

CMGES114/1 Honors Marine and Wildlife Science
2. Ecosystems and Population Ecology
 Scheduled to be taught between 10/05/2018 and 12/04/2018
 Belongs to Sharpe, Erin

Pacing
19 days
Unit Objectives
The students will be able to: -Define terms associated with wildlife ecology and population. -Describe the various components and functions of ecosystems. -Determine the relationship between habitat availability and wildlife populations. -Identify physical characteristics/attributes of species that make them well suited to their ecological niche. -Explain the concept of limiting factors. -Explain the relationship between carrying capacity, limiting factors and wildlife populations. -Describe factors affecting birth rate and death rate. -Explain the concept of surplus as it relates to wildlife populations. -Define biotic potential and calculate the biotic potential of selected species. -Explain the principles of inversion and compensation. -Recognize population curves that depict population changes among various species. -Recognize cause and effect relationships represented by population curves and how they are utilized in managing wildlife populations. -Estimate populations of wildlife using transect data collection. -Identify plant materials that serve as food and/or cover for wildlife.
Unit Summary
The purpose of this unit is to identify different ecosystems and the populations that inhabit them. Populations and organisms exist in within a range of tolerance for specific environmental conditions. Managing wildlife involves manipulating populations and understanding population ecology is essential to wildlife managers.
Essential Questions
1. Define and describe ecosystem and population ecology. 2. How can ecosystems be modified by internal and external factors? 3. How can life tables be used to manage a population? 4. Why would it be desirable to have population productivity data before setting hunting and fishing regulations? 5. Discuss the role of hunting and fishing in population control. 6. Define and distinguish between migration, immigration, and emigration. 7. Describe techniques that can be used to measure population movements.
Interdisciplinary Connections / 21st Century Themes & Skills
History: Natural selection and Charles Darwin Math: Reading and interpreting population charts and graphs Math: Equations for carrying capacity and population fluctuation. Math: Quadratic sampling and percent cover
Unique Assessments
Content Specific Labs and Activities
Modifications

-Post class materials (notes, worksheets, etc.) online for students to access -Post links to additional websites and online resources for students who need additional help understanding material Per students' IEPs DI activities Cooperative Learning Inquiry Learning
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Core Instructional Materials

Wildlife Ecology and Management (5th Edition) by Eric G. Bolen and William L. Robinson Managing Our Wildlife Resources (4th Edition) by Stanley H. Anderson
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Unit Resources/Links/Suggested Field Trips

Marsh Ecology Field Trip

Standards

1. C.CRP2CRP2 Grade 12 CPI CRP2

-Apply appropriate academic and technical skills.

2. C.CRP5CRP5 Grade 12 CPI CRP5

-Consider the environmental, social and economic impacts of decisions.

3. 11-12.RST.03

-Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

4. 11-12.RST.08

-Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.

5. 11-12.RST.10

-By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.

6. 1.HS-102 Grade 12 CPI DCI-1

-Natural selection occurs only if there is both (1) variation in the genetic information between organisms in a population and (2) variation in the expression of that genetic information-that is, trait variation-that leads to differences in performance among individuals.

7. 1.HS-102 Grade 12 CPI DCI-2

-Evolution is a consequence of the interaction of four factors: (1) the potential for a species to increase in number, (2) the genetic variation of individuals in a species due to mutation and sexual reproduction, (3) competition for an environment's limited supply of the resources that individuals need in order to survive and reproduce, and (4) the ensuing proliferation of those organisms that are better able to survive and reproduce in that environment.

8. 1.HS-103 Grade 12 CPI DCI-1

-Natural selection occurs only if there is both (1) variation in the genetic information between organisms in a population and (2) variation in the expression of that genetic information-that is, trait variation-that leads to differences in performance among individuals.

9. 1.HS-103 Grade 12 CPI DCI-2

-The traits that positively affect survival are more likely to be reproduced, and thus are more common in the population.

10. 1.HS-103 Grade 12 CPI DCI-3

-Natural selection leads to adaptation, that is, to a population dominated by organisms that are anatomically, behaviorally, and physiologically well suited to survive and reproduce in a specific environment. That is, the differential survival and reproduction of organisms in a population that have an advantageous heritable trait leads to an increase in the proportion of individuals in future generations that have the trait and to a decrease in the proportion of individuals that do not.

11. 1.HS-152 Grade 12 CPI CC-4

-Science knowledge indicates what can happen in natural systems-not what should happen. The latter involves ethics, values, and human decisions about the use of knowledge.

12. 1.HS-153 Grade 12 CPI DCI-1

-The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources.

13. 1.HS-154 Grade 12 CPI SEP-1

-Design or refine a solution to a complex real-world problem, based on scientific knowledge, student-generated sources of evidence, prioritized criteria, and tradeoff considerations.

14. 1.HS-71 Grade 12 CPI CC-1

-Changes of energy and matter in a system can be described in terms of energy and matter flows into, out of, and within that system.

15. 1.HS-72 Grade 12 CPI DCI-1

-The sugar molecules thus formed contain carbon, hydrogen, and oxygen: their hydrocarbon backbones are used to make amino acids and other carbon-based molecules that can be assembled into larger molecules (such as proteins or DNA), used for example to form new cells.

16. 1.HS-74 Grade 12 CPI SEP-1

-Construct and revise an explanation based on valid and reliable evidence obtained from a variety of sources (including students' own investigations, models, theories, simulations, peer review) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future.

17. 1.HS-81 Grade 12 CPI CC-1

-The significance of a phenomenon is dependent on the scale, proportion, and quantity at which it occurs.

18. 1.HS-81 Grade 12 CPI DCI-1

-Ecosystems have carrying capacities, which are limits to the numbers of organisms and populations they can support. These limits result from such factors as the availability of living and nonliving resources and from such challenges such as predation, competition, and disease. Organisms would have the capacity to produce populations of great size were it not for the fact that environments and resources are finite. This fundamental tension affects the abundance (number of individuals) of species in any given ecosystem.

19. 1.HS-81 Grade 12 CPI SEP-1

-Use mathematical and/or computational representations of phenomena or design solutions to support explanations.

20. 1.HS-82 Grade 12 CPI CC-1

-Using the concept of orders of magnitude allows one to understand how a model at one scale relates to a model at another scale.

21. 1.HS-82 Grade 12 CPI DCI-1

-Ecosystems have carrying capacities, which are limits to the numbers of organisms and populations they can support. These limits result from such factors as the availability of living and nonliving resources and from such challenges such as predation, competition, and disease. Organisms would have the capacity to produce populations of great size were it not for the fact that environments and resources are finite. This fundamental tension affects the abundance (number of individuals) of species in any given ecosystem.

22. 1.HS-82 Grade 12 CPI DCI-2

-A complex set of interactions within an ecosystem can keep its numbers and types of organisms relatively constant over long periods of time under stable conditions. If a modest biological or physical disturbance to an ecosystem occurs, it may return to its more or less original status (i.e., the ecosystem is resilient), as opposed to becoming a very different ecosystem. Extreme fluctuations in conditions or the size of any population, however, can challenge the functioning of ecosystems in terms of resources and habitat availability.

23. 1.HS-82 Grade 12 CPI SEP-1

-Use mathematical representations of phenomena or design solutions to support and revise explanations.

24. 1.HS-82 Grade 12 CPI SEP-2

-Most scientific knowledge is quite durable, but is, in principle, subject to change based on new evidence and/or reinterpretation of existing evidence.

25. 1.HS-83 Grade 12 CPI CC-1

-Much of science deals with constructing explanations of how things change and how they remain stable.

26. 1.HS-83 Grade 12 CPI DCI-1

-A complex set of interactions within an ecosystem can keep its numbers and types of organisms relatively constant over long periods of time under stable conditions. If a modest biological or physical disturbance to an ecosystem occurs, it may return to its more or less original status (i.e., the ecosystem is resilient), as opposed to becoming a very different ecosystem. Extreme fluctuations in conditions or the size of any population, however, can challenge the functioning of ecosystems in terms of resources and habitat availability.

27. 1.HS-83 Grade 12 CPI SEP-1

-Evaluate the claims, evidence, and reasoning behind currently accepted explanations or solutions to determine the merits of arguments.

28. 1.HS-83 Grade 12 CPI SEP-2

-Scientific argumentation is a mode of logical discourse used to clarify the strength of relationships between ideas and evidence that may result in revision of an explanation.

29. 1.HS-84 Grade 12 CPI CC-1

-Much of science deals with constructing explanations of how things change and how they remain stable.

30. 1.HS-84 Grade 12 CPI DCI-1

-Moreover, anthropogenic changes (induced by human activity) in the environment-including habitat destruction, pollution, introduction of invasive species, overexploitation, and climate change-can disrupt an ecosystem and threaten the survival of some species.

31. 1.HS-84 Grade 12 CPI DCI-2

-Biodiversity is increased by the formation of new species (speciation) and decreased by the loss of species (extinction).

32. 1.HS-84 Grade 12 CPI DCI-3

-Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value.

33. 1.HS-85 Grade 12 CPI DCI-1

-Group behavior has evolved because membership can increase the chances of survival for individuals and their genetic relatives.

34. 1.HS-86 Grade 12 CPI DCI-1

-Changes in the physical environment, whether naturally occurring or human induced, have thus contributed to the expansion of some species, the emergence of new distinct species as populations diverge under different conditions, and the decline-and sometimes the extinction-of some species.

35. 1.HS-86 Grade 12 CPI DCI-2

-Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value.

Unit Documents

No documents have been uploaded to this unit

Lessons in Unit

1. tree aging activity, scheduled for 10/05
2. Upland lowland ecology, scheduled for 10/15
3. Upland lowland ecology, scheduled for 10/17
4. ecosystem notes day 1, scheduled for 10/18
5. ecosystem notes day 2, scheduled for 10/19
6. rain garden management, scheduled for 10/24
7. day 2 poster talk, scheduled for 10/31
8. ecosystem notes, scheduled for 11/02
9. ecosystem notes day 2, scheduled for 11/05
10. ecosystem quiz, scheduled for 11/06
11. population ecosystem notes, scheduled for 11/12
12. raptor ecology started, scheduled for 11/13
13. raptor ecology day 2, scheduled for 11/14
14. salt marsh data mini posters, scheduled for 11/19
15. salt marsh data mini posters, scheduled for 11/20
16. raptor videos, scheduled for 11/21
17. carrying capacity review, scheduled for 11/28
18. ecosystem test review, scheduled for 11/29
19. review test, scheduled for 12/03
20. population eco test, scheduled for 12/04

Created on 08/23/2018 by Sharpe, Erin

Last Updated on 08/23/2018 by esharpe

tree aging activity

Unit: 2. Ecosystems and Population Ecology

Scheduled to be taught on 10/05

Equipment Needed
lab kit
Objectives
SWBAT age tree samples E.Q. how do you know how old a tree is
Learning Activities, Instructional Strategies
sub. work give out the lab directions students will share hard and soft woods to determine their age and answer lab questions.
Differentiation
Resources Utilized
Standards
1. HS-153 Grade 12 CPI DCI-1 -The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources. 1. HS-84 Grade 12 CPI DCI-3 -Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value.
Lesson Documents
No documents have been uploaded to this lesson

Upland lowland ecology

Unit: 2. Ecosystems and Population Ecology

Scheduled to be taught on 10/15

Equipment Needed
Chromebooks
Objectives
SWBAT Calculate upland and lowland forest populations E.Q. what is an ecosystem?
Learning Activities, Instructional Strategies
sign out a chromebook and open the data tables to be able to calculate the lab results.
Differentiation
Resources Utilized
Standards
1. HS-153 Grade 12 CPI DCI-1 -The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources. 1. HS-84 Grade 12 CPI DCI-3 -Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value.
Lesson Documents
No documents have been uploaded to this lesson

Upland lowland ecology

Unit: 2. Ecosystems and Population Ecology

Scheduled to be taught on 10/17

Equipment Needed
Crhromebooks
Objectives
SWBAT Calculate upland and lowland forest populations E.Q. what is an ecosystem?
Learning Activities, Instructional Strategies
Class on the trip has a photography and summary assignment. Group not on the trip need to complete the article summary and questions.
Differentiation
Resources Utilized
Standards
1.1.HS-153 Grade 12 CPI DCI-1 -The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources. 2. 1.HS-84 Grade 12 CPI DCI-3 -Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value.
Lesson Documents
No documents have been uploaded to this lesson

ecosystem notes day 1

Unit: 2. Ecosystems and Population Ecology

Scheduled to be taught on 10/18

Equipment Needed
lab kit
Objectives
SWBAT describe ecosystem features E.Q. what is an ecosystem
Learning Activities, Instructional Strategies
work independently on the classwork notes on ecosystems. Use the cornell note style technique
Differentiation
Resources Utilized
Standards
1. HS-153 Grade 12 CPI DCI-1 -The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources. 2. 1. HS-84 Grade 12 CPI DCI-3 -Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value.
Lesson Documents
No documents have been uploaded to this lesson

ecosystem notes day 2

Unit: 2. Ecosystems and Population Ecology

Scheduled to be taught on 10/19

Equipment Needed
lab kit
Objectives
SWBAT describe ecosystem features E.Q. what is an ecosystem
Learning Activities, Instructional Strategies
work independently on the classwork notes on ecosystems. Use the cornell note style technique
Differentiation
Resources Utilized
Standards
1. HS-153 Grade 12 CPI DCI-1 -The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources. 2. 1. HS-84 Grade 12 CPI DCI-3 -Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value.
Lesson Documents
No documents have been uploaded to this lesson

rain garden management

Unit: 2. Ecosystems and Population Ecology

Scheduled to be taught on 10/24

Equipment Needed
Objectives
SWBAT determine pros and cons of rain garden E.Q. What does our rain garden need?
Learning Activities, Instructional Strategies
Students can work on an article summary or work to maintain the rain garden.
Differentiation
Resources Utilized
Standards
1. 1.HS-154 Grade 12 CPI SEP-1 -Design or refine a solution to a complex real-world problem, based on scientific knowledge, studentgenerated sources of evidence, prioritized criteria, and tradeoff considerations.
Lesson Documents
No documents have been uploaded to this lesson

day 2 poster talk

Unit: 2. Ecosystems and Population Ecology

Scheduled to be taught on 10/31

Equipment Needed
slide presentation, trout tank
Objectives
SWBAT describe ecosystem features E.Q. what is an ecosystem
Learning Activities, Instructional Strategies
take care of the trout tank, and complete trout article fungi reading carousel
Differentiation
Resources Utilized
Standards
1. HS-153 Grade 12 CPI DCI-1 -The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources. 2. 1. HS-84 Grade 12 CPI DCI-3 -Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value.
Lesson Documents
No documents have been uploaded to this lesson

ecosystem notes

Unit: 2. Ecosystems and Population Ecology

Scheduled to be taught on 11/02

Equipment Needed
slide presentation, trout tank
Objectives
SWBAT describe ecosystem features E.Q. what is an ecosystem
Learning Activities, Instructional Strategies
sub work independently on the classwork notes on ecosystems. Use the cornell note style technique.
Differentiation
Resources Utilized
Standards
1. HS-153 Grade 12 CPI DCI-1 -The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources. 1. HS-84 Grade 12 CPI DCI-3 -Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value.
Lesson Documents
No documents have been uploaded to this lesson

ecosystem notes day 2

Unit: 2. Ecosystems and Population Ecology

Scheduled to be taught on 11/05

Equipment Needed
slide presentation, trout tank
Objectives
SWBAT describe ecosystem features E.Q. what is an ecosystem
Learning Activities, Instructional Strategies
ecosystems class lecture Use the cornell note style technique.
Differentiation
Resources Utilized
Standards
1. HS-153 Grade 12 CPI DCI-1 -The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources. 1. HS-84 Grade 12 CPI DCI-3 -Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value.
Lesson Documents
No documents have been uploaded to this lesson

ecosystem quiz

Unit: 2. Ecosystems and Population Ecology

Scheduled to be taught on 11/06

Equipment Needed
slide presentation, trout tank
Objectives
SWBAT describe ecosystem features E.Q. what is an ecosystem
Learning Activities, Instructional Strategies
ecosystems note reading check quiz, then time to work on salt marsh lab.
Differentiation
Resources Utilized
Standards
1. HS-153 Grade 12 CPI DCI-1 -The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources. 1. HS-84 Grade 12 CPI DCI-3 -Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value.
Lesson Documents
No documents have been uploaded to this lesson

population ecosystem notes

Unit: 2. Ecosystems and Population Ecology

Scheduled to be taught on 11/12

Equipment Needed
slide presentation, trout tank
Objectives
SWBAT describe ecosystem features E.Q. what is an ecosystem
Learning Activities, Instructional Strategies
Students will take Cornell notes on population ecology vocabulary and concepts
Differentiation
Resources Utilized
Standards
1. HS-153 Grade 12 CPI DCI-1 -The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources. 1. HS-84 Grade 12 CPI DCI-3 -Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value.
Lesson Documents
No documents have been uploaded to this lesson

raptor ecology started

Unit: 2. Ecosystems and Population Ecology

Scheduled to be taught on 11/13

Equipment Needed
Objectives
SWBAT enter data for individual usage for analysis. E.Q. How does salt marsh ecology vary from season to season?
Learning Activities, Instructional Strategies
kite graph construction and analysis of data is due today. Then classes are being introduced to a small group project to practice calculating population growth, decline and change.
Differentiation
hands on group work video presentation
Resources Utilized
Standards
1. HS-152 Grade 12 CPI CC-4 -Science knowledge indicates what can happen in natural systems-not what should happen. The latter involves ethics, values, and human decisions about the use of knowledge. 1. HS-74 Grade 12 CPI SEP-1 -Construct and revise an explanation based on valid and reliable evidence obtained from a variety of sources (including students' own investigations, models, theories, simulations, peer review) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future.
Lesson Documents
No documents have been uploaded to this lesson

raptor ecology day 2

Unit: 2. Ecosystems and Population Ecology

Scheduled to be taught on 11/14

Equipment Needed
Objectives
SWBAT enter data for individual usage for analysis.
E.Q. How does salt marsh ecology vary from season to season?
Learning Activities, Instructional Strategies
End small group project to practice calculating population growth, decline and change of raptors by presenting videos
Differentiation
hands on group work video presentation
Resources Utilized
Standards
1.1.HS-152 Grade 12 CPI CC-4 -Science knowledge indicates what can happen in natural systems-not what should happen. The latter involves ethics, values, and human decisions about the use of knowledge. 2. 1.HS-74 Grade 12 CPI SEP-1 -Construct and revise an explanation based on valid and reliable evidence obtained from a variety of sources (including students' own investigations, models, theories, simulations, peer review) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future.
Lesson Documents
No documents have been uploaded to this lesson

salt marsh data mini posters

Unit: 2. Ecosystems and Population Ecology

Scheduled to be taught on 11/19

Equipment Needed
Objectives
SWBAT enter data for individual usage for analysis.
E.Q. How does salt marsh ecology vary from season to season?
Learning Activities, Instructional Strategies
Use data analyzed to begin building mini posters for salt marsh data fall information
Differentiation
Resources Utilized
Standards
1. HS-152 Grade 12 CPI CC-4 -Science knowledge indicates what can happen in natural systems-not what should happen. The latter involves ethics, values, and human decisions about the use of knowledge. 1. HS-74 Grade 12 CPI SEP-1 -Construct and revise an explanation based on valid and reliable evidence obtained from a variety of sources (including students' own investigations, models, theories, simulations, peer review) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future.
Lesson Documents
No documents have been uploaded to this lesson

salt marsh data mini posters

Unit: 2. Ecosystems and Population Ecology

Scheduled to be taught on 11/20

Equipment Needed
Objectives
SWBAT enter data for individual usage for analysis.
E.Q. How does salt marsh ecology vary from season to season?
Learning Activities, Instructional Strategies
Use data analyzed to begin building mini posters for salt marsh data fall information
Differentiation
Resources Utilized
Standards
1. HS-152 Grade 12 CPI CC-4 -Science knowledge indicates what can happen in natural systems-not what should happen. The latter involves ethics, values, and human decisions about the use of knowledge. 1. HS-74 Grade 12 CPI SEP-1 -Construct and revise an explanation based on valid and reliable evidence obtained from a variety of sources (including students' own investigations, models, theories, simulations, peer review) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future.
Lesson Documents
No documents have been uploaded to this lesson

raptor videos

Unit: 2. Ecosystems and Population Ecology

Scheduled to be taught on 11/21

Equipment Needed
Objectives
SWBAT enter data for individual usage for analysis.
E.Q. How does salt marsh ecology vary from season to season?
Learning Activities, Instructional Strategies
End small group project to practice calculating population growth, decline and change of raptors by presenting videos
Differentiation
hands on group work video presentation
Resources Utilized
Standards
1.1.HS-152 Grade 12 CPI CC-4 -Science knowledge indicates what can happen in natural systems-not what should happen. The latter involves ethics, values, and human decisions about the use of knowledge. 2. 1.HS-74 Grade 12 CPI SEP-1 -Construct and revise an explanation based on valid and reliable evidence obtained from a variety of sources (including students' own investigations, models, theories, simulations, peer review) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future.
Lesson Documents
No documents have been uploaded to this lesson

carrying capacity review

Unit: 2. Ecosystems and Population Ecology

Scheduled to be taught on 11/28

Equipment Needed
slide presentation, trout tank
Objectives
SWBAT describe carrying capacity. E.Q. How do ecosystems change?
Learning Activities, Instructional Strategies
Students will complete a model carrying capacity reading and graphing of a population.
Differentiation
Resources Utilized
Standards
1. HS-153 Grade 12 CPI DCI-1 -The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources. 1. HS-84 Grade 12 CPI DCI-3 -Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value.
Lesson Documents
No documents have been uploaded to this lesson

ecosystem test review

Unit: 2. Ecosystems and Population Ecology

Scheduled to be taught on 11/29

Equipment Needed
slide presentation, trout tank
Objectives
SWBAT identify the many factors that cause changes in populations. E.Q. How do populations and ecosystems change?
Learning Activities, Instructional Strategies
Students will complete the test review using the varies notes provided throughout the unit.
Differentiation
Resources Utilized
Standards
1.1HS-153 Grade 12 CPI DCI-1 -The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources. 2. 1.HS-84 Grade 12 CPI DCI-3 -Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value.
Lesson Documents
No documents have been uploaded to this lesson

review test

Unit: 2. Ecosystems and Population Ecology

Scheduled to be taught on 12/03

Equipment Needed
Objectives
SWBAT review key population characteristics. E.Q. What make a population
Learning Activities, Instructional Strategies
Review packet and previous assignments.
Differentiation
Resources Utilized
Standards
1. HS-71 Grade 12 CPI CC-1 -Changes of energy and matter in a system can be described in terms of energy and matter flows into, out of, and within that system. 2. 1. HS-72 Grade 12 CPI DCI-1 -The sugar molecules thus formed contain carbon, hydrogen, and oxygen: their hydrocarbon backbones are used to make amino acids and other carbon-based molecules that can be assembled into larger molecules (such as proteins or DNA), used for example to form new cells.
Lesson Documents
No documents have been uploaded to this lesson

population eco test

Unit: 2. Ecosystems and Population Ecology

Scheduled to be taught on 12/04

Equipment Needed
Objectives
SWBAT review key population characteristics. E.Q. What make a population
Learning Activities, Instructional Strategies
use review to take the 50 point test of ecology population studies.
Differentiation
Resources Utilized
Standards
1. HS-71 Grade 12 CPI CC-1 -Changes of energy and matter in a system can be described in terms of energy and matter flows into, out of, and within that system. 2. 1. HS-72 Grade 12 CPI DCI-1 -The sugar molecules thus formed contain carbon, hydrogen, and oxygen: their hydrocarbon backbones are used to make amino acids and other carbon-based molecules that can be assembled into larger molecules (such as proteins or DNA), used for example to form new cells.
Lesson Documents
No documents have been uploaded to this lesson