

Grade: 7th						
Subject: Science 1						
Semester	Topic	Standard	Skill	Resource, Activities or Materials	Key Terminology	Assessments
Semester 1 and Semester 2	Unit 1: PS 1, 2, 3, & 4 - Introduction to Matter: The World of Physical Science, Properties of Matter, States of Matter & Elements, Compounds and Mixtures	MS-PS1-1 MS-PS1-2 MS-PS1-4 MS-ESS1-1 MS-ESS1-2 MS-ESS1-3 MS-ETS1-1 MS-ETS1-2 MS-ETS1-3 MS-ETS1-4	<ul style="list-style-type: none"> • Explain that science involves asking questions • Describe the relationship between matter and energy • Distinguish between the two branches of physical science • Identify major areas of Physical Science • Explain the scientific method • Describe how a hypothesis is formed & tested • Identify ways to analyze data and communicate data • Explain and identify types of models • Describe theories and laws • Explain the engineering model • Identify tools used to collect and analyze data • Explain the importance of metric system • Identify appropriate units for measurements • Identify safety rules and symbols • Describe the two properties of all matter • Identify the units to measure mass and volume • Compare mass and weight • Explain the relationship between mass and inertia • Identify examples of physical properties of matter • Describe how density is used to identify substances • Explain what happens during physical changes in matter and list examples • Describe examples of chemical change properties • Explain what happens during a chemical change • Distinguish between physical and chemical changes 	<p>Holt Science and Technology: Physical Science Copyright 2007</p> <p>Relevant additional/ supplemental resources including labs, research projects, videos, video clips, and internet sites. (Examples include the "Bill Nye" science series, Physics Classroom, POGILS, PhET simulations, Flinn Scientific STEM design challenge, and Pasco/Vernier lab resources)</p>	Various terminology associated with the scientific method, science models, measurement and metric, properties of matter, changing states of matter, elements, compounds and mixtures	<p>Daily assignments</p> <p>Quizzes</p> <p>Labs</p> <p>Chapter Test</p>

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Semester 1	Unit 2: LS 2, 3 & 4- It's Alive or is it?, Cells & Cell Processes	MS-LS1-1 MS-LS1-2 MS-LS1-3 MS-LS1-6 MS-LS1-7 MS-LS1-8 MS-LS2-2 MS-LS3-2	<ul style="list-style-type: none"> • Describe the characteristics of life • Contrast asexual and sexual reproduction • Describe how to maintain a stable internal condition • Describe chemical building blocks of cells • State the parts of the cell theory • Explain why cells are so small • Describe the cell parts • Distinguish between prokaryotic and eukaryotic • Identify structure and function of eukaryotic cell parts • List the levels of organization in animals • Explain the process of diffusion • Compare passive and active transport • Describe photosynthesis, cell respiration and fermentation • Explain how cells reproduce • Describe the steps in mitosis • Compare the differences in plant & animal cell division 	<p>Holt Science and Technology: Life Science Copyright 2007</p> <p>Bill Nye "The Science Guy" Middle School Series</p>	<p>Various biology terminology associated with living organisms, Cell Anatomy & Cell processes Terminology</p>	<p>Daily assignments</p> <p>Quizzes</p> <p>Labs</p> <p>Chapter Test</p>

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Semester 1	Unit 3 Living Organisms: Classification & Simple Organism - LS 9, 10 & 11	<i>MS-LS1-1</i> <i>MS-LS1-2</i> <i>MS-LS1-4</i> <i>MS-LS1-6</i>	<ul style="list-style-type: none"> Explain how organisms are classified List the 8 levels of the classification system Explain scientific naming and names Describe how dichotomous keys help in identification Describe the characteristic of Prokaryotes Explain how they reproduce Relate the characteristics of archaea Explain how life on earth depends on bacteria Describe ways bacteria are harmful and helpful Explain how viruses are similar and different from living things List the characteristics of Protists Describe the four ways protists get food Distinguish between the three ways protists reproduce Organize the three groups of protists by traits Describe the characteristics of Fungi Distinguish between the four main groups of fungi Explain how lichens affect their environment 	Holt Science and Technology: Life Science Copyright 2007 Relevant additional/ supplemental resources including labs, research projects, videos, video clips, and internet sites.	Various terminology related to classification, protists, fungi and bacteria	Daily assignments Quizzes Labs Chapter Test
Semester 1	Unit 4: Plants & Plant Processes- LS 12 & 13 (select topics – based on time)	<i>MS-LS1-2</i> <i>MS-LS1-3</i> <i>MS-LS1-4</i> <i>MS-LS1-7</i>	<ul style="list-style-type: none"> Identify 4 characteristics all plants share Describe the 4 main groups of plants Compare gymnosperms to angiosperms Describe functions of the root, stem, leaf, seed and flower Identify the factors in pollination 	Holt Science and Technology: Life Science Copyright 2007 Bill Nye “The Science Guy” Middle School Series	Various terminology related to plant groups, their structures and functions	Daily assignments Quizzes Labs Chapter Test S-

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Semester 1	Unit 5: Animals – LS 16,17 & 18 (select topics – based on time)	MS-LS1-4 MS-LS1-5 MS-LS3-1 MS-LS4-1 MS-LS4-2 MS-LS4-3 MS-LS4-4 MS-LS4-5 MS-LS4-6 MS-ESS3-3	<ul style="list-style-type: none"> Describe body plans of simple invertebrates Explain how sponges feed Describe three cnidarian groups Compare the three types of worm groups Describe how mollusk body works Identify the 4 basic parts of all mollusks List the four main characteristics of arthropods Describe the types of metamorphosis Explain the echinoderm body plan, system and example List four common parts of all Chordates Explain the differences between endotherm & ectotherm Describe the characteristic of Fish, amphibians, reptiles, birds and mammals Explain ecological indicators Compare stages in metamorphosis Describe an amniotic egg Discuss how reptiles survive on land Explain all factors that attribute to flight in birds Identify the differences in bird groups Contrast early mammals with modern mammals Describe the differences in the 3 major mammal groups 	Holt Science and Technology: Life Science Copyright 2007 Relevant additional/ supplemental resources including labs, research projects, videos, video clips, and internet sites.	Various terminology used in describing chordates, their structures and development	Daily assignments Quizzes Labs Chapter Test

Semester 2	Unit 6: PS 9 & 10 - Work and Energy	MS-PS3-3 MS-PS3-4 MS-PS3-5 MS-ESS2-5 MS-ESS2-6 MS-ESS3-5 MS-ESS3-2 MS-ESS3-3 MS-ESS3-4 MS-ETS1-1 MS-ETS1-2 MS-ETS1-3 MS-ETS1-4	<ul style="list-style-type: none"> • Give examples of energy conversions for the different forms of energy • Explain how energy conversions make energy useful • Explain the role of machines in energy conversion • Explain how energy is conserved in a closed system • Discuss the law of conservation of energy • Give examples of how thermal energy is always a result of energy conversion • Determine factors that make perpetual motion is impossible • Identify several energy resources • Make inferences about the vastness of the sun's energy • Evaluate the advantages and disadvantages of using various energy resources • Describe how temperature relates of kinetic energy • Compare temperatures on different temperature scales • Give examples of thermal expansion • Define heat as thermal energy transferred between objects with different temperatures • Compare conduction, convection, and radiation • Use specific heat capacity to calculate heat • Identify three states of matter • Explain how heat affects matter during a chemical change • Explain what a calorimeter is used for • Analyze several kinds of heating systems • Describe how a heat engine works • Explain how a refrigerator works • List some effects of heat technology in the environment 	Holt Science and Technology: Physical Science Copyright 2007 Relevant additional/ supplemental resources including labs, research projects, videos, video clips, and internet sites. (Examples include the "Bill Nye" science series, Physics Classroom, POGILS, PhET simulations, Flinn Scientific STEM design challenge, and Pasco/Vernier lab resources)	Various terminology as it relates to energy, energy conservation, thermal conduction & insulation & heat	Daily assignments Quizzes Labs Chapter Test
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Semester 2	Unit 7 - Ecology LS 18,19, 20, & 21	<p><i>MS-LS1-6</i> <i>MS-LS1-7</i> <i>MS-LS2-1</i> <i>MS-LS2-2</i> <i>MS-LS2-3</i> <i>MS-LS2-4</i> <i>MS-LS2-5</i></p> <p><i>MS-ESS2-1</i> <i>MS-ESS2-4</i> <i>MS-ESS3-3</i> <i>MS-ESS3-4</i></p>	<ul style="list-style-type: none"> • Distinguish between abiotic and biotic parts of the environment • Explain how populations & communities are related • Describe how abiotic factors affect ecosystems • Explain the flow of energy in food chains / webs • Cause & Effects of removing species from an environment • Distinguish between mutualism and commensalism • Give examples of coevolution • Diagram the water, carbon, nitrogen cycle & explain the importance to life • Discuss Succession • Contrast primary & secondary succession • Explore the factors that determine the major land, fresh water and saltwater biomes on earth • List 5 kinds of pollutants • Distinguish between renewable and nonrenewable resources • Describe the impact of exotic species • Explain why human population has increased • Describe how habitat destruction affect biodiversity • Give two examples of how pollution affect humans 	<p>Holt Science and Technology: Life Science Copyright 2007</p> <p>Relevant additional/ supplemental resources including labs, research projects, videos, video clips, and internet sites.</p>	<p>Various terminology used in Ecology, ecosystems, symbiosis, cycles of matter, biomes, pollutions, natural resources, biodiversity and environmental strategies</p>	<p>Daily assignments</p> <p>Quizzes</p> <p>Labs</p> <p>Chapter Test</p>
Semester 2	Unit 8: Weather & Climate- ES 16	<p><i>MS-ESS2-5</i> <i>MS-ESS2-6</i> <i>MS-ESS3-5</i></p>	<ul style="list-style-type: none"> • Explain movement of water in the water cycle • Describe how humidity effects temperature • List types of major clouds & types of precipitation • Identify types of air mass in the U. S. • Describe the 4 major types of fronts • Explain how fronts cause weather • Describe how lightning forms • Describe thunderstorms, tornados and Hurricanes and how they form 	<p>Holt Science and Technology: Earth Science Copyright 2007</p> <p>Relevant resources including labs, research projects, videos, video clips, and internet sites.</p>	<p>Various terminology used in pressure, heat, humidity and air movement as it applies to weather</p>	<p>Daily assignments</p> <p>Quizzes</p> <p>Labs</p> <p>Chapter Test</p>
Quarters 1,2,3,4		<p><i>MS-ETS1-1 through 4</i> <i>MS-ETS3-2 through 4</i></p>	<ul style="list-style-type: none"> • Human Impacts (relevant topics) • Engineering Design (through-out the year) 			

