

OLEAN HIGH SCHOOL

Course Name Environmental Science
 Text: Environmental Science/ Nebel & Wright
 Other Resources Laboratory Manual/ Report Book

Grades 11-12

Month	Topic Content	Skills	Concepts	Major Assessments	Learning Standards	Resource/Text Page
Sept.	<ul style="list-style-type: none"> • Environmental Science & Sustainability • Ecosystems: Units of Sustainability • Ecosystems: How They Work 	<ul style="list-style-type: none"> • Basic Vocabulary • Lab Techniques/ Cooperative Learning • Note Taking • Critical Thinking • Problem Solving • Applying Concepts • Class Participation 	<ul style="list-style-type: none"> • Environmentalism • The Global Picture • Sustainable Development • The Structure of Ecosystems • How Ecosystems Work 	<ul style="list-style-type: none"> • Exams • Lab Reports • Projects • Portfolios • Class Participation 	1.2a, .2b, 1.1a, 1.1c, 1.2c, 1.3a, 1.3c, 1e, 4.2a, 4.2b, 4.6a, 4.6b, 4.6c, 4.7a, 4.7b, 4.7c 7.1a,7.1c	CH. 1-3
Oct.	<ul style="list-style-type: none"> • Ecosystems: In & Out of Balance • Ecosystems: Adapting to Change • The Global Human Population Explosion 	<ul style="list-style-type: none"> • Basic Vocabulary • Lab Techniques/ Cooperative Learning • Note Taking • Critical Thinking • Problem Solving • Applying Concepts • Class Participation 	<ul style="list-style-type: none"> • Population Balance • Growth Curves • Ecological Successions • Principles of Sustainability • Selection • Traits & Genes • Evolution • Global Changes • Population Explosion – Causes • Different Worlds • Population Growth Dynamics 	<ul style="list-style-type: none"> • Exams • Lab Reports • Projects • Portfolios • Class Participation 	1.1a, 1.1c, 1.2c, 1.1d, 4.2a, 4.2b, 4.3a, .3b, 4.4a, .5b, 4.6a, 4.6b, 4.6c, 4.7a, 4.7b, 4.7c	CH. 4-6
Nov.	<ul style="list-style-type: none"> • Addressing the Population Problem • The Production & Distribution of Food 	<ul style="list-style-type: none"> • Basic Vocabulary • Lab Techniques/ Cooperative Learning • Note Taking • Critical Thinking • Problem Solving • Applying Concepts • Class Participation 	<ul style="list-style-type: none"> • Population & Development • Demographic Transition • New Direction • Crops & Animals: Major Patterns of Food Production • Food Distribution & Trade • Hunger, Malnutrition, & Famine • Sustainability & Food • Critical Thinking 	<ul style="list-style-type: none"> • Exams • Lab Reports • Projects • Portfolios • Class Participation 	1.1a, 1.1b, 1.2c, 1.3a, 4.2a, 4.2b, 4.3a, .3b, 4.4a, 4.6a, 4.6b, 4.6c, 4.7a, 4.7b, 4.7c	CH. 7-8

Dec.	<ul style="list-style-type: none"> • Soil & the Soil Ecosystem • Pests & Pest Controls • Water, the Water Cycle, & Water Management 	<ul style="list-style-type: none"> • Basic Vocabulary • Lab Techniques/ Cooperative Learning • Note Taking • Critical Thinking • Problem Solving • Applying Concepts • Class Participation 	<ul style="list-style-type: none"> • Plants & Soil • Losing Ground • Need for Pest Control • Chemical Approach • Alternative Pest Controls • Socio. Issues in Pest management • Public policy • The Water Cycle • Human Impact • Sources & Uses of Fresh Water • Overdrawing Water Resources • ? More Water • Using Less Water • Stormwater Management 	<ul style="list-style-type: none"> • Exams • Lab Reports • Projects • Portfolios • Class Participation 	1.1a, 1.1b, 1.2c, 1.3a, 4.2a, 4.2b, 4.3a, .3b, 4.4a, 4.6a, 4.6b, 4.6c, 4.7a, 4.7b, 4.7c	CH. 9-11
Jan.	<ul style="list-style-type: none"> • Sediments, Nutrients, & Eutrophication • Sewage Pollution & Rediscovering the Nutrient Cycle • Pollution form Hazardous Chemicals 	<ul style="list-style-type: none"> • Basic Vocabulary • Lab Techniques/ Cooperative Learning • Note Taking • Critical Thinking • Problem Solving • Applying Concepts • Class Participation 	<ul style="list-style-type: none"> • The Process of Eutrophication • Combating Symptoms of Eutrophication • Long Term Strategies • Sewage Hazards • Sewage Management & Treatment • HAZMATS • History • Cleanup • Management of New Wastes • Pollution Avoidance 	<ul style="list-style-type: none"> • Exams • Lab Reports • Projects • Portfolios • Class Participation 	1.1a, 1.1b, 1.2c, 1.3a, 4.2a, 4.2b, 4.3a, .3b, 4.4a, 4.6a, 4.6b, 4.6c, 4.7a, 4.7b, 4.7c	CH. 12-14
Feb.	<ul style="list-style-type: none"> • Air Pollution & its Control • Major Atmospheric Changes 	<ul style="list-style-type: none"> • Basic Vocabulary • Lab Techniques/ Cooperative Learning • Note Taking • Critical Thinking • Problem Solving • Applying Concepts • Class Participation 	<ul style="list-style-type: none"> • Atmospheric & Air Pollution Essentials • Major Air Pollutants • Sources • Under Control • Indoor Pollution • Acid Deposition • Global Warming • Depletion of the Ozone 	<ul style="list-style-type: none"> • Exams • Lab Reports • Projects • Portfolios • Class Participation 	1.1a, 1.1b, 1.2a,1.2c, 1.3a, 3.1a, 4.1a,4.2a, 4.2b, 4.3a, 4.3b, 4.4a, 4.5a, 4.6a, 4.6b, 4.6c, 4.7a, 4.7b, 4.7c	CH. 15-16

Mar.	<ul style="list-style-type: none"> • Pollution & Public Policy • Wild Species: Biodiversity • Ecosystems as Resources 	<ul style="list-style-type: none"> • Basic Vocabulary • Lab Techniques/ Cooperative Learning • Note Taking • Critical Thinking • Problem Solving • Applying Concepts • Class Participation 	<ul style="list-style-type: none"> • Origins of Environmental Public Policy • Economic Effects • Implementing Policies • Cost-Benefit Analysis • Risk Analysis • Saving Wild Species • Value of Wild Species • Biodiversity • Ecosystems Under Pressure • Conservation & Preservation 	<ul style="list-style-type: none"> • Exams • Lab Reports • Projects • Portfolios • Class Participation 	1.1a, 1.1b, 1.2a,1.2c, 1.3a, 3.1a, 4.1a,4.2a, 4.2b, 4.3a, 4.3b, 4.4a, 4.5a, 4.6a, 4.6b, 4.6c, 4.7a, 4.7b, 4.7c	CH. 17-19
Apr.	<ul style="list-style-type: none"> • Converting Trash to Resources • Energy Resources: The rise & Fall of Fossil Fuels 	<ul style="list-style-type: none"> • Basic Vocabulary • Lab Techniques/ Cooperative Learning • Note Taking • Critical Thinking • Problem Solving • Applying Concepts • Class Participation 	<ul style="list-style-type: none"> • Solid Waste Problems • Solutions • Public Policy & Waste Management • Energy Sources & Uses • Declining Reserves of Crude Oil • Alternative Fossil Fuels • Global Warming • Sustainable Energy Options 	<ul style="list-style-type: none"> • Exams • Lab Reports • Projects • Portfolios • Class Participation 	1.1a, 1.1b, 1.2a,1.2c, 1 4.1a,4.2a, 4.2b, 4.3a, 4.3b, 4.4a, 4.5a, 4.6a, 4.6b, 4.6c, 4.7a, 4.7b, 4.7c	CH. 20-21
May	<ul style="list-style-type: none"> • Nuclear Power: Promise & Problems • Solar & Other Renewable Energy Sources • Lifestyle & Sustainability 	<ul style="list-style-type: none"> • Basic Vocabulary • Lab Techniques/ Cooperative Learning • Note Taking • Critical Thinking • Problem Solving • Applying Concepts • Class Participation 	<ul style="list-style-type: none"> • How Nuclear Power Works • Radioactive Materials & Their Hazards • Advanced Reactors • Future & Nuclear Power • Principles of Solar Energy • Indirect Solar Energy • Hydropower, Wind, Geothermal Energy • Urban Sprawl • Exurban Migration • Sustainable Cities 	<ul style="list-style-type: none"> • Exams • Lab Reports • Projects • Portfolios • Class Participation 	1.2a,1.2c, 1 4.1a,4.2a, 4.2b, 4.3a, 4.3b, 4.4a, 4.5a, 4.6a, 4.6b, 4.6c, 4.7a, 4.7b, 4.7c	CH. 22 -24
June	<ul style="list-style-type: none"> • Dream House Project • Final Exam 	<ul style="list-style-type: none"> • Lab Techniques/ Cooperative Learning • Critical Thinking • Problem Solving • Applying Concepts 	<ul style="list-style-type: none"> • All Previous Knowledge applies 	<ul style="list-style-type: none"> • Final exam • Dream House Blueprints & House 	All Previous STDs apply	All chapters and lab techniques.

