**Bluebird Box PBL Cont.**

**Driving Question:** How can we expand our current bluebird box project to the community?

**Major Product:** Bluebird Box Expansion Proposal

**Duration:**  2 weeks

**Deliverables:**  Present your proposals to the appropriate community members.

**Requirements:**

Task 1: Intro: current status of our bluebird project and boxes (students that helped build boxes STEM day 2016 will share to class)

* Visit the boxes and clean them out from over winter
* Fix modify and boxes

Task 2: Discussion and research: Why are bluebird boxes used and studied? What was the reasoning behind the box placement? What does our current data tell us and is there any other data we should collect? What data can be gathered/learned from inhabitants of non-target species

* Analyze current data with the statistics class,
* Research the land use around Paulding County High School feeder schools to determine an area that would be suitable for more bird boxes.
* Create rubric as a class

Task 3: Write a proposal to the land owner describing the following:

1. What is involved with blue bird box research (season, observations, red tape at the county office, etc.)
2. Why their land was chosen
3. The impact the research and nesting success could have on the ecosystem
4. How you will use the data and success rates of the boxes

Culminating Task: Proposal

* Due \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**AP Environmental Grading:** proposal (rubric created by class)

In your description, you should use knowledge from chapters 10 and 11. You should include an image of the land (including acreage), the number of boxes ideal for the land, and where you would place them.

**You have resources available on the website (APES and bluebird conservation link). You are not limited to those only.**

Your proposal should include resources (APA citations), diagrams and sound environmental reasons behind the land you choose.

**Standards Assessed**

AP Environmental:

Big Idea 2. The Living World. A. Ecosystem Structure – Biological populations and communities; ecological niches; interaction among species; keystone species; species diversity and edge effects; major terrestrial and aquatic biomes. C. Ecosystem Diversity – biodiversity; natural selection; evolution; ecosystem services. D. Natural Ecosystem Change – Climate shifts; species movement; ecological succession.

Big Idea 3. Population. Population concepts (population ecology, carrying capacity, reproductive strategies, survivorship)

Big Idea 4. Land and Water Use. A. Agriculture – feeding a growing population (deforestation). B. Forestry (forest management). C. Rangelands. D. Other Land Use (urbanization, sprawl, public and federal lands, land conservation options.

Blue Bird Project Fall 2019 Due Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

APES Standard

Background: In the late spring of 2016 students at PCHS built and placed 15 blue bird boxes around campus (refer to the website for the map with locations). We had one box occupied over the summer and could not determine the species or nesting success. It is exciting considering a new and early spring research season.

Discussion –

1. Why are bluebird boxes used and studied?
2. What was the reasoning behind the box placement?
3. What data are we looking to collect and why?
4. What data can be gathered/learned from inhabitants of non-target species

Assignment Description:

Research the land use around Paulding County to determine an area that would be suitable for more bird boxes. Write a proposal to the land owner describing the following:

1. What is involved with blue bird box research (season, observations, etc.)
2. Why their land was chosen
3. The impact the research and nesting success could have on the ecosystem
4. How you will use the data and success rate from this spring to make improvements on their land

In your description, you should use knowledge from chapters 10 and 11. You should include an image of the land (including acreage), the number of boxes ideal for the land, and where you would place them.

**You have resources available on the website (APES and bluebird conservation link). You are not limited to those only.**

Your proposal should include resources (APA citations), diagrams and sound environmental reasons behind the land you choose.

 ***Bluebird Research Rubric NAMES:***

To receive full credit, the presentation and presenters must adequately demonstrate knowledge of each required point and provide the necessary evidence.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **15-20 Points** | **7-14 Points** | **1-6 Points** |
| **Introduction/Background** | * Significance of bluebird research (why bluebirds?)
* Research design/process
* Land use implications on success of target and non-target species
* Reference to information in chapter 10/11
 | * Covers a majority of the information. Some information present but not detailed or missing evidence
 | * Covers minimal information required. Some information present but not detailed or missing evidence
 |
| **Site Location/ Numbers of Boxes – Rational** | * Box design
* Placement (include map of land with nest locations)
* Distance (territory range)
* Explanation of rational of land choice
 | * Covers a majority of the information. Some information present but not detailed or missing evidence
 | * Covers minimal information required. Some information present but not detailed or missing evidence
 |
| **Persuasive Argument** | * High degree of persuasion, includes numerous pro’s and have a counter argument section
 | * Medium degree of persuasion, includes some pro’s, may not have a counter argument section
 | * Low degree of persuasion, includes few pro’s and may not have a counter argument section
 |
| **Presentation Format and Delivery** | * Introduce group
* Each member has a role in presentation
* Visual -PowerPoint, poster, etc.
 | * Fair delivery of presentation. Missing a mix of requirement for delivery
 | * Poor delivery of presentation and lacked most of requirements
 |
| **Organization** | * Logical order of information throughout presentation
 | * Mostly to somewhat logical order of information throughout presentation
 | * somewhat to no logical order of information throughout presentation
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| **Grammar, References** | * Few to no spelling or grammar errors
* At least 3 references (APA citation) reference page
 | * Few to no spelling or grammar errors
* At least 3 references (APA citation) reference page
* Either the presentation has grammar errors or missing needed references (APA)
 | * Has a combination of grammar errors and reference not APA citation and does not meet required number of references
 |

Comments:

Grade: