



Perris Union High School District Course of Study

A. COURSE INFORMATION

<p>Course Title: (limited to 34 characters with spaces in Infinite Campus)</p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Science 7</div> <p> <input type="checkbox"/> New <input checked="" type="checkbox"/> Revised </p> <p>If revised, the previous course name if there was a change</p> <div style="border: 1px solid black; height: 20px; width: 100%; margin-bottom: 5px;"></div> <p>Transcript Course Code/Number:</p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">924003</div> <p>(To be assigned by Educational Services if it's a new course)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">CREDIT TYPE EARNED:</td> <td style="width: 50%;">CALPADS CODE:</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">science</td> <td style="border: 1px solid black; padding: 2px;">9322</td> </tr> </table>	CREDIT TYPE EARNED:	CALPADS CODE:	science	9322	<p>Subject Area:</p> <p> <input type="checkbox"/> Social Science <input type="checkbox"/> English <input type="checkbox"/> Mathematics <input checked="" type="checkbox"/> Laboratory Science <input type="checkbox"/> World Languages <input type="checkbox"/> Visual or Performing Arts <input type="checkbox"/> College Prep Elective <input type="checkbox"/> Other </p> <p>Is this classified as a Career Technical Education course?</p> <p> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </p> <p>If yes, which pathway does this course align to?</p> <p>Pathway Name:</p> <div style="border: 1px solid black; height: 20px; width: 100%; margin-bottom: 5px;"></div> <p>CTE CDE Code:</p> <div style="border: 1px solid black; height: 20px; width: 100%; margin-bottom: 5px;"></div>	<p>Grade Level(s)</p> <p> <input type="checkbox"/> MS <input type="checkbox"/> HS <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input checked="" type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 11 <input type="checkbox"/> 12 </p>
CREDIT TYPE EARNED:	CALPADS CODE:					
science	9322					
<p>Was this course <u>previously approved by UC for PUHSD?</u></p> <p> <input type="checkbox"/> Yes <input type="checkbox"/> No (Will be verified by Ed Services) </p> <p>Which A-G Requirement does/will this course meet?</p> <div style="border: 1px solid black; padding: 2px; width: 100%; margin-bottom: 5px;"></div> <p style="text-align: right;"><input type="checkbox"/> Pending</p>	<p style="text-align: center;">Credential Required to teach this course: <u>To be completed by Human Resources only.</u></p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> SS: Science: Biological Sciences; Science: Chemistry; Science: Geosciences; Science: Physics; Foundational-level General Science Specific Supplementary Auth: Biological Science </div> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%; border: 1px solid black; padding: 5px; text-align: center;"> </td> <td style="width: 30%; border: 1px solid black; padding: 5px; text-align: center;"> 2/29/2024 </td> </tr> <tr> <td style="text-align: center;">Signature</td> <td style="text-align: center;">Date</td> </tr> </table>			2/29/2024	Signature	Date
	2/29/2024					
Signature	Date					
<p>Submitted by: Julie Harris Site: SSC Date: 02/15/2024 Email: julie.harris@puhsd.org</p>	<p>Unit Value/Length of Course:</p> <p> <input type="checkbox"/> 0.5 (half-year or semester equivalent) <input checked="" type="checkbox"/> 1.0 (one-year equivalent) <input type="checkbox"/> 2.0 (two-year equivalent) <input type="checkbox"/> Other: </p>					
<p>Approvals</p>	<p>Name/Signature</p>	<p>Date</p>				
Director of Curriculum & Instruction						
Asst. Superintendent of Educational Services		3/7/24				
Governing Board						

Prerequisite(s) (REQUIRED):
Corequisite(s) (REQUIRED):
Brief Course Description (REQUIRED):
Seventh-grade science is an integrated, standards based course, highlighted with analyzes and interpretation of data. Students will solve problems and make connections between science and the world around them using a digital platform. This platform is highlighted with hands-on investigations, activities, experiments centered around reading, writing, and math core skills.

B. COURSE CONTENT

Course Purpose (REQUIRED): <i>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.</i>
To address the rigor of NGSS through standards-aligned, three dimensional learning experiences. Each unit concept identifies the performance expectations, disciplinary core ideas, crosscutting concepts, science and engineering practices.
Course Outline (REQUIRED): <i>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.</i>
Unit 1: Matter All Around Guiding Questions: <ul style="list-style-type: none"> ● How does matter in living and nonliving things differ? ● How does adding or removing thermal energy affect the physical states of matter?

- How do interactions at the atomic level help us understand the observable properties of organisms and non-living matter?

Unit Project: Engineered Materials for Better Living

In this activity, students will construct models to distinguish matter that forms living and nonliving things and use their knowledge of how atoms are combined with one another in various ways. They will form molecules of different sizes to analyze and interpret scale atomic models.

Section 1: Particles in States of Matter

- In this concept, students will learn how the temperature and state of a pure substance depend on the kinetic energy of the particles that make it up.

Section 2: Energy and Changing States

- In this concept, you will learn how adding or removing thermal energy can change the state of pure substance and why the temperature at which a change of state occurs is affected by air pressure.

Section 3: The Composition of Matter

All matter is composed of atoms, which combine with each other in various ways to create the wide variety of substances that make up our universe.

Unit 2: Matter Cycles and Energy Flow

Guiding Questions:

- How do rocks and minerals record the flow of energy and cycling of matter on Earth?
- How do we get energy from our food?
- How are hot objects different from cold objects? What changes when they heat up and cool down?

Unit Project: The Importance of Beaches

In this activity, students will analyze the Hawaiian ecosystem, develop models of the rock cycle, associated with volcanic activity and the cycle of energy and matter, and construct a scientific explanation for the conservation of matter in these cycles.

Section 1: How Matter Can Change

- When a chemical change occurs, the atoms in molecules rearrange themselves to form new substances with new chemical and physical properties.

Section 2: Matter and Energy in Living Systems

- Energy flows, and matter cycles through living things in the processes of photosynthesis and cellular respiration.

Section 3: Formation of Rocks

- Energy from the Earth's interior and from the sun drives processes that cause matter to cycle through different forms of Earth materials.

Unit 3: Shaping Earth's Resources and Ecosystems

Guiding Questions:

- How can we use interactions between individual rocks or individual organisms to understand systems as big as the whole geosphere or whole ecosystem?
- How can we use patterns in geosphere interactions to predict the location of resources?
- How can we use patterns in ecosystem interactions to predict how organisms compete and share resources?

Unit Project: The Yellowstone Supervolcano

Section 1: Earth's Moving Surface

- Evidence in rocks indicates that Earth's lithosphere is broken into tectonic plates, which move and interact in ways that produce earthquakes, volcanoes, and a variety of surface features.

Section 2: Earth's Natural Resources

- Earth's natural resources are typically limited and nonrenewable and distributed unevenly due to geologic processes.

Section 3: Interactions in Ecosystems

- The availability of resources affects ecosystems and their populations, which have common patterns of interactions.

Unit 4: Sustaining Ecosystems

Guiding Questions:

- What natural processes and human activities threaten biodiversity and ecosystem services?
- How can people help sustain biodiversity and ecosystem services in a changing world?

Unit Project: Mega-Landslides, People, and Ecosystems

Section 1: Mass Wasting

- Most types of mass wasting are natural hazards that can damage ecosystems, yet this damage can be slowed.

Section 2: Synthetic Materials

- Synthetic materials are produced from natural resources. While they are very useful, they can also cause harm to ecosystems.

Section 3: Human Impact on Ecosystems

- Human activities can cause harm to biodiversity and ecosystem services, and they can also improve and sustain them.

Writing Assignments (REQUIRED):

Give examples of the writing assignments and the use of critical analysis within the writing assignments.

Unit 1.1

Students construct scientific explanations to the Can You Explain? question by including evidence of how particles move in matter.

Investigative writing: Hands on activity 9, students will formulate a hypothesis, predict the results, report what happened and out comes. This hands on will allow students to conduct an investigation to support or disprove their hypothesis about the effect of kinetic energy on particles in different types of liquid.

Unit 1.2

Students construct scientific explanations to the Can You Explain? question by including evidence of how matter changes state.

Investigative writing: Hands on activity 12, students will use graphical displays of heating and cooling data to identify cause and effect relationships between temperature and a substance's state. This hands on will allow students to investigate phase changes and kinetic molecular theory by analyzing how kinetic energy changes through each phase change.

Unit 1.3

Students construct scientific explanations to the Can You Explain? question by including evidence of how elements combine to form compounds.

Investigative writing: Evaluate activity 13, students will communicate how the structures of substances and mixtures are the same and how they are different from each other. Students will apply their prior knowledge of pure substances and mixtures to understand elements and compounds. Obtaining, evaluating and communicating information.

Unit 2.1

Students construct scientific explanations to the Can You Explain? question by including evidence of how chemical bonds rearrange during chemical changes.

Investigative writing: Hands on activity 7, students will formulate a hypothesis, predict the results, report what happened and out comes. This hands on will allow students to conduct and experiment to identify and interpret evidence for inferences about molecules during a chemical reaction.

Unit 2.2

Students construct scientific explanations for the Can You Explain? question by including evidence of how living systems use matter and energy

Investigative writing: Hands on activity 11, students will formulate a hypothesis, predict the results, report what happened and out comes. This hands on will allow students to investigate variables that affect the growth of yeast, testing their predictions using a controlled experiment.

Unit 2.3

Students construct scientific explanations to the Can You Explain? question by including evidence of how different forces cause rocks to change on Earth.

Investigative writing: Hands on activity 9, students will formulate a hypothesis, predict the results, report

what happened and outcomes using a flowchart. This hands on will allow students to develop a model of how energy from the sun drives the changes that cause weathering and erosion.

Unit 3.1

Students construct scientific explanations to the Can You Explain? question by including evidence of what causes earthquakes and why they occur on the West Coast of the United States.

Investigative writing: Instructional Focus in Activity 7, students focus on using evidence to construct models of how the continents on Earth looked long ago. In this activity students will use multiple pieces of evidence to recreate the southern part of the ancient supercontinent, Pangaea.

Unit 3.2

Students construct scientific explanations to the Can You Explain? question by including evidence of what natural resources are found on Earth.

Investigative writing: Integrate information Activity 15, students focus on understanding how geological conditions affect groundwater and its ability to be extracted or used as a natural resource. In this activity, students integrate scientific information to construct a model that describes and predicts how groundwater resources are created by past and current geoscience processes and how groundwater is used as a resource.

Unit 3.3

Students construct scientific explanations to the Can You Explain? question by including evidence of how organisms interact with the ecosystem.

Investigative writing: Clarifying claims Activity 11, students focus on learning about trophic levels of how energy flows through the energy pyramid in an ecosystem. In this activity, students integrate scientific information to clarify claims about the direction and efficiency of energy flow in an ecosystem.

Unit 4.1

Students construct scientific explanations to the Can You Explain? question by including evidence of how wildfires affect plant life and can increase the potential for erosion.

Investigative writing: Focus on data Activity 12, students focus on technical solutions to mitigate the damage landslides cause. In this activity, students analyze and interpret regional data to design an early warning system that alerts populations to imminent landslides.

Unit 4.2

Students construct scientific explanations to the Can You Explain? question by including evidence of how synthetic materials are used to prevent injuries and save lives.

Investigative writing: Integrate information Activity 10, students focus on using text, videos, and simulations to explore the properties of synthetic materials. In this activity, students integrate scientific text and media to gather evidence of properties engineers use to determine the appropriate material for a specific function.

Unit 4.3

Students construct scientific explanations to the Can You Explain? question by including evidence of how pollinator populations are declining and how this could affect humans.

Investigative writing: Cause and effect Activity 11, students focus on how changes that humans cause, including pollution and climate change, threaten biodiversity. In this activity, students will communicate cause and effect relationships of pollution on populations in an aquatic ecosystem.

INSTRUCTIONAL MATERIALS (REQUIRED)

Textbook #1

Title: Discovery Education	Edition: Online
Author:	ISBN:
Publisher:	Publication Date:
Usage: <input checked="" type="checkbox"/> Primary Text <input type="checkbox"/> Read in entirety or near	

Textbook #2

Title:	Edition:
Author:	ISBN:
Publisher:	Publication Date:
Usage: <input type="checkbox"/> Primary Text <input type="checkbox"/> 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

Unit 1 Project: Engineered Materials for Better Living

After you have researched the material, you will prepare a presentation for the class. The presentation should include the following information:

- The structure and elemental identities of the atoms/molecules that make up the material
- The properties of the material
- The use of the material
- How and when the material was invented, and the technology used to develop it.

Unit 2 Project: The Importance of Beaches

For this project, you will work in groups to identify the different forms of energy and processes that interact on beaches to influence the rock cycle. You will address the impact of energy and waves on the rock cycle. As you research:

- Report on the impact of human interactions with beaches.
- Think about and make a list of human activities at beaches.
- Explain the impact these activities can have on the rock cycle.

Unit 3 Project: The Yellowstone Supervolcano

Conduct research online and in the library about Yellowstone's volcano and ecosystem. Investigate the ways the volcano influences the ecosystem, including the effect of eruptions on the ecosystem. Discover the tools scientists use to measure the volcano. Then, create a presentation of your findings. Use Studio to organize your presentation. Prepare a five-minute presentation to give to the class, summarizing your research, using your Studio presentation as an aid.

Unit 4 Project: Mega-Landslides, People, and Ecosystems

Research the effects of landslides on ecosystems. Describe three effects of landslides on ecosystems. Describe a remedy to address one of these effects.

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

--	--	--	--	--

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)

--