



KINDERGARTEN | CATERPILLAR DISCOVERY

[link to VGAE website](#)

PROJECT DESCRIPTION

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

- the four stages of a butterfly's life cycle
- the anatomy of a caterpillar
- colors and other physical features that help caterpillars survive

Students will then "show what they know" as they imagine they have discovered a caterpillar. Through the artistic process, students will draw, paint and sculpt their 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

K.L.1.1 Compare different types of the same animal (i.e. different types of dogs, different types of cats, etc.) to determine individual differences within a particular type of animal.

K.L.1.2 Compare characteristics of living and nonliving things in terms of their: Structure, Growth, Changes, Movement, Basic needs

VISUAL ART

K.VA.V.1.1 - Identify various art materials and tools.

K.VA.V.1.4 - Understand characteristics of the Elements of Art, including lines, shapes, colors, and texture.

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

K.VA.CX.2.2 - Identify 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 reading of book](#)

1. Discuss the life cycle stages of a butterfly shown in the book.
2. Look at the anatomy of a caterpillar. Use an example from the book that shows the illustrator knows the anatomy of a caterpillar. What body parts do caterpillars have that butterflies don't? What do butterflies have that caterpillars don't?
3. Discuss ways color, pattern, and other physical features keep predators from eating a caterpillar. Compare examples of caterpillars that use camouflage, mimicry, defense and warning.

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

Students will imagine they have discovered a new caterpillar. By using elements 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. Using a pencil, use shapes to draw the head, thorax, and abdomen of a caterpillar.
2. Add the mandibles, eyes and antenna to the head.
3. Add the true legs to the thorax.
4. Add the prolegs to the abdomen.
5. Add lines and shapes and pattern on your caterpillar.
6. Add other features such as spikes, hair, or eyespots that keep predators away.

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 caterpillar based on your painting.
2. Make the three main body parts first – head, thorax, and abdomen.
3. Add the mandibles to the head, the true legs to the thorax, and the prolegs to the abdomen.
4. Wait to add delicate features until you have completed painting the body of the caterpillar.
5. Use watercolor to paint your caterpillar using the painting of your caterpillar as your guide.
6. Add delicate features and paint them after you have completed painting the body of your caterpillar.

INFORMANCE

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

- the body parts of a caterpillar and what they are used for
- how their caterpillar's colors, patterns and other features keep predators away
- how they used shape, line, pattern, and color to create a painting of an original caterpillar
- how they used form, texture, pattern, and color to create a sculpture of an original caterpillar

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 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

Head: the insect's feeding and sensory center

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

Prolegs: structure found on the abdomen of some insect larvae which is used like a leg

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

True Legs: six legs found on the thorax

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 looks like it would feel if touched

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

ONLINE RESOURCES

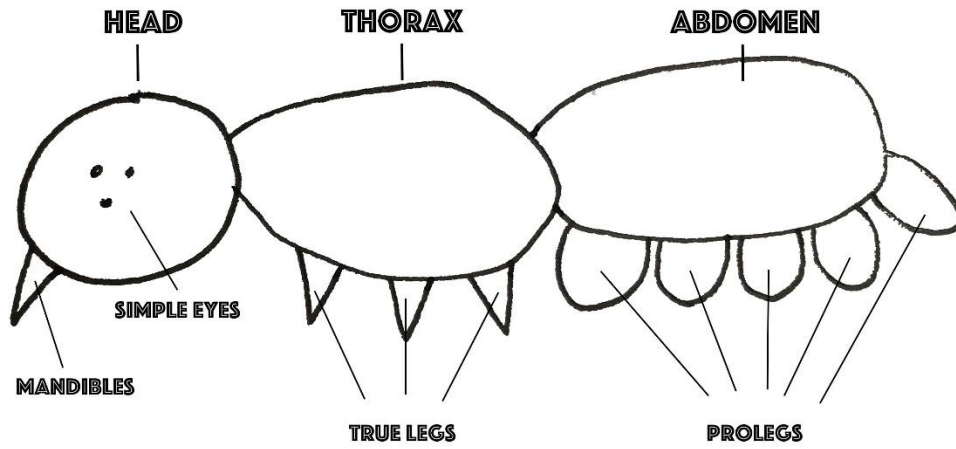
[GARDENS WITH WINGS](#) - great comprehensive website with butterfly identification and butterfly life cycle

[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

CATERPILLAR ANATOMY



Note: segments not shown in diagram to emphasize a caterpillar has 3 main body parts

CATERPILLAR SURVIVAL

