

Curriculum Map

Subject: Science	Grade: 7
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Time Frame	Topic	Content	Resources	Assessments
3 Weeks	Scientific Method/ Measurement	Students will apply the steps in the scientific method, learn to write a lab report, lab safety, use science tools and the metric system	text, brainpop, spongebob worksheets, Simpson worksheets, ppt, video on TBB and graduated cylinder	bellringers, notebooks, oral questioning, observations, notebooks, homework, quizzes, tests
3 Weeks	The Study of Living Things It's Alive!! Or is it?	Students will describe the six characteristics of living things, that they have cells, sense and respond to stimuli, reproduce, have DNA, use energy and grow and develop; explain why organisms need food, water, air and space, describe the chemical building blocks of cells	text, brainpop, ppt, alien worksheet	bellringers, notebooks, oral questioning, observations, notebooks, homework, quizzes, tests
3 Weeks	Cells	Explain the parts of the cell theory and why so small, explain how bacteria differ from archaea, explain the difference between eukaryotic and prokaryotic cells; identify the parts and function of organelles, list advantages to being multicellular, describe the levels of organization of living things, explain the relationship	microscopes, text, cell project, brainpop, video, iPad app	bellringers, notebooks, oral questioning, observations, notebooks, homework, quizzes, tests

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		between structure and function of a part of an organism		
2 Weeks	The Cell in Action	Students will explain the process of diffusion and how osmosis occurs, compare active and passive transport and how large particles get into cells; describe photosynthesis and respiration, compare cellular respiration with fermentation; explain how cells produce more cells; describe mitosis, explain how cell division differs in animals and plants	text, microscopes, brainpop, labs, viewers, ppt, cell project	bellringers, notebooks, oral questioning, observations, notebooks, homework, quizzes, tests
2 Weeks	Heredity, Evolution and Classification Heredity	Students will explain the relationship between traits and heredity, describe the experiments of Mendel, explain difference between dominant and recessive traits; explain how alleles are related to genotype and phenotype; use a punnett square to get percentages; explain how probability can be used to predict possible genotypes in offspring; describe three exceptions to	text, video, brainpop, ppt, traits worksheets, punnett squares, labs, smiley face lab	bellringers, notebooks, oral questioning, observations, notebooks, homework, quizzes, tests

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		Mendel's observations; explain difference between mitosis and meiosis, describe how chromosomes determine sex, explain why sex-linked disorders occur in one sex more often, interpret a pedigree		
2 Weeks	Genes and DNA	Students will list three important events that led to understanding the structure of DNA; describe the structure; explain how DNA molecules can be copied; explain relationship between DNA, genes and proteins, outline the basic steps in make a protein, describe 3 types of mutations, describe two example sof uses of genetic knowledge	Text, DNA labs, brainpop, ppt, video	bellringers, notebooks, oral questioning, observations, notebooks, homework, quizzes, tests
2 Weeks	The Evolution of Living Things	Students will identify two kinds of evidence that show that organisms have evolved, describe one pathway through which a modern whale could have evolved from an ancient mammal, explain how comparing organisms can provide evidence that they have ancestors in common; list	text, brainpop, video, ppt	bellringers, notebooks, oral questioning, observations, notebooks, homework, quizzes, tests

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		four sources of Darwin’s ideas about evolution, describe four parts of his theory of evolution by natural selection, relate genetics to evolution; give three examples of natural selection in action, outline the process of speciation		
2 Weeks	The History of Life on Earth	Students will explain how fossils can be formed and how their age can be estimated, describe the geologic time scale and the way it is used, compare two ways that conditions for life on Earth have changed over time; outline the major developments that allowed life to exist on Earth, describe the types of organisms that arose during the four major divisions of geologic time; describe two characteristics that all primates share; describe three major groups of hominids	text, brainpop, video, ppt	bellringers, notebooks, oral questioning, observations, notebooks, homework, quizzes, tests
2 Weeks	Classification	Students will explain why and how organisms are classified, list the 8 levels of classification, explain	dichotomous key, text, brainpop	bellringers, notebooks, oral questioning,

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		scientific names, describe how dichotomous keys help in identifying organisms; explain how classification developed as greater numbers of organisms become known, describe the three domains, describe 4 kingdoms in the domain Eukarya		observations, notebooks, homework, quizzes, tests
2 Weeks	Ecology Interactions of Living Things	Students will distinguish between biotic and abiotic parts of the environment, explain how populations and communities are related, describe how the abiotic parts of the environment affect ecosystems; describe the functions of producers, consumers, and decomposers, distinguish between food chain and food web, explain how energy flows through a food web, describe how the removal of one species affects the entire food web; explain the relationship between carrying capacity and limiting factors, describe the two types of competition, distinguish between mutualism, commensalism, and parasitism, give an example of	text, brainpop, video, diagrams	bellringers, notebooks, oral questioning, observations, notebooks, homework, quizzes, tests

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		coevolution		
2 Weeks	Cycles in Nature	Students will diagram the water, nitrogen and carbon cycles and explain their importance to living things; describe the process of succession, explain how mature communities develop	brainpop, labs, text, diagrams	bellringers, notebooks, oral questioning, observations, notebooks, homework, quizzes, tests
2 Weeks	Human Body Systems Body Organization and Structure	Students will describe how tissues, organs, and organ systems are related, list 11 organ systems, identify how organ systems work together to maintain homeostasis, identify the major organs of the skeletal system and the four functions of bones, describe 3 joints and list 3 injuries and two diseases that affect bones and joints; list 3 kinds of muscle tissue, describe how skeletal muscles move bones, compare aerobic and resistance exercise, describe two muscular system injuries; list 4 functions of skin, describe two layers of skin, describe the structure and function of	text, human body book, brainpop, video, ppt bone lab	bellringers, notebooks, oral questioning, observations, notebooks, homework, quizzes, tests

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		hair and nails, describe two kinds of damage that can affect skin		
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