



FIRST GRADE | BUTTERFLY DISCOVERY

[link to VGAE website](#)

PROJECT DESCRIPTION

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Read *From Caterpillar to Butterfly* about a classroom's journey in raising a butterfly from a caterpillar. Through discussion and examples 1st graders will learn:

- the four stages of a butterfly's life cycle
- that adult butterflies gather nectar from flowers for nutrition
- the anatomy of a butterfly and which parts help it find and gather nutrition
- colors and other physical features that protect butterflies from predators

Students will then "show what they know" as they imagine they have discovered a new butterfly. Through the artistic process, students will draw, paint and sculpt their scientific discovery to show the world.

ESSENTIAL QUESTIONS

SCIENCE

- What is an animal life cycle?
- How does an animal's features support various functions needed for survival?
- How do animals differ throughout their life cycle?
- How are plants important for an animal's survival?

VISUAL ART

- How can science be used to inspire a work of art?
- How can line, shape, color and pattern be used to draw and paint an animal?
- How can form and texture be used to sculpt an animal?

NC ESSENTIAL STANDARDS

SCIENCE

1.L.1.1 Recognize that plants and animals need air, water, light (plants only), space, food and shelter and that these may be found in their environment.

1.L.1.2 Give examples of how the needs of different plants and animals can be met by their environments in North Carolina or different places throughout the world.

VISUAL ART

1.VA.V.1.1 Identify tools, media and processes.

1.VA.V.1.4 Understand characteristics of the Elements of Art, including lines, shapes, colors, textures, form, and space.

1.VA.V.3.3 Use the processes of drawing, painting, weaving, printing, stitchery, collage, mixed media, sculpture, and ceramics to create art.

1.VA.CX.2.2 Identify connections between art and concepts from other disciplines, such as math, science, language arts, social studies, and other arts.

LESSON PLAN

Read *From Caterpillar to Butterfly* [link to video recording of book reading](#)

1. Discuss the life cycle stages of a butterfly shown in the book.
2. Look at the anatomy of a butterfly. Use an example from the book that shows the illustrator knows the anatomy of a butterfly. What body parts does a butterfly use to find and gather nutrition?
3. Discuss ways color, pattern, and other physical features keep predators from eating a butterfly. Compare examples of butterflies that use camouflage, mimicry, and warning.

Art Project: [link to video instructions with timestamps](#)

Students will imagine they have discovered a new butterfly on a flower gathering nectar. By using elements and principles of art students will create an illustration of their discovery. Materials needed: Pencil, Watercolor paint, brush, watercolor paper or other heavy paper, Model Magic

Draw

1. Use shapes to draw a flower your butterfly gathers nutrition from.
2. Use shapes to draw the head, thorax, and abdomen of your butterfly.
3. Add the wings and legs to the thorax.
4. Add the antenna, compound eyes, and proboscis to the head.
5. Add line and shapes to create pattern that will protect your butterfly from predators.

Paint

1. Use watercolors to paint your drawing.
2. Start with the lightest color and the largest area first.
3. Let your painting dry a bit before adding a new color or detail.

Sculpt

1. Use Model Magic to sculpt a butterfly based on your painting. Use forms to create the body parts.
2. Make the three main body parts first – head, thorax, and abdomen.
3. Add the wings and legs to the thorax, and the antenna, proboscis and compound eyes to the head.
4. Use watercolor to paint your butterfly using the painting of your butterfly as your guide.

INFORMANCE

Have students show and tell with a partner or your whole class. Using their painting or sculpture ask them to talk about the following:

- body parts of a butterfly and what they are used for, especially how they are used to find and gather nutrition
- part of a plant butterflies need for nutrition
- how their butterfly's colors, patterns and other features keep predators away
- how they used shape, line, pattern, and color to create a painting of an original butterfly
- how they used form, texture, pattern, and color to create a sculpture of an original butterfly

SCIENCE VOCABULARY

LIFECYCLE:

Butterfly: an insect that has a slender body and large colored wings and that flies mostly in the daytime

Caterpillar: a small creature with many legs and that changes to become a butterfly or moth

Chrysalis: a moth or butterfly pupa that is enclosed in a hardened protective case

Egg: an oval or rounded body surrounded by a shell or from which the young hatches out

Larva: a young wingless form (as a grub or caterpillar) of many insects that hatches from an egg

Metamorphosis: a great change in appearance or character

Molt: to cast or shed the feathers, skin, or the like, that will be replaced by a new growth

Pupa: an insect in a stage of its growth in which it is enclosed in a cocoon or case

ANATOMY:

Abdomen: the hind part of the body of an insect

Compound Eyes: an eye made of a large number of parts, each with a separate lens, as found in insects

Head: the insect's feeding and sensory center

Legs: six legs found on the thorax

Proboscis: a long, thin tube that forms part of the mouth of some insects

Thorax: a part of an animal's body that is between the head and the abdomen

True Legs: six legs found on the thorax

Wings: one of the paired movable feathered or membranous parts with which a bird, bat, or insect flies

PROTECTION:

Camouflage: hiding or disguising of something by covering it up or changing the way it looks

Mimic: when one living thing resembles a different kind of living thing.

Warn: to give notice to stay away

Predator: an animal that lives by eating other animals

VISUAL ART VOCABULARY

Color: light reflected off objects

Line: a point moving through space

Pattern: an arrangement of lines or shapes repeated at regular intervals

Shape: closed line such as squares, circles and triangles

Sculpture: the creation of artistic objects in three dimensions—length, width, and height

Texture: how something feels or look like it would feel if touched

Watercolor: a paint that is mixed with water and used to create pictures

ONLINE RESOURCES

[GARDENS WITH WINGS](#) - great comprehensive website with butterfly identification and butterfly life cycle

[CATERPILLAR ANATOMY - ENCHANTED LEARNING](#) – detailed information about caterpillars

[THE BUTTERFLY SITE](#) – information about metamorphosis and other information about the butterfly life cycle

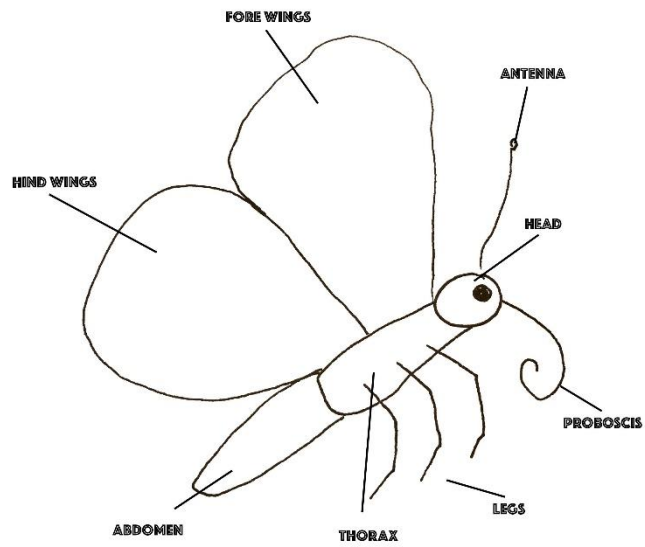
[BUTTERFLIES OF NORTH CAROLINA](#) – detailed information about NC butterflies, including distribution across the state, host and nectar plants, habitat and more

[BUTTERFLY HOST AND NECTAR PLANTS](#) – learn about host and nectar plants and what different butterflies thrive on

[HOW DO BUTTERFLIES GET THEIR COLOR](#) – National Museum of Natural History exploration of butterfly adaptation

[JUST FUN FACTS - BUTTERFLIES](#) – good description of various aspects of butterflies

BUTTERFLY ANATOMY



BUTTERFLY ADAPTATIONS



BUTTERFLIES ON FLOWERS

