



Gasconade R-2
Objective Course Curriculum Report for: Physics -
Eleventh Grade

Generated on 11/23/2015

Name

Physics Objective 1

Unit Objective

Students will:

Created By

System

Creation Date

5/19/2013 7:18:14 PM +00:00

Modified By

System

Modification Date

11/19/2013 4:52:43 PM +00:00

Sequence

1

Assessment Methods

Essential Questions

Course

Physics

Unit

Objective used to assess students

Formative Assessment Activities

Students will translate information from graph form to data and table form. Students will recognize equations and graphing trends.

Depth of Knowledge

80

Learning Activity

Students will participate in at least two lab sessions. One will consist of measurements, and will require students to measure dimensions outside of the classroom, inside the classroom, and use comparative analysis. Students will also perform a simple experiment in the lab, involving insulation. The results of temperature loss will be graphed and then interpreted verbally.

Research-based Instructional Strategies

Teacher will have a brief introduction to the lab session and qualities to look for in students participating in lab. Lecture and demonstration examples will be given by teacher. The teacher will constantly monitor student activity and be readily available for questions.

Supporting Resources

Holt Physics 1999

Correction Exercise

Students will have another lab similar to this one and will be able to perform the lab again

Enrichment Exercise for Accelerated Learners

Study insulation and what research methods and techniques are used when deciding types of insulation for specific applications

Remediation for Struggling Learners

Meter Stick, Calculator, Cups or glasses of various types, thermometer, graph paper, timers

English Language Learner

District Defined

Objective is A+

Missouri School Improvement Program

Code	Subject	Grade	W
MSIP Equity Concepts	Equity Concepts	Workplace/job preparedness	RI

Show-Me Standards

Code	Subject	Grade	Standard	Goal
1	Mathematics	Grades: K-12	addition, subtraction, multiplication and division; other number sense, including numeration and estimation; and the application of these operations and concepts in the workplace and other situations	
7	Science	Grades: K-12	processes of scientific inquiry (such as formulating and testing hypotheses)	
8	Science	Grades: K-12	impact of science, technology and human activity on resources and the environment	
2	Mathematics	Grades: K-12	geometric and spatial sense involving measurement (including length, area, volume), trigonometry, and similarity and transformations of shapes	
3	Mathematics	Grades: K-12	data analysis, probability and statistics	
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
1.8	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
3.5	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

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

Physics Objective 2

Unit Objective

Students will:

Created By

System

Creation Date

5/19/2013 7:18:14 PM +00:00

Modified By

System

Modification Date

11/19/2013 7:14:41 PM +00:00

Sequence

2

Assessment Methods

Essential Questions

Course

Physics

Unit

02 Unit and Prefix Conversion

Objective used to assess students

Formative Assessment Activities

Conversions of quantities will be assessed by written means. Test will be given showing known quantities and students will be asked to convert to other quantities. Prefixes will be addressed identically.

Depth of Knowledge

90

Learning Activity

Students will complete a series of papers the instructor has prepared for them. Problems include simple conversion and word problems that will require constructed responses.

Research-based Instructional Strategies

Teacher will use acronyms to teach the students the prefixes for all SI units. Teacher will also find a creative way for students to remember this acronym (Let the students make up one, use a recent event, etc.). Teacher lecture.

Supporting Resources

Holt Physics - 1999

Correction Exercise

Other information sheets can be added for extra practice. Other techniques can be used to help with prefixes (memorization, pictures).

Enrichment Exercise for Accelerated Learners

Extreme prefixes will be added, ones that are rarely if not at all used.

Remediation for Struggling Learners

None

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	Mathematics	Grades: K-12	addition, subtraction, multiplication and division; other number sense, including numeration and estimation; and the application of these operations and concepts in the workplace and other situations	
7	Science	Grades: K-12	processes of scientific inquiry (such as formulating and testing hypotheses)	
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
4.1	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

Physics Objective 3

Unit Objective

The student will employ the methods of scientific inquiry during laboratory experiments.

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Sequence

3

Assessment Methods

Essential Questions

Course

Physics

Unit

03 Scientific inquiry

Objective used to assess students

Formative Assessment Activities

The student will employ the methods of scientific inquiry during a laboratory practical.

Depth of Knowledge

80

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

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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

Physics Objective 4

Unit Objective

Students will:

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System

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11/19/2013 4:42:57 PM +00:00

Sequence

4

Assessment Methods

Essential Questions

Course

Physics

Unit

04 Motion - One Dimension

Objective used to assess students

Formative Assessment Activities

Graphs of velocity vs. time and distance vs. time will be completed. Acceleration and velocity can then be calculated from this information. Problems will be worded using real life data and situations, and the students will be required to find the unknown.

Depth of Knowledge

80

Learning Activity

Acceleration and velocity can be measured by dropping various objects from great heights (Football Press box). Radio-Controlled cars can be used to find acceleration and velocities at certain distances.

Research-based Instructional Strategies

Teacher will use SmartBoard for notes on formulas and pertinent to the labs and processes. Teacher will also have handouts for lab, giving brief information and instructions.

Supporting Resources

Holt Physics - 1999

Correction Exercise

Enrichment Exercise for Accelerated Learners

Finding changing in acceleration using only distance and time. (Displacement analysis)

Remediation for Struggling Learners

Free-Fall Objects (Pumpkins, Milk containers, heavy objects, large objects to drop) access to press box, radio-controlled cars, timers, man-lift

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
8	Science	Grades: K-12	impact of science, technology and human activity on resources and the environment	
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
1.3	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
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

2.7	Knowledge Standards	Grades: K-12	Students in Missouri public schools will acquire the knowledge and skills to communicate effectively within and beyond the classroom.	Use technological tools to exchange information and ideas
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

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

Physics Objective 5

Unit Objective

1. The student will construct vector diagrams and use vector equations in problem solving.

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Sequence

5

Assessment Methods

Essential Questions

Course

Physics

Unit

05 Vectors with motion

Objective used to assess students

Formative Assessment Activities

Students will decipher the difference between a vector and a non-vector quantity. Vector quantities will be calculated in lab by using motion cars, and photogates. Real-life problems and situations will be given (track races, climbing a mountain, travel) and students will be expected to calculate the unknown (velocity, acceleration, displacement).

Depth of Knowledge

70

Learning Activity

Students are given a sheet that has 4-5 problems on it. Each problem describes a person traveling, or an object being moved. The students, using math knowledge, figure the problems using right triangles, and sin, cos, tan identities.

Research-based Instructional Strategies

Teacher introduces problems every day. Each day having a problem getting progressively difficult. Teacher allows students to spend a lot of time in class to work on problems, and then assigns homework. Teacher lectures.

Supporting Resources

Holt Physics -1999

Correction Exercise

Enrichment Exercise for Accelerated Learners

Problems with negative angles and angle greater than 180. Use quadrants instead of angles, use directions other than Cardinal directions

Remediation for Struggling Learners

Meter Sticks, Timers, rulers, protractors

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	Communication Arts	Grades: K-12	speaking and writing standard English (including grammar, usage, punctuation, spelling, capitalization)	
7	Science	Grades: K-12	processes of scientific inquiry (such as formulating and testing hypotheses)	
4	Communication Arts	Grades: K-12	writing formally (such as reports, narratives, essays) and informally (such as outlines, notes)	
1	Mathematics	Grades: K-12	addition, subtraction, multiplication and division; other number sense, including numeration and estimation; and the application of these operations and concepts in the workplace and other situations	
2	Science	Grades: K-12	properties and principles of force and motion	
3	Mathematics	Grades: K-12	data analysis, probability and statistics	
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

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
1.10	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

Grade and Course Level Standards

Common Core Standards

Version

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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

Physics Objective 6

Unit Objective

1. Students will analyze the relationship between force and motion as stated in Newton's Laws of motion.

Created By

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Sequence

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Assessment Methods

Essential Questions

Course

Physics

Unit

06 Force and Motion

Objective used to assess students

Formative Assessment Activities

Students will classify the relationship between force and motion as stated in Newton's Laws of motion. Students will apply Newton's Laws of Motion to everyday activities.

Depth of Knowledge

Learning Activity

Students will construct a pendulum and review motion according to

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

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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

Physics Objective 7

Unit Objective

The student will mathematically analyze situations in which conservation of mechanical energy is valid.

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Sequence

7

Assessment Methods

Essential Questions

Course

Physics

Unit

07 Mechanical energy

Objective used to assess students

Formative Assessment Activities

The student will mathematically diagnose situations in which conservation of mechanical energy is valid.

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

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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

Physics Objective 8

Unit Objective

The student will apply the principle of conservation of momentum to problem scenarios.

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11/19/2013 8:36:13 PM +00:00

Sequence

8

Assessment Methods

Essential Questions

Course

Physics

Unit

08 Conservation of momentum

Objective used to assess students

Formative Assessment Activities

The student will demonstrate the application of the principle of conservation of momentum to problem scenarios.

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+

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Students Self-Reflection About Personal Goals

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Guiding Questions Depth of Knowledge

Summative Assessment Activities

Summative Correction Exercise

Family and Community Involvement

Name

Physics Objective 9

Unit Objective

The student will solve equations using the different components of rotational motion.

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System

Modification Date

11/19/2013 3:33:20 PM +00:00

Sequence

9

Assessment Methods

Essential Questions

Course

Physics

Unit

09 Rotational motion

Objective used to assess students

Formative Assessment Activities

The student will solve equations using the different components of rotational motion.

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

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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

Physics Objective 10

Unit Objective

Students will:

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Creation Date

5/19/2013 7:18:15 PM +00:00

Modified By

System

Modification Date

11/18/2013 11:15:38 PM +00:00

Sequence

Assessment Methods**Essential Questions****Course**

Physics

Unit

11 Sound

Objective used to assess students**Formative Assessment Activities**

By taking an oscilloscope and graph data of a sound wave, the students will be assessed on their ability to calculate the wavelength amplitude and frequency of that wave

Depth of Knowledge

75

Learning Activity

Using a large slinky, teacher will demonstrate the difference between longitudinal waves and transverse waves. Teacher will also use microphone wired to an oscilloscope to show that sound can be transferred to a wave for observation.

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

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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

Physics Objective 11

Unit Objective

The Students Will:

Created By

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Creation Date

5/19/2013 7:18:15 PM +00:00

Modified By

System

Modification Date

11/19/2013 5:23:36 PM +00:00

Sequence

11

Assessment Methods

Essential Questions

Course

Physics

Unit

12 Electricity

Objective used to assess students

Formative Assessment Activities

Circuit diagrams will be drawn by the student given certain criteria and information by the instructor. With the circuit diagrams, students will be given power source or other pertinent information, and will decide current and any other information asked for. Students will also design a real structure and wire the structure according to the rules and principles of electricity. The students will be evaluated on their successful completion of the structure and it's functionality.

Depth of Knowledge

Learning Activity

Students will construct small circuits using a breadboard and circuit parts. Creating small blinking lights, using operational amps and resistors and capacitors, will be the pinnacle of the learning in the lab. The students will also draw diagrams of large complex circuit diagrams, and have other students decipher and interpret the functions of each section and or part of the circuit.

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

Code	Subject	Grade	T
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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