

NTeQ Lesson Plan

iNtegrating Technology for inQuiry

The following template provides guidance for creating a lesson plan that is problem-based and dependent on technology to reach a solution.

LESSON TITLE: BUTTERFLIES

SUBJECT AREAS: Science, Research Skills

GRADE LEVEL: 3rd or a 2nd and 4th grade pairing **TIME REQUIRED:** approximately 3 weeks for overall project this specific lesson about 3 days

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LESSON SUMMARY

This activity allows students to follow up on our butterfly growing project by researching more about increasing butterfly habitats and planning a butterfly garden with nectar and host plants for a specific butterfly population.

MATERIALS

- Think sheet
- Internet resources with bookmarked sites
- Butterfly identification books
- 2 butterfly coloring pages
- List of regional butterflies
- Paper, pencils, markers, crayons
- Preplanned database
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SPECIFY OBJECTIVES

- ◆ Students will use the computer to research butterfly attracting plants.
- ◆ Students will plan a butterfly garden to attract their chosen butterflies.
- ◆ Students will use a database to record their chosen butterflies and plants.
- ◆ Students will design and draw a butterfly garden.

IDENTIFY COMPUTER FUNCTIONS

Learning Task	Computer Function
Research skills	Internet
Record butterfly and plant information	Database

PROBLEM STATEMENT

There are less butterflies today than in the past. Why is this? Your job is to plan a garden to attract butterflies and caterpillars.

DATA MANIPULATION

<i>Computer Function</i>	<i>Computer Application</i>	<i>Data Manipulation</i>
Internet searches	Bookmarked files	Navigating web sites
Collect information	Database	Students will use a pre-made database to record host and nectar plants for specific butterflies.

RESULTS PRESENTATION

Each group will present their finished garden mounted on construction paper. Each plan will include the database matching each plant to a part of the garden. They will also include their colored butterfly pictures. A sample project will be available for the students to see.

MULTIDIMENSIONAL ACTIVITIES

Activities Prior to computer

1. Students will read the short narrative describing why there are less butterflies.
2. Students will use the "Regional Guidebook" pages to pick two butterflies to target for their garden.
3. They will then look in butterfly identification books to see what their butterflies look like.
4. Each student will color a preprinted picture of one of the butterflies so that the finished project has a picture for each butterfly.
4. Make observations of the live caterpillar to butterfly growth project in the classroom.

Activities while at computer

Each group will use the bookmarked web pages to find 2 nectar and two host plants for each butterfly. This information will be entered into a teacher designed database.

Activities after using computer

Students will take their information and design a garden on paper. They will identify each part of their garden and mount it on construction paper. A sample will be provided.

ASSESSMENT

Achievement will be assessed based on a rubric designed to identify completion of the different phases of the project. This assessment will be done after the students have presented their project to the class.



Butterfly Think Sheet

Through the years the number of butterflies has decreased. What can you do to increase the number in your neighborhood?

1. Why are there fewer butterflies?

2. What can you do to help save the butterflies?

3. What problems did you have planning your garden?



KWL

What do we know about butterflies?	What do we need to know?	What did we learn?
	Why are there fewer butterflies?	
	Where do butterflies come from?	
	What do butterflies eat?	
	What colors do butterflies like?	



Instruction Sheet



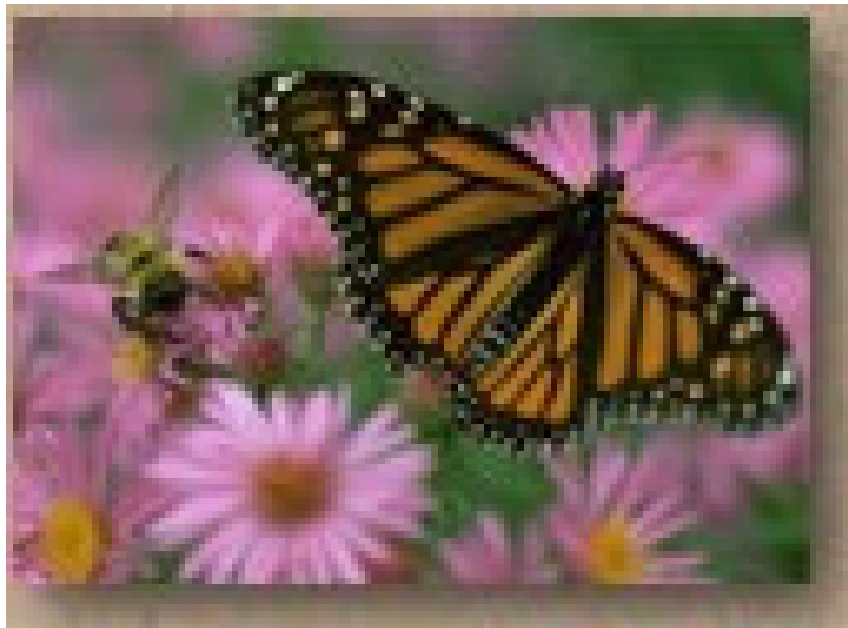
1. Go through the Hyperstudio presentation on Butterflies filling out the worksheets.
2. Read "Where Have All the Butterflies Gone?"
3. Pick two butterflies from the "Regional Guide to Butterflies." Look the butterflies up in an identification book to see what they look like. Pick one of the color pages that looks the most like your butterfly and color a picture of your butterfly.
4. Go to the bookmarked web sites and find two host plants and two nectar plants for each of your butterflies. Enter this information into the database in the computer. You will need to know the name of the plant, the size, the color and the butterfly it attracts. Print out this database and save it to your disk.
5. Go to the gardening tips web site and read the information.
6. Using your database plan a garden measuring 2 foot by 4 foot that will include these plants. Remember to put the tall plants in the back and the shorter ones in the front. You may look at the sample to see how to plan and display it. Turn your garden in with all of your papers.

Where Have All the Butterflies Gone?

The number of butterflies is slowly decreasing. In about 40 years, scientists think that there will not be as many types of butterflies as there are now. Why is the number of butterflies getting smaller? The main reason is that their habitat, a creature's natural home, is being destroyed. Our atmosphere is polluted. Butterflies and caterpillars need special plants to eat or they cannot survive. These plants are usually found in wild areas. Wild areas where butterflies live are being torn down and turned into farm land where crops are being grown. These crops are being sprayed with chemicals that are not good for the butterflies.

What do you think we can do to help save the butterflies?

There are some things that we can do. We can stop collecting butterflies and caterpillars. We can help them survive by planting the plants that they need to live. Any nectar producing plant will help attract butterflies. You can also find out which type of plants that specific caterpillars eat and plant them as well. It will also be a big help to make sure that you do not pollute the earth. If we do not want butterflies to disappear, then we have to make sure that their habitat is not destroyed.



A Regional Guide to Butterfly Gardening

Region 7 (Connecticut, Delaware, Indiana, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, Washington, DC , W. Virginia, southern Ontario, southern Quebec)

Black Swallowtail

Spicebush Swallowtail

Tiger Swallowtail

Cabbage White

Great Spangled Fritillary

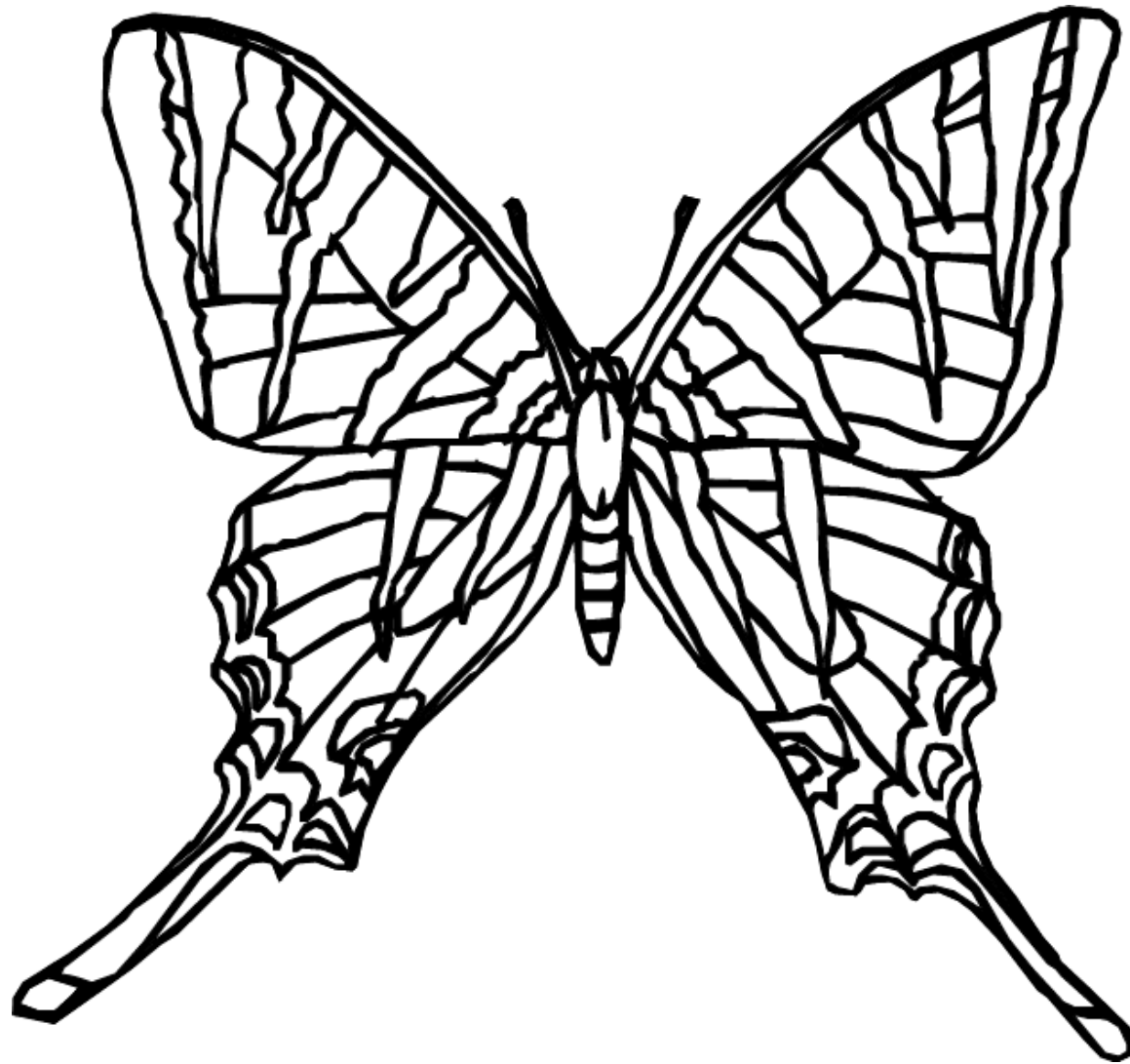
Pearl Crescent

Monarch

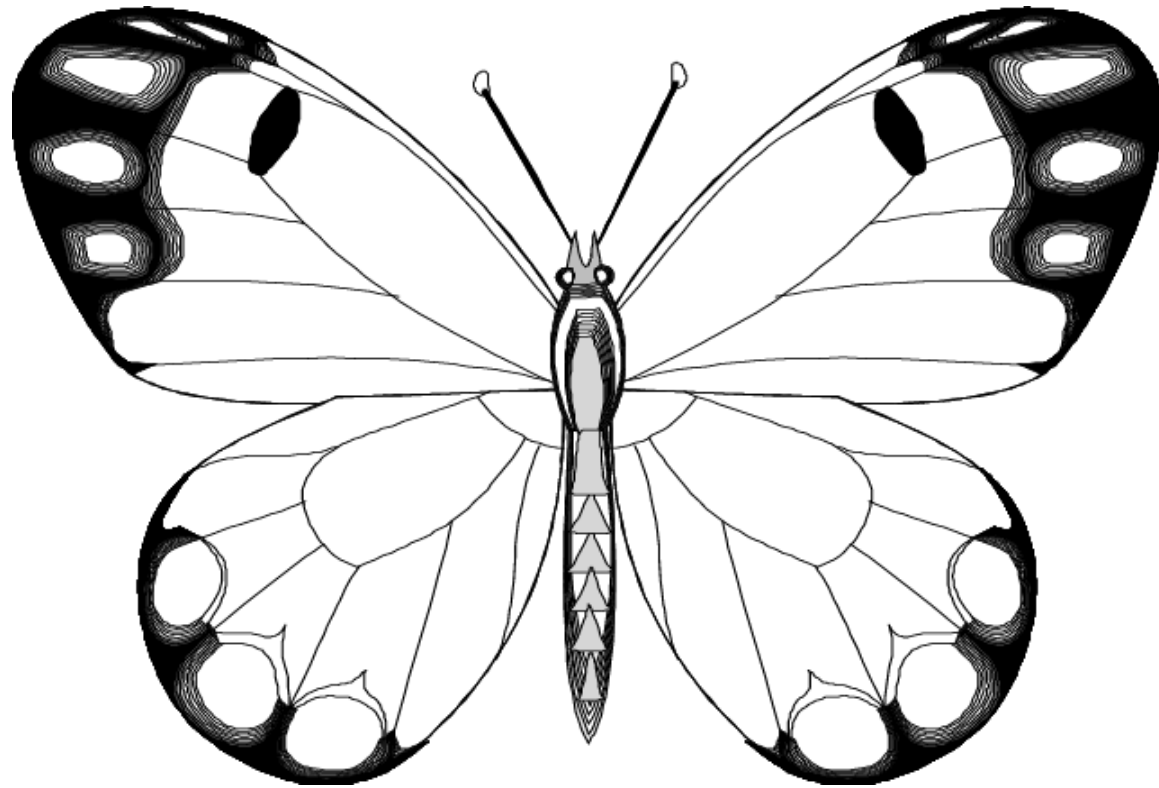
Buckeye

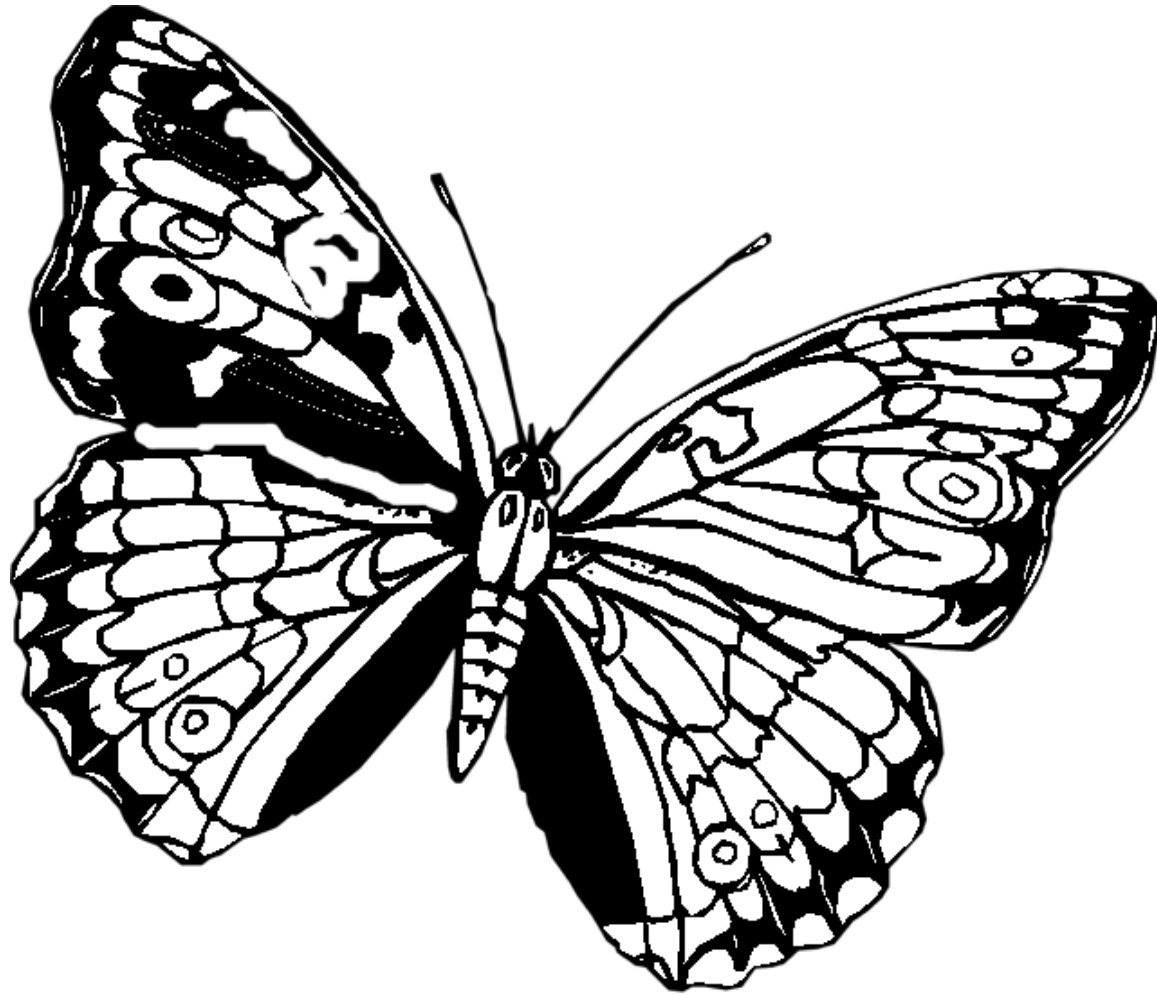
Mourning Cloak

Red-spotted Purple









Database Format

These are the fields to be entered in the database.

- ✚ Plant Name
- ✚ Butterfly attracted
- ✚ Host or Nectar?
- ✚ Color
- ✚ Size

Bookmarked Web Sites

Butterfly garden tips: www.butterflyhouse.org/gardening.html

Nectar sources: www.monarchwatch.org/garden/nectar.htm

Host plants: www.monarchwatch.org/garden/plant.htm

Additional Teacher Resources

Free Butterfly and Moth worksheet unit:

www.schoolexpress.com They will eventually charge \$1 for the unit so if you want it free download it now.

Crafts and worksheets

www.enchantedlearning.com

Butterfly Rubric

Team members _____

	Complete	Neat
Database		
Two colored butterflies		
Think sheet		
Garden plan: mounted, plants identified		

5-Meets the specified requirements and is neat

4-Meets the specified requirements but was not neat

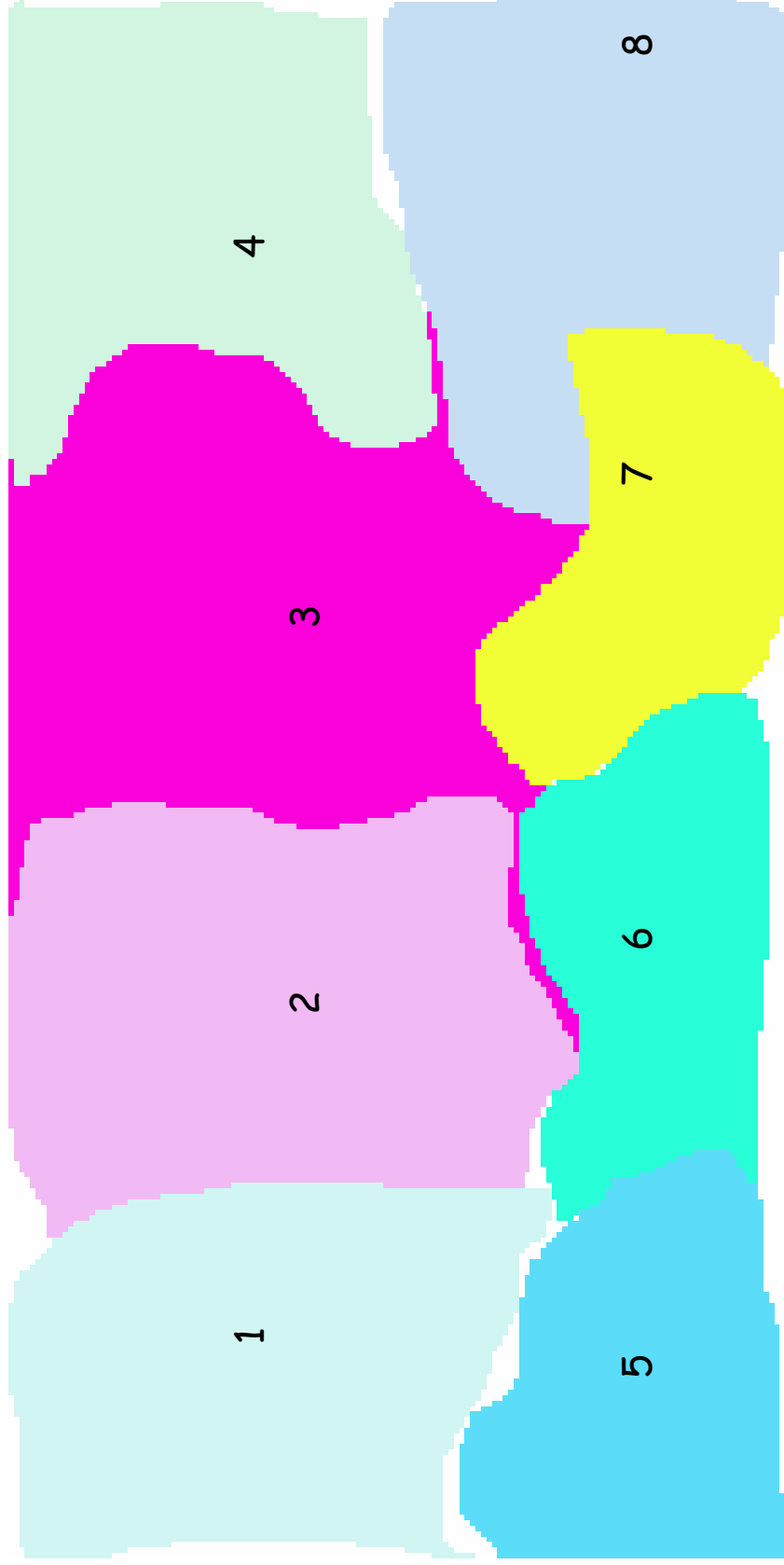
3-Completes 3 of the 4 requirements

2-Completes 2 of the 4 requirements

1-Completes 1 of the 4 requirements

0-Completes none of the project

Our Butterfly Garden



1- Butterfly Bush 2- Butterflyweed

4-

3-

5- 6-

7-

8-