



CURRICULUM MAP
BIOLOGY 10TH GRADE

WEEK	STANDARDS/ BENCHMARKS/ OBJECTIVES	TOPICS (Lesson Make-up)	MATERIALS/ RESOURCES/ TECHNOLOGY	PROJECTS/ ACTIVITIES/ SUPPLEMENTS	ASSESSMENT
1	Learn the definition of Biology, living and nonliving things, know the characteristics of organisms, uses of energy, learn and use the scientific method, understand the difference between deductive and inductive reasoning.	Introduction to Biology Themes	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
2	Use diagrams, charts, and tables to display information, compare uses of pie charts, line charts, bargraphs, etc. Perform measurement of metric mass and length, area, and volume.	Methods of observation & Measurement	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test



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3	Understand atoms and elements, electrons, orbital shells, atomic mass, Use the periodic table, to find chemical properties, atomic numbers, Develop energy skills, understand the formation of ionic and covalent bonds, know what organic and inorganic compounds are; understand molecules, and chemical reactions	Understanding Chemistry in Life	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
4	Learn cell theory, Identify cell parts, cell structures and functions, know specialized cell structures.	Explain how cells Form Organisms	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test



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5	Explain the difference between Prokaryotic and eukaryotic cells, Identify cell membranes, explain active and passive transport, understand the difference between hypertonic, hypotonic, and isotonic solutions.	Cells at Work	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
6	OGT Prep	OGT Prep	Study Island and sample test from ODE website	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	Not Graded
7	Explain binary fission, know what happens during mitosis, explain and identify interphase, prophase, metaphase, and telophase, know what happens during meiosis understand how and why this is different from Mitosis, know the steps in meiosis and what type of cells undergo meiosis	Understanding cell Processes	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test



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8	Understand Chromosomal replication; make comparisons of DNA and RNA, know the RNA types, explain homeostasis, and respiration, photosynthesis, light reaction and the Calvin cycle.	The processes of Respiration & Replication	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
9	Understand processes of sexual and asexual reproduction, binary fission, budding, regeneration, Mendel, contrasting traits, homozygous and heterozygous traits, dominance and recessiveness.	Introductory Heredity and Genetics	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
10	Explain Hybrids, dihybrids, know how to determine sex, understand sex-linked traits, law of dominance, law of segregation, law of independent association.	Heredity and Genetics part 2	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test



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11	Learn taxonomy, populations, Linnaeus and the Taxonomic Theory of Hierarchy, scientific naming, identify the five kingdoms and eight phyla.	Scientific Classifications of Life	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
12	Understand bacterial reproduction, eubacteria, decomposers, helpful and harmful bacteria, monera characteristics, Know the requirements for survival, show and identify the different bacterial shapes, compare bacteria and viruses, viral diseases, lytic viruses, scientific contributions of famous bacteria fighters.	Monerans and Viruses	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test



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13	Identification of protists, protozoans, and protist phyla, paramecia, sexual and asexual reproduction in paramecia, life cycle of plasmodia, flagellates, symbiotic relationships, euglenoids.	Protists	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
14	Know the Mycology, characteristics of fungi, identify chitin and hyphae, fungi phyla, the understand the importance of fungi to humans, receive fungal diseases.	Fungi	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
15	Describe general plant characteristics, algae, explain the similarities, the vascular system, Identify bryophytes, mosses, understand the life cycle of moss, know the importance of bryophytes to humans.	Nonvascular Plants	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test



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16	Compare tracheophytes and bryophytes the vascular system, vascular tissue, seedless plants, the fern life cycle, vascular plants with seeds, gymnosperms, conifers, cycades, ginkgoes, Know the characteristics of monocots and dicots, explain artificial reproduction.	Vascular Plants	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
17	Identify flower parts, structures, explain the life cycle of the flowering plant, fertilization, pollination, agents of pollination, Compare simple and compound fruits	The Flowering Plants	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
18	Flower parts, structures, life cycle of the flowering plant, fertilization, pollination, agents of pollination, simple and compound	The Flowering Plants (continued)	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test



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19	Understand Seeds and seed dispersal, seed features, roots and root structures, stem and leaf types.	Seeds, Roots, and Stems	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
20	Explain animal traits, identify coelomates, pseudocoelomates, acoelomates, learn about sponges and the importance of the ocean to sponges.	Porifera	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
21	Know cnidarian characteristics, review sexual and asexual reproduction, classify corals and coral reef formations.	Cnidaria	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
22	Know the characteristics of mollusks, classes of mollusks, clams, scallops, oysters, snails, conches, abalone, slugs, octopus, squid, nautili,	Mollusks	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test



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	explain reproduction in mollusks.				
23	Identify starfish, sand dollars, sea urchins, and sea cucumbers.	Echinoderms	A+ lesson and Test AGS Book	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
24	Know the major worm phyla and the characteristics and classes of flatworms, planaria, nematodes, annelids, parasites and free-living worms, identify excretory, respiratory, nervous, circulatory, and reproductive systems of worms, know what diseases are caused by worms.	The Worm Phyla	A+ lesson and Test AGS Book	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
25	Learn the exoskeleton, molting, stages of complete and incomplete metamorphosis, digestive systems of arthropods, explain arthropod respiration, circulation and reproduction, identify diseases caused by arthropods, know the	Arthropods 1	A+ lesson and Test AGS Book	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test



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	different classes of arthropods.				
26	Identify crustaceans, diplopoda, chilopoda, insecta, and arachnids, differentiate between internal and external functions, explain digestion, circulation, excretion, senses and reproduction.	Arthropods 2	A+ lesson and Test AGS Book	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
27	Identify internal and external insect functions, digestion, circulation, excretion, senses and reproduction, silk glands, know characteristics of insects, classify mouth and wing types.	The Insect Phyla	A+ lesson and Test AGS Book	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
28	Identify Chordates, know characteristics of fish, such as jaw types, skin and scales, cartilage and bone structures, external structures.	Vertebrates - Fish 1	A+ lesson and Test AGS Book	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
29	Understand nervous, circulatory and reproductive systems of fish, symbiosis in fish,	Vertebrates - Fish 2		AGS workbook; lectures and demonstrations; AGS Teacher Resource	A+ Practice test and mastery test



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	special adaptations in fish.			Library (CD ROM)	
30	Identify amphibian orders, external and internal structures, muscular system, digestion, respiration, nervous, and reproductive systems in amphibians, frogs, toads, salamanders, and other amphibians.	Vertebrates - Amphibians	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
31	Identify Lizards, turtles, gila monsters, komodo dragons, and other large reptiles. Explain the characteristics and body systems, skin types, identify extinct reptiles.	Vertebrates - Reptiles 1	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
32	Identify Snakes, reptile orders, venomous snakes, endangered reptiles.	Vertebrates - Reptiles 2	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
33	Know the characteristics of birds, such as feather types and functions, wing structures, beaks and	Vertebrates - Birds	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied	AGS workbook; lectures and demonstrations; AGS Teacher Resource	A+ Practice test and mastery test



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	bills, adaptive feet, flight, digestive, skeletal, circulatory, nervous, and reproductive systems of birds. Understand the migration and birds.		learning style delivery of assignments	Library (CD ROM)	
34	Know the characteristics of mammals, identify circulation, digestive, nervous, reproductive systems, body coverings, teeth types, Know mammal orders and characteristics.	Vertebrates - Mammals	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
35	Review of body support systems, muscle types, circulation, respiration, digestion, and excretion in various organisms. Introduction to the human body systems.	The Human Body	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test
36	Understand Body tissues and types, skeletal support, identification of bones in the human body and their types, arm and leg parts and appendages, joints, muscle types and function.	Human Locomotion	A+ lesson AGS book; A+ auditory option DVD/audio options; Varied learning style delivery of assignments	AGS workbook; lectures and demonstrations; AGS Teacher Resource Library (CD ROM)	A+ Practice test and mastery test



VIRTUAL SCHOOLHOUSE

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