Perris Union High School District
Course of Study

A. COURSE INFORMATION

Course Title:
(limited to 34 characters with spaces in Infinite Campus)

Science 8

- ☐ New
- ☑ Revised

If revised, the previous course name if there was a change

Transcript Course Code/Number:

924053

(To be assigned by Educational Services if it's a new course)

CREDIT TYPE EARNED:	CALPADS CODE:
science	9323

Subject Area:

- ☐ Social Science
- ☐ English
- ☐ Mathematics
- ☑ Laboratory Science
- ☐ World Languages
- ☐ Visual or Performing Arts
- ☐ College Prep Elective
- ☐ Other

Is this classified as a Career Technical Education course?

- ☐ Yes
- ☑ No

If yes, which pathway does this course align to?
Pathway Name:

CTE CDE Code:

Grade Level(s)

- ☐ MS
- ☐ HS
- ☐ 5
- ☐ 6
- ☐ 7
- ☑ 8
- ☐ 9
- ☐ 10
- ☐ 11
- ☐ 12

Was this course *previously approved by UC* for PUHSD?

- ☐ Yes
- ☐ No

(Will be verified by Ed Services)

Which A-G Requirement does/will this course meet?

☐ Pending

Credential Required to teach this course:
To be completed by Human Resources only.

55: Biological Sciences; Science: Chemistry; Science: Geosciences; Science: Physics

Signature **Date** 2/29/2024

Submitted by: Julie Harris
Site: SSC
Date: 02/15/2024
Email: julie.harris@puhsd.org

Unit Value/Length of Course:

- ☐ 0.5 (half-year or semester equivalent)
- ☑ 1.0 (one-year equivalent)
- ☐ 2.0 (two-year equivalent)
- ☐ Other:

Approvals	Name/Signature	Date
Director of Curriculum & Instruction		
Asst. Superintendent of Educational Services	Kristofer Machamer	3/4/24
Governing Board		

Prerequisite(s) (REQUIRED):

Corequisite(s) (REQUIRED):

Brief Course Description (REQUIRED):

Science 8 is an 8th grade Middle School Integrated Science Standards-based course taught using a digital platform and hands-on investigations, activities, and experiments. This course is an introduction to many topics which include Energy, Engineering Design, Forces and Interactions, Growth, Development, and Reproduction of Organisms. Other topics covered in this course include History of Earth, Human Impacts, Natural Selection & Adaptations, Space Systems, and Waves & Electromagnetic Radiation.

B. COURSE CONTENT

Course Purpose (REQUIRED):
What is the purpose of this course? Please provide a brief description of the goals and expected outcomes. Note: More specificity than a simple recitation of the State Standards is needed.

This course is aligned to the rigor of the Next Generation Science Standards (NGSS) and structured around four core elements: student-centered learning; rigorous learning; career, technology, and life skills; and hands-on learning. After completing this course, students will be prepared to take high school level Science courses.

Course Outline (REQUIRED):
Detailed description of topics covered. All historical knowledge is expected to be empirically based, give examples. Show examples of how the text is incorporated into the topics covered.

Unit 1: Interacting Objects- Objects Move and Collide
This unit covers how objects interact through movement and collision. Students will examine how energy plays a role with how objects move. Students will understand when transferring energy between two objects, each object exerts a force on each other.

1.1 Falling Objects- This section includes the following topics and activities:

- Description of motion using common frames of reference.
- The motion of an object which is determined by the sum of the forces acting upon it.
- An investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.
- Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.

1.2 Energy for Launch- This section includes the following topics and activities:

- A larger force causes a larger change in motion. Motion energy is called kinetic energy. Kinetic energy is the relationship between mass of the object in motion and the speed of the object.
- Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects.
- Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.
- Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.
- Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.

1.3 Colliding Objects- This section includes the following topics and activities:

- Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.
- Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.
- Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.
- Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.
- Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects.
- Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.
- Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.

Unit 2-Universal Forces

This unit covers the movement of planets. Students will examine the different compositions of planets and how physical features of the planets can be captured using technology. Students will have an understanding that based on the Earth's rotation and orbit, we can observe patterns in the phases of the moon. Students will understand how patterns are used to predict lunar and solar eclipses.

2.1 Observing Planetary Objects- This section includes the following topics/activities:

- Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.
- Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.
- Analyze and interpret data to determine scale properties of objects in the solar system.

2.2 Planetary Forces- This section includes the following topics/activities:

- The strength of magnetic and electrical forces depends on the mass and distance between objects. The greater the distance between charged particles, the weaker the electric field.
- Every particle has its own electric field. The electric field of a particle can be activated by running current.
- Magnetic forces can be attractive and repulsive. A magnetic field can generate electrical current.
- Ask questions about data to determine the factors that affect the strength of electric and magnetic forces.
- Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.
- Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.

2.3 Orbital Forces- This section includes the following topics/activities:

- The strength of gravitational forces depends on the mass and distance between objects.
- Objects in orbit experience an attractive gravitational force.
- Earth orbits around the sun each year, resulting in the seasons. Earth rotates around an axis that results in 12 hours of daylight. The moon rotates around Earth each month, resulting in the phases of the moon.
- Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.
  Analyze and interpret data to determine scale properties of objects in the solar system.
- Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects.

2.4 Energy in the Universe- This section includes the following topics/activities:

- The kinetic energy of objects in the solar system is determined by their velocity and mass.
- The kinetic energy of a planet in orbit changes as it changes distance from the sun.
- Energy is transferred from the potential nuclear energy of the sun to Earth's surface.
- Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects.
- Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.

Unit 3- Evolution in Action- Life's Unity and Diversity

This unit covers The process of Earth's formation laid out the conditions needed to support life. Fossils provide an imperfect record of past life forms. Patterns, including the relatedness of life and mass extinction events, can be inferred from the fossil record. The naturalist Charles Darwin proposed a hypothesis that accounted for how the diversity of life on Earth has evolved. Evolution is the change in the genetic make-up of populations brought about by genetic mutation and the action of natural selection. Evolution is a scientific theory that is supported by a wide variety of evidence including the fossil record and the structure, development, genetics, and ongoing evolution of living organisms. Some organisms have been domesticated. The process of domestication has been accompanied by artificial selection. Scientists can now modify organisms using a process called genetic engineering.

3.1 Earth's History and the Fossil Record- This section includes the following topics/activities:

- Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history.
- Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.
- Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.

3.2 Evolution and Natural Selection- This section includes the following topics/activities:

- Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism.
- Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.
- Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.

- Gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms.
- Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.

3.3 Evidence for Evolution- This section includes the following topics/activities:

- Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.
- Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.
- Analyze displays of pictorial data to compare patterns of similarities in the embryological development across multiple species to identify relationships not evident in the fully formed anatomy.
- Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.

3.4 Modifying Organisms-This section includes the following topics/activities:

- Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism.
- Gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms.

Unit 4 Monitoring Biodiversity-Monitoring Earth

This unit covers the two types of waves: mechanical waves and electromagnetic waves. Students will learn how the energy that waves carry have certain characteristics. Students will examine how waves can be used to transfer information. Students will understand the connection of waves and how they interact with matter. Students will learn the differences in the amount of solar energy striking Earth and how it causes variation in its climate. Students will see how the tilt of Earth's axis causes seasons.

4.1 Nature of Waves-This section includes the following topics and activities:

- Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.
- Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.
- Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.

- Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.
- Integrate qualitative scientific and technical information to support the claim that digitized signals are a more reliable way to encode and transmit information than analog signals.

4.2 Waves and Matter- This section includes the following topics and activities:

- Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.
- Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.
- Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.

4.3 Warming Earth- This section includes the following topics and activities:

- Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.
- Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.

4.4 Remote Sensing- This section includes the following topics and activities:

- Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.
- Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.
- Integrate qualitative scientific and technical information to support the claim that digitized signals are a more reliable way to encode and transmit information than analog signals.

4.5 Sustaining Biodiversity-This section includes the following topics and activities:

- Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.
- Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.
- Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.

Writing Assignments (REQUIRED):
Give examples of the writing assignments and the use of critical analysis within the writing assignments.

Unit 1- Reading and Annotating passage/Reflective Writing:
Reflection Question for Writing- How do mass and energy affect the acceleration of a rocket?

Instructions: Have students reading and annotating passage WB pp 83-85. First Read will be reading through text only. Second read will include through reading. Students will Circle, underline, and/or highlight (action words) as they stop and go read through the passage.

Unit 2- Reflective Writing on what new information did students discover from your reading *Reason Modeling Phases of the Moon*

Instructions: After working through and completing Activity 9 WBpp224-227 Complete WB pp228 Reflective writing on what students discovered from doing the activity and what this activity taught them about the moon, Earth, and the sun. (Turn in writing sample to teacher when finished before end of class period)

Unit 3- Reading and Annotating passage - Earth's History and the Fossil Record.

Instructions: Before you read the passage. Look at the Highlighted Vocabulary terms in yellow and review them and other terms from Key Vocabulary from WB pp7. Read the passage next, with the definitions of these terms in mind. Circle any unknown words while you silently read the passage. Lastly, talk with your elbow partner to better understand circled words for understanding.

Unit 3- Biogeochemical Cycles: Students are to Research and Write a one page essay on each of the five biogeochemical cycles. 1) Water Cycle (Hydrological Cycle) 2) Rock Cycle 3) Carbon Cycle 4) Oxygen-Carbon Dioxide Exchange 5) Nitrogen Cycle

Instructions: Research and summarize in a handwritten one page essay describing one of the biogeochemical processes. This can be a reading or video passage from Discovery Education Library. Once each of the five cycles are completed, students can underline scientific words to be used on an extended assignment of a mini-poster of a cycle that is neatly drawn, labeled, and colored 8 ½ x 11in on copy paper.

Unit 4- Avid Note-taking from reading passage and video notes WB pp 336-338 for UNIT 4 Monitoring Biodiversity / Concept 4.2 Waves and Matter / Activity 7 Analyze: Sound Waves and Matter WB pp 336

Instruction: Students can read passage and take AVID style notes.Then continue taking AVID notes on Discovery Ed video (see link on WB pp 337)

INSTRUCTIONAL MATERIALS (REQUIRED)	
Textbook #1	
Title: Discovery Education	Edition: Online
Author:	ISBN:
Publisher: Discovery	Publication Date:
Usage: ☑ Primary Text ☐ Read in entirety or near	
Textbook #2	
Title:	Edition:
Author:	ISBN:
Publisher:	Publication Date:
Usage: ☐ Primary Text ☐ Read in entirety or near	
Supplemental Instructional Materials *Please include online, and open source resources if any.*	
Estimated costs for classroom materials and supplies (REQUIRED). *Please describe in detail.* If more space is needed than what is provided, please attach a backup as applicable.	
Cost for a class set of textbooks: $	Description of Additional Costs:
Additional costs:$	
Total cost per class set of instructional materials:	$

Key Assignments (REQUIRED):
Please provide a detailed description of the Key Assignments including tests, and quizzes, which should incorporate not only short answers but essay questions also. How do assignments incorporate topics? Include all major assessments that students will be required to complete
Activities & Labs **Skittles Lab-**The purpose of this experiment is to figure out which color dye in Skittles diffused fastest in

distilled water**.**

M&M's Graphing Lab- A simple statistical analysis of the frequency of colors of M&M's in a bag

Spaghetti & Marshmallow Lab- The weight is the result of gravity, which pulls everything vertically downwards.

DNA: Strawberry DNA Extraction-All living organisms have DNA. DNA, which is short for deoxyribonucleic acid, is the blueprint for almost everything that happens inside the cells of an organism — overall, it tells the organism how to develop and function. DNA is so important that it can be found in nearly every cell of a living organism. In this activity, we make your own DNA extraction kit from household chemicals and use it to extract DNA from strawberries

Solar Oven-The sun's light rays are collected by the foil flap and concentrated inside the box. The rays are transformed into thermal energy that slowly raises the temperature inside the box, causing the food to cook.

Green Car Design- Students will learn sustainable and environmentally friendly vehicles.

Popsicle Bridge Design - Students will build engaging, realistic designs using popsicle sticks to show stability of the structure.

DNA: Paper Model- The outside of the ladder is made up of alternating sugar and phosphate molecules. The sugar is called deoxyribose. The rungs of the ladder are made of a pair of molecules called bases. There are four bases in DNA: adenine, guanine, cytosine, and thymine. Because of the chemical structures of the bases, adenine only pairs with thymine and cytosine only pairs with guanine to form a rung.

<u>Unit 1 Projects:</u>

Activity 10: Frame of Reference
In this activity, students investigate how making observations of a moving object from different frames of reference affects the way the motion is described. Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.

- **Newton's Cradle**
- **Wheel or ball**
- **Round sticker in a bright color**
- **Cart or chair with wheels**
- **Stopwatch**
- **Measuring sticks**

Activity 11: Free Fall

In this activity, students collectively plan and conduct an investigation in which they collect data to reach a conclusion about the motion of an object on which gravity is an acting force. Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.

- **Stop watch**
- **Meter stick or tape measure**
- **Tennis Ball**
- **Calculator**

Activity 13: Mass and Gravity

In this activity, students collaboratively plan and conduct an investigation in which they gather data to serve as evidence about the effect of mass on the rate that an object falls to Earth.Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system. Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.

- **Hollow, lightweight ball**
- **Ball of clay the same dimensions as the lightweight ball**
- **Tennis ball**
- **Stopwatch**
- **Rube Goldberg Machine**
- **Bridge Project: Popsicle Sticks & Elmer's Glue**
- **Apollo Rocket**

Allow students to complete either the interactive Moving -On OR the Hands-On Investigation Kinetic Energy, Speed, and Mass.

<u>Unit 2 Projects:</u>

Activity 6: Model of Outer Planets

In this activity, students develop and evaluate a model based on evidence that represents the scale properties of the objects in the solar system.Analyze and interpret data to determine scale properties of objects in the solar system.

- **Tennis balls**
- **Golf balls**
- **Basketballs**
- **Soccer balls**
- **Handballs**
- **Marbles**
- **Balloons (deflated)**
- **Other round objects**
- **Meter Stick**

Activity 7: Earth's Cyclical Orbit
In this activity, students carry out a physical investigation to collect data that serves as the basis for evidence of the cause and effects of the cyclical changes in Earth's orbit. Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.

- **Copy of worksheet: Earth's Cyclical Orbit**
- **Pencil**
- **Ruler**
- **Compass**
- **Blue colored pencil or crayons**

Activity 9: Modeling Phases of the Moon
In this activity, students develop and use a model of the Earth-sun-moon system to describe patterns in the phases of the moon. Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.Analyze and interpret data to determine scale properties of objects in the solar system.

- Pencils or dowels
- Foam balls
- Lamp without a shade
- Dark room
- Paper
- Makers
- Computers

Activity 12: Modeling Eclipses
In this activity, students develop models of solar and lunar eclipses to gather evidence that explains what happens when the sun, moon, and Earth change position relative to each other. Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons. Analyze and interpret data to determine scale properties of objects in the solar system.

- Globe or large styrofoam ball to represent Earth
- Small (about one inch) foam ball on a stick or toothpick to represent the moon
- Unshaded lamp to represent the sun

<u>Unit 3 Projects:</u>

Activity 6: Geologic Time
In this activity, students will analyze quantitative data on geologic time scales and perform mathematical calculations to design a physical model of the geologic timeline of Earth's 4.6 billion year old history.

Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history. Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.

- **Tape Measure**
- **Calculator**
- **Notebook**
- **Copy of geologic time scale**

Activity 9: Silly Selection

In this activity, students will use observations and evidence to determine which organisms are more likely to be fossilized. Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.

- **Construction Paper (red, white, black)**
- **Red beans**
- **Black beans**
- **White beans**
- **Extra beans of all colors for offspring**

Activity 11: Relative Dating

In this activity, students analyze fossil samples and interpret data about where the fossils were found within a geologic column to arrange the fossils from oldest to youngest. Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history. Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.

- **Fossil Sample cards**

Activity 15: Fossil Tracks

In this activity, students will conduct an investigation to provide qualitative and quantitative data on tracks created by bipedal animals. Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships. Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.

- **Paper**
- **Pencil with eraser**
- **Tape measure or meter stick**
- **Sand box or sandy area**
- **Images provided by teacher**

Unit 4 Projects:

Activity 5: The Ripple Effect
In this activity, students collaboratively plan and conduct an investigation to gather data as evidence for an explanation of how the size and height of objects dropped into water affect the size and speed of waves produced. Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave. Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.

Activity 9: Transverse and Longitudinal Waves
In this activity, students will use a rope and a spring to model the propagation of transverse and longitudinal waves, respectively. They make arguments supported by empirical evidence and scientific reasoning to support a model for natural phenomenon. Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave. Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.

Activity 12: Measuring the Parts of a Wave
In this activity, students construct, analyze, and interpret graphical displays of waves to describe and compare their characteristic patterns. Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.

Activity 16: Investigating Spectra
In this activity, students make observations about the wavelengths of light present in different sources. Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.

Activity 18: Going Digital
In this activity, students develop a model to simulate the process by which an image is digitized, then construct an explanation for how the image quality can be improved. Integrate qualitative scientific and technical information to support the claim that digitized signals are a more reliable way to encode and transmit information than analog signals.

Interactives:

Activity 11: Describing Waves
In this activity, students plan and conduct an investigation into how changing one characteristic of a wave affects other wave properties. Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave. Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.

Activity 15: On Your Wavelength

In this activity, students use a model to describe the relationships and identify patterns among different forms of electromagnetic energy. Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave. Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.

Instructional Methods and/or Strategies (REQUIRED):

Please list specific instructional methods that will be used.

- Oral In-Class Participation/Classwork/Homework
- Focus Activities
- Homework/Classwork
- Student Presentations
- Quizzes and Tests
- Writing Assessments
- Projects (including Artifact, Written and Oral Assessment)

Assessment Methods and/or Tools (REQUIRED):

Please list different methods of assessments that will be used.

- Vocabulary Assessments
- Grammar Assessments
- Lesson Assessments
- Unit/Chapter Assessments
- Individual Presentations
- Group Presentations
- Cumulative Semester Assessments

COURSE PACING GUIDE AND OBJECTIVES (REQUIRED)				
Day(s)	**Objective**	**Standard(s)**	**Chapter(s)**	**Reference**

C. HONORS COURSES ONLY
Indicate how much this honors course is different from the standard course.

D. BACKGROUND INFORMATION
Context for course (optional)
History of Course Development (optional)