

**Test Design Blueprint**

Date \_\_\_\_\_

Marine Science

2002500

11 &amp; 12

Course Title

Course Number

Grade(s)

<b>Main Idea</b> <i>(Big Idea/Domain/Strand/Standard)</i>	<b>Standard Code</b>	<b>Percent of Test Based on Time Devoted to Standard</b>	<b>Number of Test Questions</b> <i>(60 total)</i>
Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following	SC.912.N.1.1	2%	1
Describe and explain what characterizes science and its methods.	SC.912.N.1.2	2%	1
Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.	SC.912.N.1.3	2%	1
Identify sources of information and assess their reliability according to the strict standards of scientific investigation.	SC.912.N.1.4	2%	1
Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.	SC.912.N.1.5	3%	2
Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.	SC.912.N.1.6	3%	2
Recognize the role of creativity in constructing scientific questions, methods and explanations.	SC.912.N.1.7	2%	1
Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).	SC.912.N.2.1	2%	1
Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.	SC.912.N.2.4	3%	2

Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.	SC.912.N.2.5	2%	1
Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.	SC.912.N.3.1	2%	1
Describe the function of models in science, and identify the wide range of models used in science.	SC.912.N.3.5	3%	2
Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.	SC.912.N.4.1	3%	2
Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.	SC.912.N.4.2	2%	1
Cite evidence that the ocean has had a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water.	SC.912.E.7.9	4%	3
Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.	SC.912.P.10.2	4%	3
Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.	SC.912.P.10.20	3%	2

Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.	SC.912.L.14.6	3%	2
Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.	SC.912.L.15.13	4%	2
Discuss the characteristics of populations, such as number of individuals, age structure, density, and pattern of distribution.	SC.912.L.17.1	4 %	2
Explain the general distribution of life in aquatic systems as a function of chemistry, geography, light, depth, salinity, and temperature.	SC.912.L.17.2	3%	2
Discuss how various oceanic and freshwater processes, such as currents, tides, and waves, affect the abundance of aquatic organisms.	SC.912.L.17.3	5%	3
Describe changes in ecosystems resulting from seasonal variations, climate change and succession.	SC.912.L.17.4	5%	3
Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.	SC.912.L.17.6	3%	2
Characterize the biotic and abiotic components that define freshwater systems, marine systems and terrestrial systems.	SC.912.L.17.7	4%	3
Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.	SC.912.L.17.8	5%	3

Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.	SC.912.L.17.9	3%	2
Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.	SC.912.L.17.10	3%	2
Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.	SC.912.L.17.11	4%	3
Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.	SC.912.L.17.16	5%	3
Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.	SC.912.L.18.12	5%	3
TOTALS		100 %	60

List All Common Course Teachers:

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