

## 2ND GRADE | BUTTERFLY DISCOVERY

[link to VGAE website](#)

### PROJECT DESCRIPTION

Read *From Caterpillar to Butterfly* and learn about a classroom's journey in raising a butterfly from a caterpillar. Through discussion and examples 2<sup>nd</sup> graders will learn:

- the four stages of a butterfly's life cycle
- the anatomy of a caterpillar and butterfly
- which part of plants are important for a butterfly at each stage of its life cycle

Students will then "show what they know" as they imagine they have discovered a new butterfly at all stages of its life cycle. 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

**2.L.1.1** Summarize the life cycle of animals: • Birth • Developing into an adult • Reproducing • Aging and death

**2.L.2.1** Identify ways in which many plants and animals closely resemble their parents in observed appearance and ways they are different.

#### VISUAL ART

**2.VA.V.1.1** - Use appropriate art vocabulary when discussing media, processes, or images in art.

**2.VA.V.1.4** - Understand characteristics of the Elements of Art, including lines, shapes, colors, textures, form, space, and value.

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

**2.VA.CX.2.2** - Understand relationships 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 caterpillar and butterfly. Use an example from the book that shows the illustrator knows the anatomy of both. What body parts do caterpillars have that butterflies don't? What do butterflies have that caterpillars don't?
3. Discuss the parts of plants a butterfly needs at each stage of its life cycle.

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

Students will imagine they have discovered a new butterfly at each stage of its lifecycle. Students will show each stage and the part of the plant that supports its survival. By using elements of art students will create an illustration and sculpture of their discovery. Materials needed: Pencil, Watercolor paint, brush, watercolor paper or other heavy paper, Model Magic

### Draw

1. Using a pencil draw a plant and your butterfly at each stage of the life cycle on the part of the plant that supports its survival.
2. Add details to your butterfly and plant using line, shape, and pattern.

### 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 or caterpillar based on your painting. Use forms to create the body parts.
2. Use watercolor to paint your sculpture using your painting 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:

- the four stages of a butterfly's life cycle and describe what a butterfly looks like at each stage
- the parts of a plant that support the four stages of a butterfly life cycle
- how they used shape, line, pattern, and color to create a painting of the butterfly life cycle
- how they used form, texture, pattern, and color to create a sculpture of an original butterfly at one of its life cycle stages

## 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

**Mandible:** paired jaws of some insects used for gripping, biting and cutting

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

**Prolegs:** small structure found on the abdomen of some insect larvae, such as caterpillars, which is used like a leg

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

**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

**Defense:** ability to resist attack

**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

[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

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

[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

