



<b>Course: Environmental Science</b> <b>Grade: 11 &amp; 12</b> <b>Designer(s): Stoner/Burchett</b>	<b>Overview of Course</b> (Briefly describe what students should understand and be able to do as a result of engaging in this course): <b>This course examines the effects of rapid human population growth on the environment and some of the effects of that growth. Major topics include pollution, energy, land use, agriculture, ecology, and extinction. Computer technology along with current issues that are occurring will help develop awareness of these topics. In the course the student will be able to gain a better understanding of the world around them.</b>
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**Overarching Big Ideas, Enduring Understandings, and Essential Questions**  
 (These “spiral” throughout the entire curriculum.)

<b>Big Idea</b>	<b>Standard(s) Addressed</b>	<b>Enduring Understanding(s)</b>	<b>Essential Question(s)</b>
Ecology	Env.4.1.12.A, B, C, D, E Env.4.2.12.A, B, C, Env.4.3.12.A, B	Ecology is the study of all of the interrelationships between organisms and their biotic and abiotic environments	Can Ecology be determined by you? How can ecological factors affect the environment that we live in?
Environment	Env.4.1.12.A, C, D, E	The environment is everything that surrounds you at any given time.	What is a natural environment? What is a man-made environment? How do impact our environment.
Energy	Env.4.3.12.A, B Env.4.5.12.C, D	Energy is an essential commodity that all living things need.	What are the types of fuel that were used in the past to heat our home, run our vehicles and manufacture any needed materials?
Pollution	Env.4.4.12.D Env.4.5.12.C	Pollution is created by humans as a result of their everyday activities.	What can we do to slow the creation of pollution?
Biomes	Env.4.1.12.A, D, E	Biomes are determined by precipitation and temperature.	What influence does temperature have on the different types of biomes? How does the amount of precipitation affect the biome types?

**Big Ideas, Enduring Understandings, and Essential Questions Per Unit of Study**  
 (These do NOT “spiral” throughout the entire curriculum, but are specific to each unit.)

<b>Month of Instruction</b> 1 semester	<b>Title of Unit</b>	<b>Big Idea(s)</b>	<b>Standard(s) Addressed</b>	<b>Enduring Understanding(s)</b>	<b>Essential Question(s)</b>	<b>Common Assessment(s)*</b>	<b>Common Resource(s)* Used</b>
2 weeks	<b>Introduction</b>	Overpopulation Pollution Conservation Resources	Env.4.2.12.A, B, C Env.4.3.12.C Env.4.4.12.C Env.4.6.12.C	Organisms rely on the environment and all of its components to have a viable possibility of survival.	What is environmental science?  How does environmental science relate to the everyday life of living organisms.	Quiz Current event articles Homework assignments.	Newspaper Magazine Computer Textbook
2 weeks	<b>Ecology</b>	Cycles Environment Energy Ecosystems	Env.4.1.12.A, B, C, D, E Env.4.2.12.A, B, C Env.4.3.12.A, B	Organisms on Earth interact and depend in a variety of ways on other living and non-living things in their environments.	How do organisms interact and depend on each other and the environment for survival?  How do biotic and abiotic factors shape ecosystems?  What are natural and man-made factors that contribute to population changes?	Quiz Homework  (What assessments will all teachers of this unit use to determine if students have answered the Essential Questions?)	(What resources will all teachers of this unit use to help students understand the Big Ideas?)
2 weeks September and the beginning of October	<b>Extinction</b>	<b>Habitat Ivory Endangered animal</b>	<b>4.1.12.C, D 4.3.12.B 4.5.12.A</b>	<b>Organisms that are killed either for fun or for profit of an individual aren't concerned with the</b>	<b>What is the impact on the environment due to a lost species?</b>  <b>What are some</b>	<b>Quiz Homework Computer/country Current events</b>	<b>Textbook VCR Computer Magazine Newspaper</b>

2 weeks in October.	<b>Biomes</b>	<b>Precipitation Temperature Day-light hours Night-time hours</b>	<b>Env.4.12.1.A, D</b>	<b>welfare of the environment.</b>  <b>Biomes are determined by the temperature and precipitation of the area.</b>	<b>abiotic or biotic factors contribute to the well-being of an organism?</b>  <b>How should humans determine which animals survive or become extinct?</b>  <b>How is a particular location on the earth determined by temperature and/or precipitation?</b>  <b>How do the plants adapt to the difference in climate?</b>  <b>What factors determine the plants and animals species that are located in that area?</b>	<b>Quiz Computer/country paper Homework</b>	<b>Textbook Computer VCR</b>
First 2 weeks in November	<b>Farming</b>	<b>Plow Fertilizer Pesticide Herbicide</b>	<b>Env.4.12.4.A, B, C, D, E</b>	<b>Farming practices have changed throughout time to yield the same crop.</b>	<b>How does plowing help and hurt the soil?</b>  <b>What are some new farming methods?</b>  <b>Why are there fewer farmers today than in past history?</b>  <b>How has farming become more mechanized?</b>	<b>Quiz Homework Computer/country paper</b>	<b>VCR Computer Textbooks</b>

2 week in November	<b>Energy</b>	<b>Energy, Reserves Mines, Solar, Reclamation, Thermodynamic s</b>	<b>Env.4.1.12.A, B, D, Env.4.3.12.A, B, C Env.4.8.12.A, B, C</b>	<b>Energy is a material that everyone wants, needs and may or may not have but, it is a determining factor of power.</b>	<b>How have energy choices changed throughout time?</b>  <b>Can we develop technology that harnesses our natural resources in a way to conserve nature?</b>	<b>Quiz Homework Country/computer paper</b>	<b>VCR Computers Textbooks</b>
2 weeks in December	<b>Air Pollution</b>	<b>Pollution Pollutants Aerosols Ozone Layer</b>	<b>Env.4.3.12.A, C, Env.4.8.12.C, D Env.4.9.A</b>	<b>Pollution is a by- product of many of our basic needs such as: energy, conservation, farming and ecological processes.</b>	<b>Can clean air be attainable with our basic needs?</b>  <b>Is air quality under control in the United States?</b>  <b>What can be done to create a better air quality in the United States?</b>	<b>Quiz Homework Country/computer paper</b>	<b>VCR Computers Textbooks</b>
2 weeks in December	<b>Water Pollution</b>	<b>Potable Water Quality Water Cycle Evaporation Condensation Transpiration Precipitation</b>	<b>Env.4.3.12.A, C Env.4.8.12.C, D Env.4.9.A</b>	<b>Polluted water accounts for more death and disease than any other environmental issue.</b>	<b>How much clean water do we need on a daily basis?</b>  <b>How does the U.S. compare to other countries in the world for safe drinking water.</b>  <b>What can we do to save our most needed resource?</b>  <b>What affect does</b>	<b>Quiz Homework Country/computer paper Current event article</b>	<b>VCR Computer Textbooks</b>

2 weeks in January	<b>Land pollution</b>	<b>Refuse Solid waste Biodegradable Landfill Open dump</b>	<b>Env.4.3.12.A, C Env.4.8.12.C, D Env.4.9.C</b>	<b>Land pollution is not only unsightly but it is also unhealthy.</b>	<b>clean water have on our standard of living?</b>  <b>How does polluted land contribute to the quality of life?</b>  <b>Why is there so much garbage?</b>  <b>What can be done to reduce the amount of garbage locally and nationally?</b>  <b>Where does the burden lie to keep our land clean?</b>	<b>Quiz Country/computer paper Homework</b>	<b>VCR Computer Textbooks</b>
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\* Some teachers may need to think about the assessments and resources used in order to determine the Big Ideas, Enduring Understandings, and Essential Questions embedded in their courses. At this point in your curriculum mapping, you might want to ignore the “Common Assessments” and “Common Resources Used” columns. However, you may use them if you wish.