



Gasconade R-2
Objective Course Curriculum Report for: Physical
Science - Ninth Grade

Generated on 11/23/2015

Name

Physical Science Objective 1

Unit Objective

The students will demonstrate the use of the scientific method by gathering data and constructing a graph accordingly.

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Sequence

1

Assessment Methods

Essential Questions

Course

Physical Science

Unit

01 Scientific Method and Measurement - Chapter 1 & 2

Objective used to assess students

Formative Assessment Activities

Students will be assessed by demonstrating their ability to use the scientific method by gathering data and constructing a graph during a laboratory practical.

Depth of Knowledge

80

Learning Activity

Students will practice measuring different materials (solids, liquids, irregularly shaped objects). Students will demonstrate their ability to gather data and construct different graphs properly by completing a series of short laboratory activities.

Research-based Instructional Strategies

Teacher will model the correct way to measure using the proper laboratory equipment. Teacher will discuss the general steps of the scientific method. The teacher will model the correct way to construct different types of graphs.

Supporting Resources

Smartboard Lessons: McPherson Physical Science with Earth Science, Glencoe Science 2006 and teacher resource packet.

Correction Exercise

Students will work additional reinforcement worksheets on the concepts.

Enrichment Exercise for Accelerated Learners

The student will complete additional graphs with more detailed data.

Remediation for Struggling Learners

Students will be grouped with peers to complete the labs.

English Language Learner

District Defined

Objective is A+

Missouri School Improvement Program

Code	Subject	Grade	W
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Show-Me Standards

Code	Subject	Grade	Standard	Goal
1	Science	Grades: K-12	properties and principles of matter and energy	
7	Science	Grades: K-12	processes of scientific inquiry (such as formulating and testing hypotheses)	
1.1	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Develop questions and ideas to initiate and refine research
1.2	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Conduct research to answer questions and evaluate information and ideas
1.4	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Use technological tools and other resources to locate, select and organize information
1.6	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Discover and evaluate patterns and relationships in information, ideas and structures

1.7	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Evaluate the accuracy of information and the reliability of its sources
1.8	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Organize data, information and ideas into useful forms (including charts, graphs, outlines) for analysis or presentation

Grade and Course Level Standards

Common Core Standards

Version

1

Files

Date Range

Other Standards

Other Diverse Learners

Students Self-Reflection About Personal Goals

Use of Technology

Guiding Questions

Guiding Questions Depth of Knowledge

Summative Assessment Activities

Summative Correction Exercise

Family and Community Involvement

Name

Physical Science Objective 2

Unit Objective

The student will describe the motion of an object as a change in position, direction, and speed relative to another object.

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Sequence

2

Assessment Methods

Essential Questions

Course

Physical Science

Unit

02 Forces of motion - Chapter 3

Objective used to assess students

Formative Assessment Activities

Students will perform a lab test, where motion of an object will be recorded, and velocity and acceleration will be calculated. Students will also have a written test that gives variables of an object in motion, they will then analyze the effects on motion.

Depth of Knowledge

80

Learning Activity

The students will describe motion of an object by using computer sensors to calculate change in position, direction, and speed.

Research-based Instructional Strategies

The teacher will model proper calculation of speed and how to properly graph speed. The teacher will also model how to properly use the computer module to describe motion.

Supporting Resources

SMARTBoard Lessons: McPhersonPhysical Science with Earth Science, Glencoe 2006 and teacher resource packet. Logger Pro computer motion sensors and program.

Correction Exercise

Students will complete reinforcement worksheets over the concepts.

Enrichment Exercise for Accelerated Learners

Students may conduct other laboratory activities using Logger Pro motion sensors.

Remediation for Struggling Learners

Students will have extra time in the lab to work with their peers.

English Language Learner

District Defined

Objective is A+

Missouri School Improvement Program

Code	Subject	Grade	T
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Show-Me Standards

Code	Subject	Grade	Standard	Goal
2	Science	Grades: K-12	properties and principles of force and motion	
1.1	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Develop questions and ideas to initiate and refine research
1.2	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Conduct research to answer questions and evaluate information and ideas
1.3	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Design and conduct field and laboratory investigations to study nature and society
1.4	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Use technological tools and other resources to locate, select and organize information
1.6	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Discover and evaluate patterns and relationships in information, ideas and structures

1.7	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Evaluate the accuracy of information and the reliability of its sources
1.8	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Organize data, information and ideas into useful forms (including charts, graphs, outlines) for analysis or presentation

Grade and Course Level Standards

Common Core Standards

Version

1

Files

Date Range

Other Standards

Other Diverse Learners

Students Self-Reflection About Personal Goals

Use of Technology

Guiding Questions

Guiding Questions Depth of Knowledge

Summative Assessment Activities

Summative Correction Exercise

Family and Community Involvement

Name

Physical Science Objective 3

Unit Objective

Students will explain orbits in relation to gravitational forces, perpendicular forces, and identify Newton's Laws of Motion and the interaction of an object and its mass.

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Sequence

3

Assessment Methods

Essential Questions

Course

Physical Science

Unit

03 Newton's Laws of Motion - Chapter 4

Objective used to assess students

Formative Assessment Activities

Students will compare and analyze how different forces effect an object in motion and apply Newton's Laws of Motion to various scenarios.

Depth of Knowledge

80%

Learning Activity

Students will explain forces, their interaction on an object, and its mass by completing a series of short laboratory activities.

Research-based Instructional Strategies

The teacher will demonstrate Newton's three laws and model the procedure to identify and perform calculations.

Supporting Resources

Smartboard Lessons: McPherson & Lay Physical Science with Earth Science, Glencoe 2006 and teacher resource packet. Logger Pro computer motion sensors and program.

Correction Exercise

Students will complete reinforcement worksheets over the concepts.

Enrichment Exercise for Accelerated Learners

Student will research Sir Isaac Newton's life history.

Remediation for Struggling Learners

Students will have extra time to complete the labs with their peers.

English Language Learner

District Defined

Objective is A+

Missouri School Improvement Program

Code	Subject	Grade	W
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Show-Me Standards

Code	Subject	Grade	Standard	Goal
6	Science	Grades: K-12	composition and structure of the universe and the motions of the objects within it	
2	Science	Grades: K-12	properties and principles of force and motion	
7	Science	Grades: K-12	processes of scientific inquiry (such as formulating and testing hypotheses)	
1.3	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Design and conduct field and laboratory investigations to study nature and society
2.3	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to communicate effectively within and beyond the classroom.	Exchange information, questions and ideas while recognizing the perspectives of others
1.4	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Use technological tools and other resources to locate, select and organize information

1.6	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Discover and evaluate patterns and relationships in information, ideas and structures
1.7	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Evaluate the accuracy of information and the reliability of its sources
1.8	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Organize data, information and ideas into useful forms (including charts, graphs, outlines) for analysis or presentation
3.4	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to recognize and solve problems.	Evaluate the processes used in recognizing and solving problems
3.5	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to recognize and solve problems.	Reason inductively from a set of specific facts and deductively from general premises
4.1	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to make decisions and act as responsible members of society.	Explain reasoning and identify information used to support decisions

Grade and Course Level Standards

Common Core Standards

Version

1

Files

Date Range

Other Standards

Other Diverse Learners

Students Self-Reflection About Personal Goals

Use of Technology

Guiding Questions

Guiding Questions Depth of Knowledge

Summative Assessment Activities

Summative Correction Exercise

Family and Community Involvement

Name

Physical Science Objective 4

Unit Objective

Students will interpret that mechanical energy comes from the motion and/or relative position of an object. Students will describe sources and common uses of different forms of energy: chemical, nuclear, thermal, mechanical, electromagnetic.

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Assessment Methods

Essential Questions

Course

Unit

04 Potential and Kinetic Energy - Chapter 5

Objective used to assess students

Formative Assessment Activities

Students will calculate the kinetic and potential energy of an object and compare conservation of energy related to its position.

Depth of Knowledge

80%

Learning Activity

Students will interpret the energy of pendulums of various lengths.

Research-based Instructional Strategies

The teacher will construct a pendulum and discuss the energies contained in the pendulum based on its location.

Supporting Resources

Powerpoint Lessons: McPherson & Wienstroer Physical Science with Earth Science, Glencoe Science 2006 and teacher resource packet.

Correction Exercise

Students will work additional reinforcement worksheets on the concepts.

Enrichment Exercise for Accelerated Learners

Students will research how pendulums are used in everyday activities.

Remediation for Struggling Learners

Peer groups.

English Language Learner

District Defined

Objective is A+

Missouri School Improvement Program

Code	Subject	Grade	RI
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Show-Me Standards

Code	Subject	Grade	Standard	Goal
1	Science	Grades: K-12	properties and principles of matter and energy	
1.3	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Design and conduct field and laboratory investigations to study nature and society
3.3	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to recognize and solve problems.	Develop and apply strategies based on one's own experience in preventing or solving problems
1.10	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Apply acquired information, ideas and skills to different contexts as students, workers, citizens and consumers
3.5	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to recognize and solve problems.	Reason inductively from a set of specific facts and deductively from general premises
4.1	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to make decisions and act as responsible members of society.	Explain reasoning and identify information used to support decisions

Common Core Standards

Version

1

Files

Date Range

Other Standards

Other Diverse Learners

Students Self-Reflection About Personal Goals

Use of Technology

Guiding Questions

Guiding Questions Depth of Knowledge

Summative Assessment Activities

Summative Correction Exercise

Family and Community Involvement

Name

Physical Science Objective 5

Unit Objective

Students will construct simple machines and analyze the affect machines have on the forces applied to an object.

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5

Assessment Methods

Essential Questions

Course

Physical Science

Unit

05 Simple Machines - Chapter 6

Objective used to assess students

Formative Assessment Activities

Students will be assessed by constructing various simple machines, gathering data, and performing calculations in a laboratory practical.

Depth of Knowledge

80%

Learning Activity

Students will construct a variety of simple machines in a series of short labs and analyze the effect forces have on an object and how efficient the machine was.

Research-based Instructional Strategies

Teacher will model the types and uses of various simple machines and how to identify and calculate work and efficiency.

Supporting Resources

SMARTBoard Presentations: McPherson & Lay PowerPoint Presentations: Physical Science with Earth Science, Glencoe Science 2006 and teacher resource packet.

Correction Exercise

Students will work additional reinforcement worksheets on the concepts.

Enrichment Exercise for Accelerated Learners

Students will research jobs that deal with simple machines daily.

Remediation for Struggling Learners

Peer groups

English Language Learner

District Defined

Objective is A+

Missouri School Improvement Program

Code	Subject	Grade	W
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Show-Me Standards

Code	Subject	Grade	Standard	Goal
2	Science	Grades: K-12	properties and principles of force and motion	
1	Science	Grades: K-12	properties and principles of matter and energy	
1.3	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Design and conduct field and laboratory investigations to study nature and society
3.3	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to recognize and solve problems.	Develop and apply strategies based on one's own experience in preventing or solving problems
1.4	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Use technological tools and other resources to locate, select and organize information
1.6	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Discover and evaluate patterns and relationships in information, ideas and structures

1.7	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Evaluate the accuracy of information and the reliability of its sources
1.8	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Organize data, information and ideas into useful forms (including charts, graphs, outlines) for analysis or presentation
1.10	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Apply acquired information, ideas and skills to different contexts as students, workers, citizens and consumers
3.4	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to recognize and solve problems.	Evaluate the processes used in recognizing and solving problems
3.5	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to recognize and solve problems.	Reason inductively from a set of specific facts and deductively from general premises
4.1	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to make decisions and act as responsible members of society.	Explain reasoning and identify information used to support decisions

Grade and Course Level Standards

Common Core Standards

Version

1

Files

Date Range

Other Standards

Other Diverse Learners

Students Self-Reflection About Personal Goals

Use of Technology

Guiding Questions

Guiding Questions Depth of Knowledge

Summative Assessment Activities

Summative Correction Exercise

Family and Community Involvement

Name

Physical Science Objective 6

Unit Objective

The student will use the Kinetic Theory of Matter to predict physical changes in states of matter due to thermal changes and compare methods of thermal transfer.

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Sequence

6

Assessment Methods

Essential Questions

Course

Unit

06 Heat and states of matter - Chapter 9

Objective used to assess students

Formative Assessment Activities

Students will be assessed by explaining the effect of energy transfer as it relates to the Kinetic Theory.

Depth of Knowledge

80

Learning Activity

Students will explain the Kinetic Theory and how it relates to an object's change in state through short laboratory procedures.

Research-based Instructional Strategies

The teacher will demonstrate thermal changes in solids, liquids, and gases. The teacher will discuss the use of energy and the effect on an object when that energy is transferred.

Supporting Resources

Physical Science with Earth Science, Glencoe Science 2006 and teacher resource packet.
Access to X: folder with lessons by McPherson & Wienstroer
PowerPoint Presentation
Temp and Thermal NRG
States of Matter Notes
9.4 Notes
United Streaming Video
Specific Heat Capacity
Word Documents
Matter and Temp
Transfer of Energy
Thermal NRG
Specific Heat Lab (&WS)
Test

Correction Exercise

Students will work additional reinforcement worksheets on the concepts.

Enrichment Exercise for Accelerated Learners

Students will further research the kinetic theory and how it relates to solids, liquids, and gases.

Remediation for Struggling Learners

Students will be given extra time in the lab to work with their peers.

English Language Learner

District Defined

Objective is A+

Missouri School Improvement Program

Code	Subject	Grade	RI
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Show-Me Standards

Code	Subject	Grade	Standard	Goal
1	Science	Grades: K-12	properties and principles of matter and energy	
7	Science	Grades: K-12	processes of scientific inquiry (such as formulating and testing hypotheses)	
1.3	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Design and conduct field and laboratory investigations to study nature and society
3.3	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to recognize and solve problems.	Develop and apply strategies based on one's own experience in preventing or solving problems
1.8	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Organize data, information and ideas into useful forms (including charts, graphs, outlines) for analysis or presentation
1.10	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Apply acquired information, ideas and skills to different contexts as students, workers, citizens and consumers

3.5	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to recognize and solve problems.	Reason inductively from a set of specific facts and deductively from general premises
4.1	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to make decisions and act as responsible members of society.	Explain reasoning and identify information used to support decisions

Grade and Course Level Standards

Common Core Standards

Version

1

Files

Date Range

Other Standards

Other Diverse Learners

Students Self-Reflection About Personal Goals

Use of Technology

Guiding Questions

Guiding Questions Depth of Knowledge

Summative Assessment Activities

Summative Correction Exercise

Family and Community Involvement

Name

Physical Science Objective 7

Unit Objective

Students will analyze how properties and states of matter can change physically. Students will use the atomic model to describe the electrically neutral atom.

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Sequence

7

Assessment Methods

Essential Questions

Course

Physical Science

Unit

07 Composition of matter and atoms - Chapter 18

Objective used to assess students

Formative Assessment Activities

Students will analyze the properties and how they relate to the changing states of matter. Students will describe the atom and its subatomic particles.

Depth of Knowledge

80

Learning Activity

Students will analyze the properties of matter and their change of state in a laboratory setting. Students will describe the neutral atom by drawing an atom with its subatomic particles.

Research-based Instructional Strategies

Teacher will discuss the properties of matter and demonstrate the differences between physical and chemical changes. The teacher will demonstrate the model of the atom from past to present and explain the advantages of the current working model.

Supporting Resources

Smartboard Lessons: McPherson, TW, AAPhysical Science with Earth Science, Glencoe Science 2006 and teacher resource packet.

Correction Exercise

Students will work additional reinforcement worksheets on the concepts.

Enrichment Exercise for Accelerated Learners

Students will research phase changes that occur in nature and the significance. Students will research the correlation between the structure of an atom and its physical properties.

Remediation for Struggling Learners

Students can build an atom using a model. Peer groups.

English Language Learner

District Defined

Objective is A+

Missouri School Improvement Program

Code	Subject	Grade	RI
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Show-Me Standards

Code	Subject	Grade	Standard	Goal
1	Science	Grades: K-12	properties and principles of matter and energy	
1.6	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Discover and evaluate patterns and relationships in information, ideas and structures
1.10	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Apply acquired information, ideas and skills to different contexts as students, workers, citizens and consumers
3.5	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to recognize and solve problems.	Reason inductively from a set of specific facts and deductively from general premises
4.1	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to make decisions and act as responsible members of society.	Explain reasoning and identify information used to support decisions

Grade and Course Level Standards

Common Core Standards

Version

Files

Date Range

Other Standards

Other Diverse Learners

Students Self-Reflection About Personal Goals

Use of Technology

Guiding Questions

Guiding Questions Depth of Knowledge

Summative Assessment Activities

Summative Correction Exercise

Family and Community Involvement

Name

Physical Science Objective 8

Unit Objective

Students will illustrate how nuclear energy is a major source of energy throughout the universe.

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Sequence

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Assessment Methods

Essential Questions

Course

Physical Science

Unit

08 Nuclear energy

Objective used to assess students

Formative Assessment Activities

Students will illustrate how nuclear energy is released at the atomic level. Students will illustrate the source and use of radiation in the universe. Students will compare nuclear fusion and fission.

Depth of Knowledge

80

Learning Activity

Students will illustrate the nuclear reactions that occur by constructing diagram differentiating the two. Students will illustrate the importance of these reactions in reference to planets in the universe.

Research-based Instructional Strategies

The teacher will demonstrate radioactivity by setting up a demonstration. The teacher will demonstrate the different types of nuclear reactions that yield energy and their importance to the universe.

Supporting Resources

Smartboard Lessons by McPherson: United Streaming Videos: Physical Science with Earth Science, Glencoe Science 2006 and teacher resource packet. Flinn Summer Chemistry Workshop, 2002.

Correction Exercise

Students will work additional reinforcement worksheets on the concepts.

Enrichment Exercise for Accelerated Learners

Students will research the uses of radioactivity in the medical field.

Remediation for Struggling Learners

Students will be given extra time to complete project.

English Language Learner

District Defined

Objective is A+

Missouri School Improvement Program

Code	Subject	Grade	RI
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Show-Me Standards

Code	Subject	Grade	Standard	Goal
1	Science	Grades: K-12	properties and principles of matter and energy	
1.2	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Conduct research to answer questions and evaluate information and ideas
1.10	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Apply acquired information, ideas and skills to different contexts as students, workers, citizens and consumers
3.4	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to recognize and solve problems.	Evaluate the processes used in recognizing and solving problems
3.5	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to recognize and solve problems.	Reason inductively from a set of specific facts and deductively from general premises
4.1	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to make decisions and act as responsible members of society.	Explain reasoning and identify information used to support decisions

Common Core Standards

Version

1

Files

Date Range

Other Standards

Other Diverse Learners

Students Self-Reflection About Personal Goals

Use of Technology

Guiding Questions

Guiding Questions Depth of Knowledge

Summative Assessment Activities

Summative Correction Exercise

Family and Community Involvement

Name

Physical Science Objective 17

Unit Objective

Students will identify the atomic properties of the atom.

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Sequence

9

Assessment Methods

Essential Questions

Course

Physical Science

Unit

Objective used to assess students

Formative Assessment Activities

Students will analyze the atomic properties of an atom, and calculate amounts of neutrons, proton and electrons an atom contains. Students will also describe the atom as a dense positive nucleus surrounded by a cloud of negative electrons.

Depth of Knowledge

80

Learning Activity

Students will have a chance to identify the atomic properties by using a periodic table and making their own table on atomic properties on atoms.

Research-based Instructional Strategies

Teacher will demonstrate the methods of calculating number of protons, neutrons and electrons in a single atoms. Teacher will also model how to identify an isotope of an element. Teacher will demonstrate how outer shell electrons determine how reactive an element is by demonstration.

Supporting Resources

Correction Exercise

Students will have additional worksheets to reinforce concepts

Enrichment Exercise for Accelerated Learners

Remediation for Struggling Learners

Groups could be utilized to help promote cooperative learning

English Language Learner

District Defined

Objective is A+

Missouri School Improvement Program

Code	Subject	Grade	T
MSIP Equity Concepts	Equity Concepts	Technology	RI

Show-Me Standards

Code	Subject	Grade	Standard	Goal
1	Science	Grades: K-12	properties and principles of matter and energy	
7	Science	Grades: K-12	processes of scientific inquiry (such as formulating and testing hypotheses)	
1.6	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Discover and evaluate patterns and relationships in information, ideas and structures
1.8	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.	Organize data, information and ideas into useful forms (including charts, graphs, outlines) for analysis or presentation
4.6	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to make decisions and act as responsible members of society.	Identify tasks that require a coordinated effort and work with others to complete those tasks

Grade and Course Level Standards

Code	Subject	Grade	Strand	Standard	Concept	Expectation
1.1.F.a	Science	Eighth Grade	Properties and Principles of Matter and Energy	Changes in properties and states of matter provide evidence of the atomic theory of matter	The periodic table organizes the elements according to their atomic structure and chemical reactivity	Identify more than 100 known elements (unique atoms) exist that may be combined in nature or by man to produce compounds that make up the living and nonliving substances in the environment
1.1.G.a	Science	Sixth Grade	Properties and Principles of Matter and Energy	Changes in properties and states of matter provide evidence of the atomic theory of matter	Properties of objects and states of matter can change chemically and/or physically	Identify and classify changes in matter as chemical and/or physical

Common Core Standards

Version

1

Files

Date Range

Other Standards

Other Diverse Learners

Students Self-Reflection About Personal Goals

Use of Technology

Guiding Questions

Guiding Questions Depth of Knowledge

Summative Assessment Activities

Summative Correction Exercise

Family and Community Involvement

Name

Physical Science Objective 18

Unit Objective

Students will explain the structure of the periodic table (Groups, Families, Periods). Students will also classify elements by similar properties: Transition Metals, Noble Gases, Metals, Non-Metals, Metalloids.

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Sequence

10

Assessment Methods

Essential Questions

Course

Physical Science

Unit

10-Properties of the Periodic Table - Chapter 19

Objective used to assess students

Formative Assessment Activities

Depth of Knowledge

Learning Activity

Research-based Instructional Strategies

Supporting Resources

Correction Exercise

Enrichment Exercise for Accelerated Learners

Remediation for Struggling Learners

English Language Learner

District Defined

Objective is A+

Missouri School Improvement Program

Show-Me Standards

Grade and Course Level Standards

Common Core Standards

Version

1

Files

Date Range

Other Standards

Other Diverse Learners

Students Self-Reflection About Personal Goals

Use of Technology

Guiding Questions

Guiding Questions Depth of Knowledge

Summative Assessment Activities

Summative Correction Exercise

Family and Community Involvement

Name

Physical Science Objective 19

Unit Objective

Students will describe how electromagnetic energy is transferred, and identify information that the EM spectrum provides about the stars and the universe

Created By

System

Creation Date

5/19/2013 7:18:06 PM +00:00

Modified By

System

Modification Date

11/19/2013 3:31:09 PM +00:00

Sequence

11

Assessment Methods

Essential Questions

Course

Physical Science

Unit

11-Electromagnetism - Chapter 15

Objective used to assess students

Formative Assessment Activities

Students will be shown an electromagnetic spectrum and be able to identify the properties and events that occur at certain levels of the spectrum. Students will also perform a series of mini-labs that demonstrate the behavior of EM waves.

Depth of Knowledge

80

Learning Activity

Microwaves will be used in class to demonstrate the power of electromagnets. An electromagnet will also be used as a class demonstration to display their properties and functionality. Students will create a small electromagnet in the lab.

Research-based Instructional Strategies

Instruction will be given by the teacher in the classroom and lab setting. Brief classroom demonstrations and lab demonstrations will also be given.

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Missouri School Improvement Program

Show-Me Standards

Code	Subject	Grade	Standard
1	Science	Grades: K-12	properties and principles of matter and energy
6	Science	Grades: K-12	composition and structure of the universe and the motions of the objects within it

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