

Course Title: Marine Science 1a/1b

State: WA

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State Standards: Common Core English Language Arts Standards » Science & Technical Subjects » Grade 9-10

Percentage of Course Aligned: 100%

Standards	Course Title (a or b), if applicable, e.g. Game Design 1a	Unit Name(s)	Lesson(s) Numbers	How Standard is Taught	How Standard is Assessed	Standard Rating (Fully Met / Partially Met / Not Met)
Key Ideas and Details:						
CCSS.ELA-LITERACY.RST.9-10.1 - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.	Marine Science 1a	Unit 1: What Is Science?	Lesson 6	Section Before Your Read (a scientific publication), summarizes a few things to consider. Look for Citations, a subsection, defines citations as references to previously published credible sources. The details of the date, the credibility, and the source documents inform the reader.	Knowledge Check Question 1	Fully met
CCSS.ELA-LITERACY.RST.9-10.2 - Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.	Marine Science 1a	Unit 1: What Is Science?	Activity 2	Students follow the steps of reading a scientific article, and the experience is guided by questions to answer after each of the steps is completed.	Students submit their responses to the questions that are posed at the ends of each of the steps they take to analyze the scientific article.	Fully met
CCSS.ELA-LITERACY.RST.9-10.3 - Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.	Marine Science 1a	Unit 1: What Is Science?	Lesson 2 and Lesson 3	Section Overview of the Scientific Method describes the steps of the scientific method and argues that research projects should follow them in order to produce reliable research results. An example case study further illustrates each of the steps. The explanation of the steps continues in Lesson 3.	Lesson 6 Knowledge Check Questions 5 and 6	Fully met
Craft and Structure:						
CCSS.ELA-LITERACY.RST.9-10.4 - Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.	Marine Science 1a	Unit 2: The Science of Water	Lesson 1	This lesson introduces the technical terms that students should be familiar with in order to comprehend the Unit material concerning the water molecule.	Critical Thinking Question 2	Fully met
CCSS.ELA-LITERACY.RST.9-10.5 - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).	Marine Science 1a	Unit 2: The Science of Water	Activity 1	Students illustrate the nitrogen cycle in the ocean, using the perspective of the nitrogen molecule as it goes through the cycle. They research the material by reviewing the unit lessons and adding some online research. Required terms to be used in the final product are listed, as well as the concepts that should be woven into the final presentation.	Deliverable is the molecule's "autobiography" which can be narrative with illustrations, a cartoon strip, digital photo journal, or series of videos.	Fully met
CCSS.ELA-LITERACY.RST.9-10.6 - Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.	Marine Science 1b	Unit 2: Human Uses of Water	Activity	Students watch a TED talk and then answer a series of questions about it, summarizing the key points including how did Deepika develop a cost-effective, eco-friendly way to purify water. They will describe her goal for the work.	Deliverable is a word processed document in which the student summarizes the key points from the TED talk.	Fully met
Integration of Knowledge and Ideas:						
CCSS.ELA-LITERACY.RST.9-10.7 - Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.	Marine Science 1b	Unit 3: The Impact of Humanity on Ocean Life	Activity	Students will use data from a short-term study of a marine species of their choice to analyze interrelationships among producers, consumers, and decomposers in an aquatic ecosystem and create an illustration of the food web for the chosen species.	Deliverable is the food web illustration, the data table, and answers to the reflection questions.	Fully met

<p>CCSS.ELA-LITERACY.RST.9-10.8 - Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.</p>	<p>Marine Science 1b</p>	<p>Unit 5: Exploring the Ocean</p>	<p>Activity</p>	<p>Students will watch a video about how engineering solutions can solve marine science problems. They then choose a problem they would like to solve, and they consider engineering practices to solve this problem; they communicate the problem and the solution to an audience they would like to reach--community, other people or government officials. They make an argument about how their solution matters.</p>	<p>Deliverables are the final product that meets the defined criteria, in a presentation of their choice.</p>	<p>Fully met</p>
<p>CCSS.ELA-LITERACY.RST.9-10.9 - Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.</p>	<p>Marine Science 1a</p>	<p>Unit 2: The Science of Water</p>	<p>Activity 2</p>	<p>Activity presents the fact that there is a place in the world where people can float without a flotation device, and they can just relax there. Students are then assigned to conduct an experiment that simulates the experience of floating in the Dead Sea. The experiment determines the solution of salt needed for an egg to float. Students create a testing table to track all of their results as they attempt to drop the egg into water/salt and see it float.</p>	<p>Students follow the steps to complete the experiment, recording results in the testing table. They compare actual results with their initial estimates. They create a report explaining their findings, which should include the basic principles of fluid dynamics. They submit their explanation and testing table.</p>	<p>Fully met</p>
<p>Range of Reading and Level of Text Complexity:</p>						
<p>CCSS.ELA-LITERACY.RST.9-10.10 - By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently.</p>	<p>Marine Science 1a</p>	<p>Unit 3: A Land of Earth and Water</p>	<p>Lesson 2 and Lesson 3</p>	<p>Lesson continues to develop the Unit 3 concepts, including the section Continental Margins, in which the the continental crust transforms into oceanic crust, as explained in the text.</p>	<p>Critical Thinking Question 5</p>	<p>Fully met</p>