estrus, Anatomy, gestation, genetics, artificial Insemination)	Animal feeding Digestive systems Feedstuffs Rations	Animal health Diseases Vaccines General Care	Review Memory skills Study skills	One semester course	One semester course	One semester course	One semester course
Botany	Algae Mosses Ferns Flower and leaf identification	Plants with seeds	Roots Stems Leaves	Plant growth and development	Reproduction in seed plants	Algae Mosses Ferns Flower and leaf identification	Plants with seeds	Roots Stems Leaves	Plant growth and development Reproduction in seed plants
Botany	Importance of animals, animals as organisms, beef production, purpose of animals, parts of animals, breeds, beef diseases	Swine and sheep production, breeds of swine, evaluate based on appearance, breeds of sheep, sheep diseases	Equine Production, distinguish between the different breeds of equine, uses of horses in the world	Livestock facilities, draw plans for a facility to house livestock, animal psychology in planning pens	Review, memory skills, study skills	One semester course	One semester course	One semester course	One semester course
General Science II	Introduction to Natural Resources Fossil Fuels Recycling	Air Water	Soil Living Natural Resources	Scientific Method Measurements	What is Life Cells Kingdoms	One semester course	One semester course	One semester course	One semester course