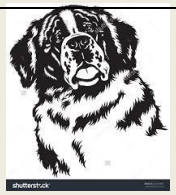

Syllabus For

DMS 7th Grade Science

Teacher(s): Mrs. Nancy Cowan and Mrs. Suzette Barnes

Welcome to 7th grade science! This syllabus shows a monthly breakdown of the standards your child will be taught, the objectives set forth to master those standards, and any major project or assignment that will assist in the mastery of those objectives.

We have completed this syllabus as a grade-level and content-area team in order to focus on consistency, and we have followed the state-approved blueprint. Specific weekly lesson plans will still be located on our school website: www.dekalbmiddleschoolsaints.com . They will be listed under your child's grade and teacher, per subject.

Thank you! Let's have a phenomenal year!

2016-2017

❖ August-

- Standard: Identify control and variables
  - Objective: Design and conduct an open-ended scientific investigation to answer a question that includes a control and appropriate variables.
- Standard: Identify lab tools
  - **Objective:** Identify tools and techniques needed to gather, organize, analyze, and interpret data collected from a moderately complex scientific investigation.
- Standard: Interpret and translate data in a table, graph, or diagram
  - Objective: Use evidence from a dataset to determine cause and effect relationships that explain a phenomenon.
- Standard: Draw a conclusion that establishes a cause and effect relationship supported by evidence.
  - Objective: Review an experimental design to determine possible sources of bias or error, state alternative explanations, and identify questions for further investigation.
- Standard: Identify a faulty interpretation of data that is due to bias or experimental error.

- Design a method to explain the results of an investigation using descriptions, explanations, or models

- **Standard:** Identify the tools and procedures needed to test the design features of a prototype.
  - **Objective:** Use appropriate tools to test for strength, hardness, and flexibility of materials.
- **Standard:** Evaluate a protocol to determine if the engineering design process was successfully applied.
  - **Objective:** Apply the engineering design process to construct a prototype that meets certain specifications.
- **Standard:** Distinguish between the intended benefits and the unintended consequences of a new technology.
  - **Objective:** Explore how the unintended consequences of new technologies can impact society.
- **Standard**: Differentiate between adaptive and assistive engineered products (e.g., food, biofuels, medicines, integrated pest management).
  - **Objective:** Research bioengineering technologies that advance health and contribute to improvements in our daily lives.
  - **Objective**: Develop an adaptive design and test its effectiveness.
    - ✓ **Major Project/Assignment:** Candy Bar Bridge

❖ September-

- **Standard** Identify and describe the function of the major plant and animal cell organelles.
  - **Objective:** Identify the function of the major plant and animal cellular organelles.
- **Standard** Explain how materials move through simple diffusion.
  - **Objective**: Design a demonstration that illustrates how materials move across a semi-permeable membrane by simple diffusion
    - ✓ **Major Project/Assignment:** 3 D model of a plant or animal cell

❖ October-

- **Standard** Sequence a series of diagrams that depict chromosome movement during plant cell division.
  - **Objective:** Model the movement of chromosomes during plant cell division.
    - ✓ **Major Project/Assignment:** None

❖ November-

- **Standard** Interpret a chart to explain the integrated relationships that exist among cells, tissues, organs, and organ systems.
  - **Objective:** Construct a poster that illustrates the hierarchy among cells, tissues, organs, organ systems, and organisms
- **Standard** Explain the basic functions of a major organ system.
  - **Objective:** Describe the function of different organ systems.
    - ✓ **Major Project/Assignment: None**

❖ December-

- **Standard** Compare the chemical compounds that make up the reactants and products of photosynthesis and respiration.
  - **Objective:** Associate the fundamental processes of photosynthesis and respiration with appropriate cell structures.
- **Standard** Interpret a diagram to explain how oxygen and carbon dioxide are exchanged between living things and the environment
  - **Objective:** Describe the movement of oxygen and carbon dioxide between living things and the environment.
- **Standard** Classify methods of reproduction as sexual or asexual.
  - **Objective:** Classify organisms according to whether they reproduce sexually or asexually
- **Standard** Match flower parts with their reproductive functions.
  - **Objective:** Label and explain the function of the reproductive parts of a flower
- **Standard** Describe the relationship among genes, chromosomes, and inherited traits.
  - **Objective** Investigate the relationship among DNA, genes, and chromosomes.
- **Standard** Interpret a Punnett square to predict possible genetic combinations passed from parents to offspring during sexual reproduction.
  - **Objective** Use a Punnett square to predict the genotypes of offspring resulting from a monohybrid cross.
    - ✓ **Major Project/Assignment:** Construct a 3 D flower model

❖ January-

- Standard Use a table of physical properties to classify minerals.
  - ➢ Objective Organize and explain information about the properties of minerals and their uses.
- Standard Label a diagram that depicts the three different rock types.
  - ➢ Objective: Label a diagram that depicts the major processes of the rock cycle.
- Standard Identify the major processes that drive the rock cycle.
  - ➢ Objective: Distinguish among sedimentary, igneous, and metamorphic rocks and relate these to a simple diagram of the rock cycle.
- Standard Differentiate among the characteristics of the earth's three layers.
  - ➢ Objective: Distinguish among sedimentary, igneous, and metamorphic rocks and relate these to a simple diagram of the rock cycle.
- Standard Differentiate among the characteristics of the earth's three layers.
  - ➢ Objective Recognize that the earth's layers have different thickness, states of matter, densities, and chemical makeup
    - ✓ Major Project/Assignment: None

❖ February-

- Standard Recognize that lithospheric plates on the scale of continents and oceans continually move at rates of centimeters per year
  - ➢ Objective Analyze the relationship between plate movements and areas of earthquake activity.
- Standard Describe the relationship between plate movements and earthquakes mountain building, volcanoes, and sea floor spreading.
  - ➢ Objective: Analyze the relationship between plate movements and mountain building.
- Standard Analyze and evaluate the impact of man's use of earth's land, water, and atmospheric resources.
  - ➢ Objective: Determine the impact of man's use of renewable and nonrenewable resources on future supplies.
- Standard Differentiate between the six simple machines
  - ➢ Objective: Compare the six types of simple machines.
    - ✓ Major Project/Assignment: None

- **March-**
  - Standard Identify and explain how Newton's laws of motion relate to the movement of objects.
    - Objective Recognize how a net force impacts an object's motion.
  - Standard Compare and contrast the different parts of a wave.
    - Objective: Create a graphic organizer to illustrate and describe the basic parts of a wave.
      - ✓ Major Project/Assignment: None

- **April-**
  - Standard Review of all standards for state testing
    - Objective: Varies
      - ✓ Major Project/Assignment: None

- **May-**
  - Standard Review of all standards for state testing
    - Objective: Varies
      - ✓ Major Project/Assignment: None