

Curriculum Grade Book

Morgan County School District

Final, 01/11/2010

Biology Science

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Biological Science (25%)																														
<p>■ 3.4.1 (DOK 3) ASSESSED</p> <p>The learner will be able to explain the role of DNA in protein synthesis. (Cells store and use information to guide their functions. The genetic information stored in DNA directs the synthesis of the thousands of proteins that each cell requires.).</p>																														
<p>■ 3.4.2 (DOK) Supporting</p> <p>The learner will be able to understand that most cell functions involve chemical reactions. Food molecules taken into cells react the same to provide the chemical constituents needed to synthesize other molecules. Both breakdown and synthesis are made possible by a large set of protein catalysts, called enzymes. The breakdown of some of the food molecules enables the cell to store energy in specific chemicals that are used to carry out the many functions of the cell.</p>																														
<p>■ 3.4.3 (DOK 2) ASSESSED</p> <p>The learner will be able to describe cell regulation (enzyme function, diffusion, osmosis, homeostasis); Predict consequences of internal/external environmental change on cell function/regulation. (Cell functions are regulated. Regulation occurs both through changes in the activity of the functions performed by proteins and through selective expression of individual genes., This regulation allows cells to respond to their internal and external environments and to control and coordinate cell growth and division.</p>																														
<p>■ 3.4.4 (DOK) Supporting</p> <p>The learner will be able to students will understand that plant cells contain chloroplasts, the site of</p>																														

Curriculum Grade Book

Morgan County School District

Final, 01/11/2010

Biology Science

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
<p>photosynthesis. Plants and many microorganisms (e.g., Euglena) use solar energy to combine molecules of carbon dioxide and water into complex, energy-rich organic compounds and release oxygen to the environment. This process of photosynthesis provides a vital link between the Sun and energy needs of living systems.</p>																														
<p>■ 3.4.5 (DOK 3) ASSESSED The learner will be able to explain the relationship between sexual reproduction (meiosis) and the transmission of genetic information; Draw conclusions/make predictions based on hereditary evidence/data (pedigrees, punnet squares). (Multicellular organisms, including humans, form from cells that contain two copies of each chromosome. This explains many features of heredity. Transmission of genetic information through sexual reproduction to offspring occurs when male and female gametes that contain only one representative from each chromosome pair unite.)</p>																														
<p>■ 3.4.6 (DOK) Supporting The learner will be able to understand that in all organisms and viruses, the instructions for specifying the characteristics are carried in nucleic acids. The chemical and structural properties of nucleic acids determine how the genetic information that underlies heredity is both encoded in genes and replicated.</p>																														
<p>■ 3.4.7 (DOK 2) ASSESSED The learner will be able to classify organisms into groups based on similarities; Infer relationships based on internal and external structures and chemical processes. (Biological classifications are based on how organisms</p>																														

Curriculum Grade Book

Morgan County School District

Final, 01/11/2010

Biology Science

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
are related. Organisms are classified into a hierarchy of groups and subgroups based on similarities that reflect their relationships. Species is the most fundamental unit of classification. Different species are classified by the comparison and analysis of their internal and external structures and the similarity of their chemical processes.)																														
<p>■ 3.4.8 (DOK) Supporting</p> <p>The learner will be able to understand that multicellular animals have nervous systems that generate behavior. Nerve cells communicate with each other by secreting specific molecules. Specialized cells in sense organs detect light, sound, and specific chemicals enabling animals to monitor what is going on in the world around them.</p>																														
<p>■ 3.5.1 (DOK 3) ASSESSED</p> <p>The learner will be able to predict the impact on species of changes to (1) the potential for a species to increase its numbers, (2) the genetic variability of offspring due to mutation and recombination of genes, (3) a finite supply of the resources required for life, or (4) natural selection; Propose solutions to real-world problems of endangered and extinct species. (Species change over time. Biological change over time is the consequence of the interactions of (1) the potential for a species to increase its numbers, (2) the genetic finite of offspring due to mutation and recombination of genes, (3) a finite supply of the resources required for life, and (4) natural selection. The finite of change over time provide a scientific explanation for the fossil record of ancient life forms and for the striking molecular similarities observed among the divers species of living organisms. Changes</p>																														

Curriculum Grade Book

Morgan County School District

Final, 01/11/2010

Biology Science

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
<p>The learner will be able to predict the consequences of changes to any component (atmosphere, solid Earth, oceans, living things) of the Earth System; Propose justifiable solutions to global problems. (Interactions among the solid Earth, the oceans, the atmosphere, and living things have resulted in the atmosphere, and living things have resulted in the ongoing development of a changing Earth system.).</p>																															
<p>■ 4.7.4 (DOK) Supporting The learner will be able to understand that evidence for one-celled forms of life, the bacteria, extends back more than 3.5 billion years. The changes in life over time caused dramatic changes in the composition of the Earth's atmosphere, which did not originally contain oxygen.).</p>																															
<p>■ 4.7.5 (DOK 3) ASSESSED The learner will be able to predict the consequences of changes in resources to a population; Select or defend solutions to real-world problems of population control. (Living organisms have the capacity to produce populations of infinite size. However, behaviors, environments, and resources influence the size of populations. Models (e.g., mathematical, physical, conceptual) can be used to make predictions about changes in size or rate of growth of a population.).</p>																															

Curriculum Grade Book
Morgan County School District
Final, 01/11/2010

**Biology
Science**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Physical Science (25%)																														
<p>■ 1.1.1 (DOK 2) ASSESSED The learner will be able to classify or make generalizations about elements from data of observed patterns in atomic structure and/or position on the periodic table. (The periodic table is a consequence of the repeating pattern of outermost electrons.)</p>																														
<p>■ 1.1.2 (DOK) Supporting The learner will be able to understand that the atom's nucleus is composed of protons and neutrons that are much more massive than electrons; When an element has atoms that differ in the number of neutrons, these atoms are called different isotopes of the element.</p>																														
<p>■ 1.1.3 (DOK) Supporting The learner will be able to understand that solids, liquids, and gases differ in the distances between molecules or atoms and therefore the energy that binds them together. In solids, the structure is nearly rigid; in liquids, molecules or atoms move around each other but do not move apart; and in gases, molecules or atoms move almost independently of each other and are relatively far apart.</p>																														