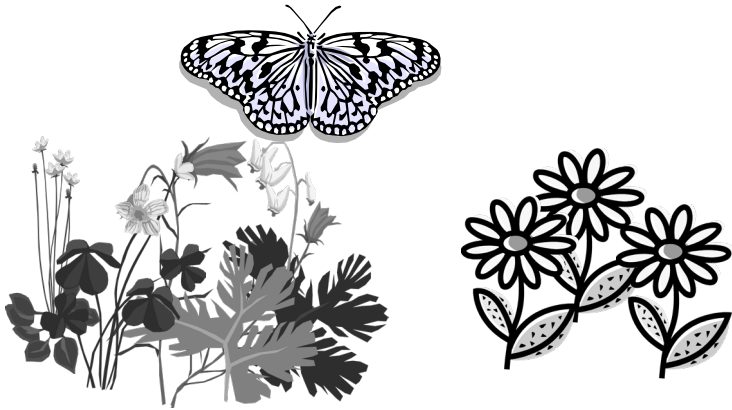
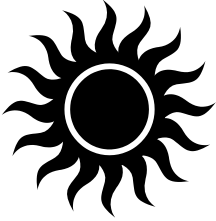


Field Investigation Butterfly Habitat



by

Survey the area to find these butterfly habitat components



Sunny Areas



Nectar Flowers



Basking Sites



Water Sources



Wild Patches

Draw and Label the Local Ecosystem

Comparative Field Investigation Format

Question

What is my question?

Prediction or Hypothesis

What do I think will happen?

Why?

Planning an Investigation-Procedure

What am I going to do?

What materials do I need?

What am I comparing?

(manipulated variable)

What data am I collecting?

(responding variable)

What am I keeping the same (constant)?

Method for collecting data

(controlled variable)

Carrying Out an Investigation-Data Collection

What am I observing/measuring?

How will I record information?

Analyzing Data

What are the averages: means, medians, or modes of the data?

How can I share data in graphs, tables, or on maps?

Constructing Explanations-Conclusion

What is the place, date and time of my investigation?

What is the answer to my question?

What is my supporting data?

Engaging in Argument and Communicating Information-Discussion

What factors may have influenced my data?

What are some improvements to the procedure?

How is this information important in the real world?

Butterfly Habitat Diversity Comparative Investigation

Transect Procedure:

1. Record date, time, and place
2. Describe study area.
3. Identify whether planting is shady, partly shady, or sunny.
4. Identify water sources and basking sites.
5. Go to Forest Habitat and place 25 foot transect line along the side of the trail in a random area.
6. Place a yard stick perpendicular at the 0 end.
7. At 5 feet place another yard stick perpendicular.
8. Record if there are nectar flowers and/or wildflower patches in the rectangle created for your given trial.
9. Continue along the transect line every 5 feet and record for each whether or not there are nectar flowers and/or flower patches.
10. Add the numbers and record as total for forest.
11. Follow steps 3-10 two more times in this habitat location recording numbers as transects 2-3 (this will be done by other groups)
12. Proceed to the Backyard habitat and follow steps 3-11

- Underline Conditions to be compared (Manipulated Variable)
- Double Underline data to be collected (Responding Variable)
- Circle Method for Collecting Data (Controlled Variable)
- Observations are repeated (Multiple Trials)

Butterfly Habitat Investigation Data Collection Sheet

Comparative Question:

Which habitat at Woodland Park Zoo: Forest or Backyard Habitat, has the greater number of biotic features (nectar plants and wild patches) butterflies need?

Prediction: _____

Date: _____ **Time:** _____

Weather: _____

Study Site (location): _____

Forest Habitat:

Water Source: _____ Basking Sites: _____

Shade at habitat:



Shady



Partly Shady



Sunny

Backyard Habitat:

Water Source: _____ Basking Sites: _____

Shade at habitat:



Shady



Partly Shady



Sunny

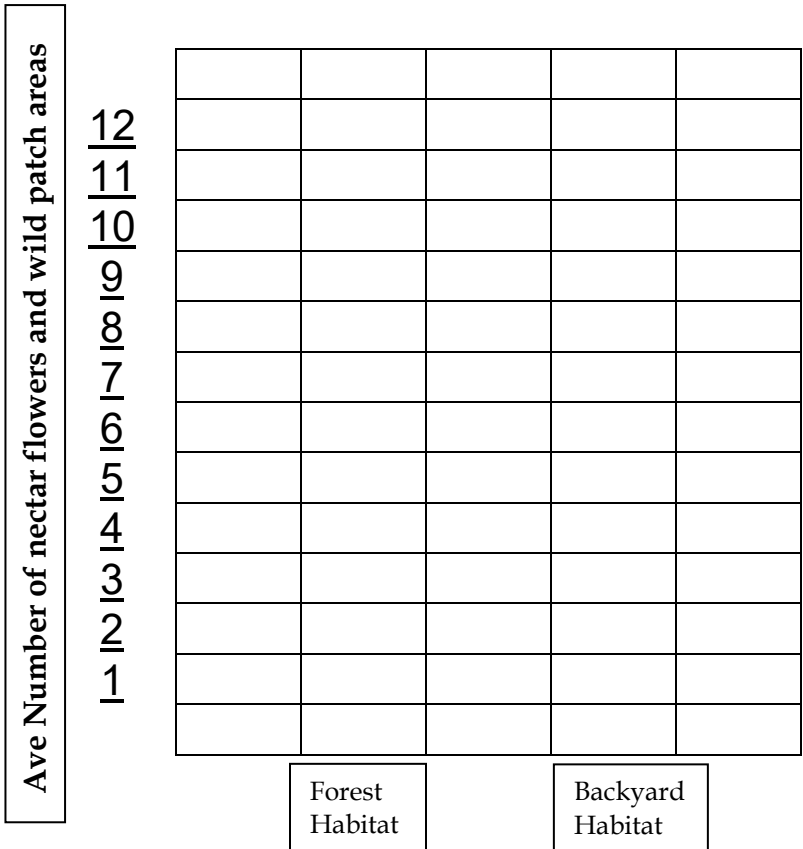
Habitat Type vs. Biotic Butterfly Habitat Features

Habitat Type and Habitat Feature	Number of Biotic Butterfly Habitat Feature areas Present along 25 foot transect lines			
	Trial 1	Trial 2	Trial 3	Averages
Forest Wild Patches				
Forest Nectar Flowers				
Forest Total				
Backyard Habitat Wild Patches				
Backyard Habitat Nectar Flowers				
Backyard Habitat Total				

Graph the Data

Butterfly Habitats at Woodland Park Zoo

Number of Nectar and Wild Patch Areas vs. Habitat



Thinking Hard about Findings- **Constructing Explanations**

1. Did your data answer the question: Which habitat at Woodland Park Zoo: Forest or Backyard Habitat has the greater number of biotic features (nectar plants and wild patches) butterflies need?
2. What does your data show?
3. Discuss factors that may have influenced data
4. Discuss improvements to the procedure to control some of those factors

Butterfly Habitat Investigation

Conclusion

Which habitat at Woodland Park Zoo: Forest or Backyard Habitat, has the greater number of biotic features (nectar plants and wild patches) butterflies need?

- Limit conclusion to place, date, and time of investigation
- A conclusive statement clearly answers the investigation question Or answers the prediction
- Supporting data for lowest condition
- Supporting data for the highest condition or trend data
- Explanatory Language

Claims, Evidence, Reasoning

- Claim responds to the question
- Evidence is appropriate and there is enough
- Evidence shares how data was collected (controls)
- Reasoning links Evidence to Claim
- Reasoning may include why the data supports claim.

Discussion

- How does the butterfly habitat investigation help me understand the local ecosystem?
- What other information would you like to know to help understand the essential question?
- What other investigation questions do you have?
- Explain how this information could inform actions or decisions

- What are the benefits of having butterfly habitats in our schoolyards or urban landscapes? Why do we care?
- What could we do to improve butterfly habitat on this campus?

Pacific Education Institute's Science Journal



<http://www.pacificeducationinstitute.org/>
www.pltwa.com

Created by: Pat Otto and Erica Baker