

Painted Lady Butterflies

Life cycles

Habitats and Gardens

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This unit of study involved the research and study of Painted Lady Butterflies. The third grade students get the larva of painted lady each May and release them in June. The gifted and talented group will deepen their understanding of the insects while learning to create an environment suitable for survival and hosting a new generation. During the year the students will research the butterflies and create a project to demonstrate their findings. During this process I will facilitate their learning in supporting their ideas to plant a garden with flowers specifically for painted lady larva and butterflies. The students' critical thinking skills and creativity will be tapped as they persuade the Supervisor of Buildings and Grounds in writing to plan and plant a garden on school property. Math skills will be utilized while they plan and propose a budget for the garden and determine which resources they will need to maintain such a project. Creativity and higher level thinking juices will be flowing as they plan the garden design. They may also decide to persuade the fourth and fifth grade teams to compost cafeteria waste for their Earth Day Project. The unit will be aligned with the science, math, language, writing, and social studies standards.

Teacher: Eileen Bates Grade: 3

Subject: Science/Writing Time: 1 hour

I. OBJECTIVE:

ESSENTIAL QUESTION: What are the life cycle, habitat, diet and migration traits of painted lady butterflies?

II. INTRODUCTION:

Share with the students a butterfly habitat garden with the outer covering to a chrysalis on the lid. Inform the students that their homeroom teachers will order the larva in May and they will be releasing the butterflies in June. Record all the questions that the students generate after statement is made. These questions may drive an activity or project in the future.

III. INPUT AND ACTIVITIES:

(Bloom's Taxonomy- Factual Knowledge):

Tell students: "Let's brainstorm. Please make a list of all the facts you know about painted lady butterflies. Write each fact on a sticky note."

(Bloom's Taxonomy- Conceptual Knowledge):

"How can we organize the information we brainstormed? Let's categorize or make groups to sort our information."

Allow students to come up with their own categories.

If the group needs scaffolding have them refer to the essential question:
life cycle, habitat, diet, migration etc.

(Bloom's Taxonomy- Analyzing)

"What information are we lacking to answer our essential question?"

"How can we go about finding the answers we need?"

"You will need to do some research. Your research requirements include:

1. At least 2 internet sites
2. At least 2 library reference books
3. At least one outside reference. (High school biology teacher, butterfly observatory contact, knowledgeable parent, etc.)
4. Compile copies of each reference.

IV. CLOSURE:

Ticket out the door- each student will respond in writing to:

What kind of outdoor activity or year long project could we plan given the information we discussed today?

Responses will be collected upon exiting.

Teacher: Eileen Bates Grade: 3

Subject: Science/Writing Time: 1 hour

I. OBJECTIVE:

ESSENTIAL QUESTION: What are the life cycle, habitat, diet and migration traits of painted lady butterflies?

II. INTRODUCTION:

Read the closure statements generated by the students at the last session. Discuss. Ask students if they think any of them are possible.

III. INPUT AND ACTIVITIES:

Students will answer the essential question by creating a presentation to demonstrate their knowledge.

They may choose a word document, power point, or speech.

Students will be given a maximum of 10 minutes to share their findings. Then they will choose a presentation type. Students will spend the remainder of the time drafting their projects.

IV. CLOSURE:

Ticket out the door- each student will respond in writing to:

“How far did you get in your project and how much more time will you need to prepare final presentation?”

Teacher: Eileen Bates Grade: 3

Subject: Science/Writing Time: 1 hour

I. OBJECTIVE:

ESSENTIAL QUESTION: What will painted lady butterflies need to survive if they are released into nature after being raised in captivity?

II. INTRODUCTION:

Share pictures of a local butterfly garden with students and discuss the story behind it.

III. INPUT AND ACTIVITIES:

Students will take their facts about diet and habitat to write a letter to the administration asking permission to plan and plant a garden specifically to enhance to survival of the painted lady butterflies.

“We will need permission from the superintendent and the supervisor of buildings and grounds before we can use school grounds to plant a garden.

What sort of information do you think they will need in deciding whether or not they will grant you permission?

In what form would you like your request- letter, powerpoint presentation, etc.?

How can we organize our group so each person has an active role in this part of the project?"

Students will then discuss the question and solutions and begin to make a request.

IV. CLOSURE:

Check to make sure the letter contains information that answers the essential question.

Teacher: Eileen Bates Grade: 3

Subject: Science/Math Time: 1 hour

I. OBJECTIVE:

ESSENTIAL QUESTION: How will the types of plants needed in our garden affect the design or where we plant them?

II. INTRODUCTION:

Show the students several pictures of stadium seating, classes on bleachers in a performance, edges of forests, feathers on wings of birds, etc.

III. INPUT AND ACTIVITIES:

Ask: why do you suppose the objects in these pictures are arranged in this way?

Discuss.

“Let’s gather the information about diet from our resources. How can we use the thoughts we generated from the pictures and the

information about the height of the plants to help us plan the design of the garden?”

Students will gather pictures from the internet of different plants and cut and paste some initial designs.

IV. CLOSURE:

Ticket out the door- each student will respond in writing to: Answer the essential question.

Teacher: Eileen Bates Grade: 3

Subject: Science/Math/Social Studies Time: 1 hour

I. OBJECTIVE:

ESSENTIAL QUESTION: How much will it cost to plant this garden?

II. INTRODUCTION:

“For the next few days we are going to figure out what items we need for our garden and how much it will cost.”

III. INPUT AND ACTIVITIES:

Discuss budgeting and alternative ways to get resources.

List items needed for project.

Research local nursery prices.

Research seed packet prices.

Plan a budget on Microsoft excel.

Discuss ways to get 4th grade science students to choose butterfly garden plants for their greenhouse project.

Discuss ways to ask for donations in exchange for community services etc.

IV. CLOSURE:

Ticket out the door- each student will respond in writing to: Answer the essential question.

Critical Thinking in the Classroom

This unit will address critical thinking in the classroom by allowing students a deeper understanding of the biology of butterflies and questioning the release. Traditionally the butterflies are released in the playground. A goal of the unit is to have the students question or wonder about an alternative to just releasing the butterflies without a special place to ensure their survival.

Asking for permission to plant a garden on school grounds will require critical thinking. The students will need to figure out the best way to ask and how to support their reasons for doing such a project.

Planning the design of the garden will require critical thinking. The students will have to know how high certain plants will grow and decide where the best placement for these will be.

Research in biology will lead the students to discover a lot of information they may not have even wondered about. The students will move through the levels of Bloom's Taxonomy as they find out facts about the life cycle of an insect to planning a habitat for their survival.

First the students will research facts about the butterflies which allow them to gain knowledge. Then they will gain understanding about the life cycle, habitat and diet of such creatures. They will apply their knowledge and understanding of the facts by persuading the administrators that through their analysis of such data, there is a need for a habitat upon the release of the butterflies. Once permission is granted, the students will evaluate the task and create a habitat for the painted lady butterflies.

This unit will also incorporate Gardner's Theories of Multiple Intelligences. The subject of insects and the outdoors will accommodate the naturalistic learner. The writing and research projects will be suitable for the linguistic learner and interpersonal learner. Gardening is for the kinesthetic learner. Planning the placement of the plants is for the logical-mathematical students. Designing the garden is for the spatial learner.

In conclusion, the purpose of this unit is to give the gifted students an opportunity to take charge of their learning. It will allow them to

deepen their understanding and be able to do something with the information outside the classroom. It will empower them and give them the confidence that they can make a difference in one small creature's life and possibly the world.

Continuing Ideas

Invite second graders to visit the garden and inspire them to care for it next year to protect it longevity.

Discuss perennials and annuals.

Cafeteria composting

Different types of butterflies