

Teacher Name: DeRito—REVISED May 2009

COURSE TITLE/GRADE: Oceanography—Course # 3240 (Semester Course) DEPARTMENT/SUBJECT: Science

	Unit 1 - September	Unit 2 - October	Unit 3 – Nov. / Dec.
Essential Questions	What are the major divisions of the global ocean? What is the history of the Earth’s oceans? What are the properties of ocean water? How do the oceans and the atmosphere interact? What are technologies for studying the ocean floor? What are the 2 main regions of the ocean floor? What are the subdivisions and features of the 2 major regions of the ocean floor	What are the 3 groups of marine life? What are the two main ocean environments? What is the ecology of the benthic and pelagic environments? What are 2 ways to harvest the ocean’s living resources? What are 3 non-living resources in the ocean? What are the ocean’s energy resources	What is the difference between point and non-point source pollution? What are 3 types of point-source ocean pollution? What is being done to control ocean pollution? What are surface currents? What are 3 factors that control surface currents? What are deep currents? What are 3 factors that form deep currents? How do currents affect climate?
Content	<ol style="list-style-type: none"> 1. Divisions of oceans—4 major oceans 2. History of oceans—Pangea/Panthalassa 3. Properties of ocean—esp. salinity 4. Interactions between atmosphere and ocean 5. Technologies for studying the ocean floor 6. 2 major regions of ocean floor 7. Subdivisions and features of 2 major regions of ocean floor 	<ol style="list-style-type: none"> 1. 3 groups of marine life 2. 2 main ocean environments 3. Ecology of benthic and pelagic environments. 4. 2 ways to harvest ocean’s living resources 5. 3 non-living ocean resources 6. Energy resources in the ocean 	<ol style="list-style-type: none"> 1. Point-source vs. nonpoint pollution 2. 3 types of point-source pollution 3. Ways to control ocean pollution 4. Surface currents 5. Factors that control ocean currents 6. Deep currents 7. 3 factors that form/control deep currents 8. Currents and climate
Skills	Specific activities and labs may vary in accordance w/ student needs, differentiated instruction, and teaching time.	Specific activities and labs may vary in accordance w/ student needs, differentiated instruction, and teaching time.	Specific activities and labs may vary in accordance w/ student needs, differentiated instruction, and teaching time.
NJ Core Content Standard	<p>SCI.9-12.5.8.A.1} Explain the interrelationship of the geosphere, hydrosphere, and the atmosphere. (NJ Core Curr)</p> <hr/> <p>{SCI.9-12.5.8.C.1} Use the theory of plate tectonics to explain the relationship among earthquakes, volcanoes, mid-ocean ridges, and deep-sea trenches. (NJ Core Curr)</p> <hr/> <p>{SCI.9-12.5.8.C.2} Know that Earth is a system in which chemical elements exist in fixed amounts</p>	<p>SCI.9-12.5.8.A.1} Explain the interrelationship of the geosphere, hydrosphere, and the atmosphere. (NJ Core Curr)</p> <hr/> <p>{SCI.9-12.5.8.C.1} Use the theory of plate tectonics to explain the relationship among earthquakes, volcanoes, mid-ocean ridges, and deep-sea trenches. (NJ Core Curr)</p> <hr/> <p>{SCI.9-12.5.8.C.2} Know that Earth is a system in which chemical elements exist in fixed</p>	<p>SCI.9-12.5.8.A.1} Explain the interrelationship of the geosphere, hydrosphere, and the atmosphere. (NJ Core Curr)</p> <hr/> <p>{SCI.9-12.5.8.C.1} Use the theory of plate tectonics to explain the relationship among earthquakes, volcanoes, mid-ocean ridges, and deep-sea trenches. (NJ Core Curr)</p>

	which chemical elements exist in fixed amounts and move through the solid Earth, oceans, atmosphere, and living things as part of geochemical cycles. (NJ Core Curr)	in which chemical elements exist in fixed amounts and move through the solid Earth, oceans, atmosphere, and living things as part of geochemical cycles. (NJ Core Curr)	{SCI.9-12.5.8.C.2} Know that Earth is a system in which chemical elements exist in fixed amounts and move through the solid Earth, oceans, atmosphere, and living things as part of geochemical cycles. (NJ Core Curr)
Assessments	Tests, Quizzes, Models, Diagrams, Graphs, Labs, Worksheets Homework , Classwork	Tests, Quizzes, Models, Diagrams, Graphs, Labs, Worksheets Homework , Classwork	Tests, Quizzes, Models, Diagrams, Graphs, Labs, Worksheets Homework , Classwork
Resources	<u>Water on Earth (Holt)</u>	<u>Water on Earth (Holt)</u>	<u>Water on Earth (Holt)</u>
Interdisciplinary Connections	SWBAT: Construct a model of the ocean floor; Utilize powerpt. presentations.	SWBAT: Perform a powerpt. presentation, on a given marine organism from 1 of the 3 groups of marine life.	SWBAT: Write an essay on ways to control point & non-point pollution.

Unit 4 - January

Essential Questions	<p>What are the parts of a wave and how do they relate to wave movement? How do waves form and move? What are the different types of waves? How do tides relate to the Earth, sun, and moon? What are the 4 different types of tides? What is the relationship between tides and the coastal land? What are the different geographical features of the ocean, and the associated marine life?</p>
Content	<ol style="list-style-type: none"> 1. Parts of a wave 2. Wave formation and movement 3. Types of waves 4. Tides and their relationship to the Earth, sun, and moon 5. 4 types of tides 6. Tides and coastal land 7. Geography of the Ocean/Assoc. Marine Life <ul style="list-style-type: none"> • Coral reefs • Islands • Estuaries • Shallow bays • Lagoons • Inland waterways • Sub tidal soft bottoms • Sandy beaches • Rocky shores • Tide Pools • Kelp Forests • Open ocean • Abyss • Polar seas
Skills	<p>Specific activities and labs may vary in accordance w/ student needs, differentiated instruction, and teaching time.</p>

NJ Core Content Standards	<p>SCI.9-12.5.8.A.1} Explain the interrelationship of the geosphere, hydrosphere, and the atmosphere. (NJ Core Curr)</p> <hr/> <p>{SCI.9-12.5.8.C.1} Use the theory of plate tectonics to explain the relationship among earthquakes, volcanoes, mid-ocean ridges, and deep-sea trenches. (NJ Core Curr)</p> <hr/> <p>{SCI.9-12.5.8.C.2} Know that Earth is a system in which chemical elements exist in fixed amounts and move through the solid Earth, oceans, atmosphere, and living things as part of geochemical cycles. (NJ Core Curr)</p>
Assessments	Tests, Quizzes, Models, Diagrams, Graphs, Labs, Worksheets, Homework, Classwork, Oral reports, Final exam for semester course
Resources	<u>Water on Earth (Holt)</u>
Interdisciplinary Connections	SWBAT: Calculate wave speed, period, depth, and wavelength.