

Environmental Science Syllabus

Lenoir City High School

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Room 118

Course description:

The purpose of this course is to provide students an opportunity to develop an understanding of interrelationships in the natural world. In addition, it allows them to identify natural and man-made environmental problems and design and evaluate possible solutions for these problems.

Required materials:

- Chromebook & charger
- Three ring binder
- Paper
- Pen / Pencil
- ◆ Colored pencils (for our color notes)

Expectations:

Students are held to a high standard in this classroom. Cell phone usage, when not needed for an assignment, is not permitted. Students will be given a warning for the first offense; if the offense continues, the cell phone will be taken to the office and will be held there for three days, unless the student pays \$5 to get it back per the school's policy. Chromebooks are to be used for instructional purposes only and should be used when permitted by the teacher.

Following the school policy, cheating is strictly forbidden. Any student caught cheating will be given a zero and will not be allowed to redo the assignment.

Attendance:

This class follows all guidelines regarding attendance laid out by the school in the student handbook. Students are expected to be in their seats when the bell rings to avoid being

tardy. If absent, it is the student's responsibility to get missing work and complete it within the time frame agreed upon by the student and the teacher.

Tardy Policy:

-1st, 2nd, 3rd tardy: verbal warning and log in Skyward; teacher has a conversation with student to find out why he/she continues to be late

-4th tardy teacher calls home and has another conversation with student

-5 or more tardies teacher assigns time for time (either after school, before school, lunch). Teacher should work with the student to ensure he/she makes up for the missed time in class, understands the material covered, and has all assignments completed for that class.

*If a student does not show up for 'time for time', the student will be referred to Principal Hoglund.

ENVIRONMENTAL SCIENCE Course Outline

<u>UNIT 1: EARTH'S SYSTEMS (ESS-2)</u>	Reinforcements
- Earth's Position in the Solar System - Earth's Atmosphere - Ozone Layer Depletion - Biogeochemical Cycles - Rock Cycle - Plate tectonics - Ecological Succession - Soil Formation	- Day length / Seasons / Climates - Gas composition - Effect of CFC's - Water, Carbon, Nitrogen, Phosphorous - Illustrate the flow of rocks - Types of boundaries, Natural disasters - Primary vs Secondary - Illustrate soil formation
<u>UNIT 2: ECOSYSTEMS (LS-2)</u>	Reinforcements
- Biomes (Land / Aquatic) - Flow of Energy / Matter - Carrying Capacity	- Identify location and plant / animal adaptations - Photosynthesis / Respiration / Energy pyramids / Law of Thermodynamics - Determine Biotic / Abiotic factors
<u>UNIT 3: BIOLOGICAL CHANGE</u>	Reinforcements
- Biodiversity - Natural Selection - Speciation - Extinction	- Effects of habitat destruction / invasive species / overharvesting / pollution / climate change - Adaptations - behavioral / anatomical / physiological - Environmental conditions causing speciation / extinction
<u>UNIT 4: EARTH and HUMAN ACTIVITIES (ESS-3)</u>	Reinforcements
- Human Population Growth - Natural Resources - Alternative Energy - Land Management - Green Revolution - Genetically Modified Organisms - Forest Ecosystem Services - Waste Management - Pollution and human health - Conservation vs Preservation - Environmental Laws - Climate Change - Ecological Footprint	- Patterns and Demographics (Fertility rates / life expectancy) - Renewable / Nonrenewable (problems / solutions for using energy and mineral resources) - What technology is needed? - Land use / best practices / topsoil loss - Increasing crop yields w fertilizer and irrigation - Pros / Cons of GMO's - Human impacts on forests - Landfills - Recycle, Food - composting - Air, water, land pollution effects on human health and environment - Organizations responsible for protecting resources - EPA, TVA - Scrubbers - Weather vs Climate, analyze graph showing link to humans and climate change - Develop a plan for reducing your footprint
<u>Links Among Engineering / Technology / Science / Society</u>	Reinforcements
- Sustainability of humans on Earth - Careers in Environmental Science - Human impacts on a local ecosystem	- Roles that engineering & technology play in a sustainable Earth - EPA - Investigate a problem and come up with solutions