

Curriculum Grade Book

Morgan County School District

Final, 01/11/2010

Science-Grade 7

Science

Biological Science (20%)

■ 3.4.1 DOK 2 ASSESSED

The learner will be able to * Describe the role of genes/chromosomes in the passing of information from one generation to another (heredity);
 * Compare inherited and learned traits.
 Every organism requires a set of instructions for specifying its traits. This information is contained in genes located in the chromosomes of each cell that can be illustrated through the use of models. Heredity is the passage of these instructions from one generation to another and should be distinguished from learned traits.

■ 3.4.2 DOK 2 ASSESSED

The learner will be able to describe and compare sexual and asexual reproduction.
 Reproduction is a characteristic of all living systems and is essential to the continuation of every species as evidenced through observable patterns. A distinction should be made between organisms that reproduce asexually, and those that reproduce sexually, including humans and plants, male and female sex cells carrying genetic information unite to begin the development of a new individual.

■ 3.5.1 DOK 3 ASSESSED

The learner will be able to * Describe the usefulness of fossil information to make conclusions about past life forms and environmental conditions;
 * Explain the cause and effect relationship of the extinction of a species and environmental changes.
 Extinction of species is common and occurs when the adaptive characteristics of a species are insufficient to

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allow its survival. Most of the species that have lived on Earth no longer exist. Fossils provide evidence of how environmental conditions and life have changed.																														
Unifying Ideas (30%)																														
<p>■ 4.6.1 Supporting</p> <p>The learner will be able to understand that Earth systems have sources of energy that are internal and external to the Earth. The Sun is the major external source of energy.</p>																														
<p>■ 4.6.2 DOK 3 ASSESSED</p> <p>The learner will be able to * Describe the transfer and/or transformations of energy, which occur in examples that involve several different forms of energy (e.g., heat, electrical, light, motion of objects and chemical).</p> <p>*Explain, qualitatively or quantitatively, that heat lost by hot object equals the heat gained by cold object.</p> <p>The transfer and transformation of energy can be examined in a variety of real life examples. Models are an energy way to convey the abstract/invisible transfer of energy in a system. Heat energy is the disorderly motion of molecules. Heat can be transferred through materials by the collisions of atoms or across space by radiation. If the material is fluid, currents will be set up in it that aid the transfer of heat. To change something's speed, to bend or stretch things, to heat or cool them, to push things together to expand or contract them, or tear them apart all require transfers (and some transformations) of energy. Heat lost by hot object equals the heat gained by cold object. This is an energy conversion statement.</p> <p>Whenever hot and cold objects are put in contact, heat energy always transfers from the hot object to the cold</p>																														

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<p>object and this continues until all the mass is at the same temperature. Students should understand that heat produced by burning comes from the release of chemical energy of the substance.</p>																														
<p>■ 4.6.3 Supporting The learner will be able to understand that waves are one way that energy is transferred. Types of waves include sound, light, earthquake, ocean, and electromagnetic.</p>																														
<p>■ 4.6.4 DOK 3 ASSESSED The learner will be able to describe or represent the flow of energy in ecosystems, using data to draw conclusions about the role of organisms in a ecosystem. For most ecosystems, the major source of energy is sunlight. Energy entering ecosystems as sunlight is transferred by producers into chemical energy through photosynthesis. That energy then passes from organism in food webs.</p>																														
<p>■ 4.7.1 DOK 3 ASSESSED The learner will be able to compare abiotic and biotic factors in an ecosystem in order to explain consequences of change in one or more factors. The number of organisms an ecosystem can support depends on the resources available and abiotic factors (e.g., quantity of light and water, range of temperatures, soil composition). Given adequate biotic and abiotic resources and no diseases or predators, populations (including humans) increase at rapid rates. Lack of resources and other factors, such as predation and climate, limit the growth of populations in specific niches in the ecosystem.</p>																														

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Consumerism [20%]

■ 3.1.4 DOK 2 ASSESSED

The learner will be able to describe consumer actions (reuse, reduce, recycle) and explain how these actions impact the environment (e.g., conserving resources, reducing pollution, reducing solid waste, conserving energy).

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