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Amherst County Public Schools Grade 3 Science Pacing Guide Revised 2010	
Nine Weeks 1	
3.1 a, b, g Duration: Throughout the instruction of SOL 3.3 as appropriate	The student will demonstrate an understanding of scientific reasoning, logic and the nature of science by planning and conducting investigation in which a) Observations are made and are repeated to ensure accuracy; b) Predictions are formulated using a variety of sources of information; and g) questions are developed to formulate hypotheses. ***use content from SOL 3.3**
3.2 Duration: 4 weeks	The student will investigate and understand simple machines and their uses. Key concepts include a) purpose and function of simple machines; b) types of simple machines (lever, screw, pulley, wheel and axle, inclined plane, and wedge) c) compound machines (scissors, wheelbarrow, and bicycle), and d) examples of simple and compound machines found in the school, home, and work environments.
3.3 Duration: 4 weeks	The student will investigate and understand that objects are made of materials that can be described by their physical properties. Key concepts include a) objects are made of one or more materials; b) physical properties remain the same as the material is changed in visible size; and c) visible physical changes are identified. Old b) materials are composed of parts that are too small to be seen without magnification)
Nine Weeks 2	
3.1 c Duration: Throughout the instruction of SOL 3.4 as appropriate	The student will demonstrate an understanding of scientific reasoning, logic and the nature of science by planning and conducting investigation in which c) objects with similar characteristics or properties are classified into at least two sets and two subsets.
3.4 Duration: 3 weeks	The student will investigate and understand that adaptations allow animals to satisfy life needs and respond to the environment. Key concepts include a) behavioral adaptations (methods of gathering and storing food, finding shelter, defending themselves, and rearing young); and

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	b) physical adaptations (hibernation, migration, camouflage, mimicry, instinct, and learned behavior).
3.5 Duration: 3 weeks	The student will investigate and understand relationships among organisms in aquatic and terrestrial food chains. Key concepts include a) producer, consumer, decomposer; b) herbivore, carnivore, omnivore; and c) predator and prey.
3.10 Duration: 8 days	The student will investigate and understand that natural events and human influences can affect the survival of species. Key concepts include a) the interdependency of plants and animals; b) the effects of human activity on the quality of air, water, and habitat; c) the effects of fire, flood, disease, and erosion on organisms; and d) conservation and resource renewal.

Nine Weeks 3	
3.1 a, b, g Duration: Throughout the instruction of SOL 3.6 and 3.7 as appropriate	The student will demonstrate an understanding of scientific reasoning, logic and the nature of science by planning and conducting investigation in which a) observations are made and are repeated to ensure accuracy; b) predictions are formulated using a variety of sources of information; g) questions are developed to formulate hypotheses. ***use content from SOL 3.6 and 3.7**
3.6 Duration: 4 weeks	The student will investigate and understand that ecosystems support a diversity of plants and animals that share limited resources. Key concepts include a) aquatic ecosystems (pond, marshland, swamp, stream, river, and ocean environments); b) terrestrial ecosystems (desert, grassland, rain forest, and forest environments); c) populations and communities; and d) the human role in conserving limited resources.
3.9 Duration: 1 weeks	The student will investigate and understand the water cycle and its relationship to life on Earth. Key concepts include a) there are many sources of water on Earth; b) the energy from the sun drives the water cycle; c) the water cycle involves several processes (evaporation, condensation, precipitation);

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	d) water is essential for living things; and e) water on Earth is limited and needs to be conserved. (water supply and conservation)
3.7 Duration: 3 weeks	The student will investigate and understand the major components of soil, its origin, and importance to plants and animals including humans. Key concepts include a) soil provides the support and nutrients necessary for plant growth; b) topsoil is a natural product of subsoil and bedrock; c) rock, clay, silt, sand, and humus are components of soils; and d) soil is a natural resource and should be conserved.
Nine Weeks 4	
3.1 h, i, k, d, l, m Duration: Throughout the instruction of SOL 3.8 as appropriate	The student will demonstrate an understanding of scientific reasoning, logic and the nature of science by planning and conducting investigation in which h) data are gathered, charted, graphed, and analyzed; i) unexpected or unusual quantitative data are recognized; k) data are communicated l) models are designed and built; and m) current applications are used to reinforce science concepts. ***Use content from 3.7 and 3.8**
3.1 d Duration: Throughout the instruction of SOL 3.8 as appropriate	The student will demonstrate an understanding of scientific reasoning, logic and the nature of science by planning and conducting investigation in which e) natural events are sequenced chronologically. ***Use content from SOL 3.8**
3.1 j	The student will demonstrate an understanding of scientific reasoning, logic and the nature of science by planning and conducting investigation in which j) inferences are made and conclusions are drawn.
3.1 c Duration: Throughout the instruction of 3.11	The student will demonstrate an understanding of scientific reasoning, logic and the nature of science by planning and conducting investigation in which c) objects with similar characteristics or properties are classified into at least two sets and two subsets. ***Use content from SOL 3.11**
3.1 e, f Duration: Throughout instruction in the 4th 9 weeks	The student will demonstrate an understanding of scientific reasoning, logic and the nature of science by planning and conducting investigation in which e) length, volume, mass and temperature are estimated and measured in metric and standard English units using proper tools and techniques;

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	f) time is measured to the nearest minute using proper tools and techniques.
3.8 Duration: 3 weeks	The student will investigate and understand basic patterns and cycles occurring in nature. Key concepts include a) patterns of natural events such as day and night, seasonal changes, simple phases of the moon, and tides; b) animal life cycles; and c) plant life cycles.
3.11 Duration: 2 weeks	The student will investigate and understand different sources of energy. Key concepts include a) energy from the sun (sun's ability to produce light and heat energy); b) sources of renewable energy (sunlight, water, wind); and c) sources of nonrenewable energy (coal, oil, natural gas, and wood).