



A GUMBOOT KIDS CURRICULUM

AS SEEN ON



CBC Kids



LEARN ABOUT BUTTERFLIES

AGES 4-8



 curio.ca

GUMBOOTKIDS.COM

This teacher guide supports the following Gumboot Kids episodes about sunflowers found on CBC Curio:

- **The Case of the Vanishing Caterpillar** (Scout & the Gumbootkids)
- **Flower Butterflies** (Daisy & the Gumbootkids)
- **Butterflies** (Jessie & the Gumbootkids)

Refer to **General Considerations for Educators** for a usage overview



BOOK AVAILABLE

IN THIS EPISODE SCOUT GOES LOOKING FOR HIS FRIEND THE CATERPILLAR, WHO SEEMS TO HAVE DISAPPEARED. AFTER SEARCHING HE DISCOVERS THAT THE CATERPILLAR HAS TURNED INTO A BUTTERFLY. THE CONCEPT OF ANIMAL CHANGES IN NATURE, AND SPECIFICALLY, METAMORPHOSIS IS INTRODUCED.

Vocabulary: caterpillar, butterfly, chrysalis, transformation, metamorphosis, pupa, larvae, egg, pollination, interconnection



POST VIEWING QUESTIONS/ PROMPTS

After viewing *The Case of The Vanishing Caterpillar* have students think about what they have viewed by responding to some, or all, of the following prompts. Children could respond in a variety of ways either individually or as a large group. For example, children could respond by making something with loose parts, sharing their ideas verbally with a friend, drawing a picture, recording a video on a tablet, or creating a brief written response.

- Did you solve the nature mystery before Scout? What clue was most helpful and why?
- Scout thought his caterpillar friend vanished. What actually happened?
- What other insects or animals do you know that are similar to a butterfly? How are they similar?
- How are you similar to a butterfly? How are you different?
- Where in your neighbourhood do you think you might find a chrysalis? Why?
- What do you still wonder about caterpillars? What do you still wonder about butterflies?

LET'S GO OUTSIDE!

Nature Discover Walk

In this activity children head outdoors to explore nature and mindfully observe their surroundings to find pollinators and notice pollen on different types of flowers.

Before beginning the activity allow the children to move their bodies and get comfortable in the outdoor space. You can encourage them to imagine they are butterflies fluttering in the open space or bees buzzing from flower to flower picking up pollen.

After an appropriate amount of time bring the group together to sit or stand in a circle. Have the children tune into their senses. This will help them settle down and get ready to move mindfully through the outdoor space. If they choose to, they may close their eyes, then ask them to take some slow, deep breaths. Prompt them to pay attention to the environment which they are in and try to forget

“ There is nothing in a caterpillar that tells you it's going to be a butterfly.”
—R. BUCKMINSTER FULLER, INVENTOR

about anything that will make it hard for them to be present (i.e. what they are eating for lunch, the fight they had this morning with their brother etc). Take your time with this activity to allow the children to fully, mindfully tune in to each sensation.

- Notice the temperature of the air as you breathe
- Notice how the air smells
- Now focus on the sounds around you. Notice the different sounds. Focus on sounds in the distance. Focus on sounds that are near. What do you hear?
- Notice how you feel in this environment. Is it hot or cold? What different textures do you feel (i.e. the grass they are sitting on)

After a few moments of calm, quiet observation ask the children to slowly open their eyes and stand up. Some children may wish to stretch.

Now it is time to go on a nature discover walk and look for places where a butterfly might form its chrysalis to begin metamorphosis. This is a good time to introduce the idea of transformation in nature. Use the following provocations and the children's own curiosity to guide the exploration. Try to follow the children's lead rather than a pre-determined route. Encourage the children to look closely and take their time.

- If you were a caterpillar where might you hide in this environment? Where would be a safe place to go into your chrysalis to transform into butterfly?
- Have you seen a butterfly in nature? Where would be a good place for butterflies to live?
- Can you notice anything else in nature that transforms and changes over time? (E.g. acorns become trees, chicks become chickens, lakes become rain clouds.)



HANDS-ON LEARNING

Pollination Tag

In this tag game children will learn about how butterflies help with pollination. To begin the game choose a few students to be butterflies (approximately 1 butterfly per 5 students works well). Identify the butterflies by giving them “wings” which could be as simple as piece of coloured fabric to hold and “flap” or as elaborate as you like. All other students are flowers. Each flower needs a cotton ball taped to their chest. If you wish you

could have students draw a flower on one side of a piece of paper and their favorite fruit on the other side. They could then wear the flower and turn it over to represent the fruit when they are tagged. The butterflies now chase the flowers in a game of tag. When a butterfly tags a flower the flower gives the butterfly their pollen. If the butterfly is already carrying pollen they give it to the flower and the flower becomes pollinated and turns into a fruit! Once a child has turned into a fruit they sit down. Once all flowers have been pollinated the game is over.

EXTENSIONS: GROWING MILKWEED

Let’s go outside and help make your community more friendly for butterflies! In this activity children will learn about butterfly habitat and help make a positive impact on the environment in their community. Did you know that the monarch butterfly and caterpillar rely on milkweed to eat and lay their eggs? Consequently, milkweed is critical to the survival of monarchs. However, milkweed is rapidly disappearing from North America. The good news is that milkweed is easy to plant and maintain and there are many different

varieties so it is easy to find one suited to your local area. Find out about which variety of milkweed is suited to your area and plan to plant some near your school. If your school has an outdoor learning space or a garden milkweed is a great flower to attract pollinators which in turn helps the other plants in your garden grow. Children could also be given small packets of milkweed to take home and plant in their garden with their family, which helps continue the conversation about caterpillars and butterflies at home.



Life Cycle of a Butterfly

Scout thought that his caterpillar friend had vanished, but really he had just transformed into a butterfly. In this activity children will learn about and represent the four major stages of a butterfly's life (egg, larva/caterpillar, pupa/chrysalis, butterfly). Begin by providing each child with a blank piece of paper. Have them fold the paper into four sections. Explain that you are going to read a book about the life cycle of a butterfly and their job is to write a few words/sentences and/or draw a picture to represent each stage of the butterfly life cycle. Alternatively, each child could be given a small ball of plasticine to use to represent each stage of the lifecycle. Depending on the age and capability of your students they could do this activity in partners, a small group or independently.

FIELD NOTE INSPIRATION

- List of ideas about how to make the school grounds more appealing to pollinators
- Photo or video of the children playing pollinator tag
- Pictures of things that attract butterflies or even pressed flowers or items found in nature that attract pollinators
- List of wonders about butterflies and pollination

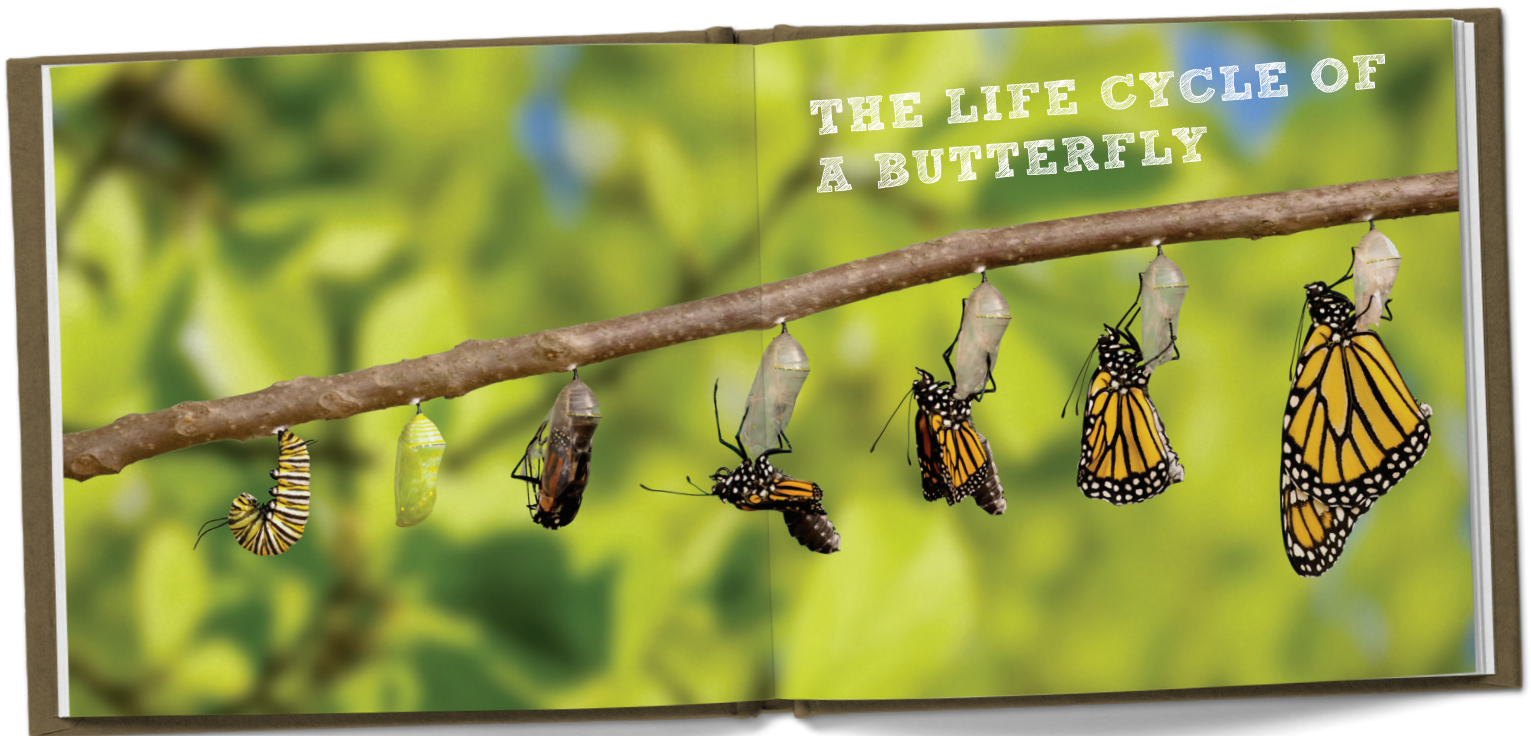
What is pollen? It is the substance that causes plants to form seeds. It is important because new plants can then grow from the seeds. Pollination is a very important part of the life cycle of plants. Pollination is the process where pollen is transferred from the anther, the male part of a flower, to the stigma, the female part of a flower.

A pollinator is an animal that moves pollen from the anther of a flower to the stigma of a flower. Butterflies are pollinators. So are bees, hummingbirds, ladybugs and bats.

Colourful Butterflies

Butterflies have beautiful, often intricate, designs on their wings. In this activity the children can create their own butterfly and design it with symbols, colours or other images that are important to them. Depending on the capability and age of the children provide a black outline of a butterfly's wings for them to colour or allow them to create their own butterfly. Remind children that butterfly wings are a mirror image of each other so whatever they put





on one side they should also put on the other. Once the butterflies are complete the children could work together to make a class mural background to place the butterflies on and display them on a wall or in the hallway for the rest of the school community to appreciate.

MINDFUL MOMENT

Metamorphosis

To begin the activity remind the children how in *The Case of the Vanishing Caterpillar Scout* taught us that change is part of nature. In this activity children will spend time reflecting on changes in their own lives then imagine what change might be like for a butterfly. They will then create a safe space for a caterpillar to go through metamorphosis and become a butterfly. Depending on the age and capability of the children the activity can be adapted or extended to challenge each child in their own way.

It's a good idea to start with the breathing exercise laid out in the General Considerations for Educators document to help the children become grounded and focused on the present moment. Provide children with the following provocations:

- What changes happen in your life?
- What are big changes in your life? What are small changes?
- How do these changes feel? Did your feelings change over time too?
- How do you imagine it would feel to transform from a caterpillar to a butterfly?
- Finally, if I were a caterpillar where might I make my chrysalis?

Have students represent their thinking as a picture. After a few minutes of individual thinking time children can share with a friend and add any new ideas to their picture. To help with assessing student thinking you may wish to have students use a different colour crayon to represent their initial individual thinking versus the thinking they did after sharing with their friend. Adaptation—while some children are working independently the teacher could facilitate a small group of children who need extra support to share their thinking together or use visual supports such as pictures of chrysalis'

or possible habitats to help develop their thinking. *Extension*—children could explain their thinking in writing.

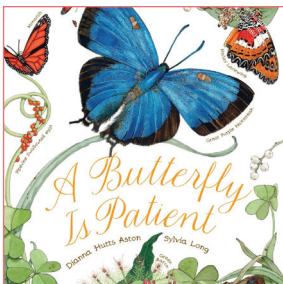
Once brainstorming is complete children can be invited to use a variety of art supplies and found materials to create a safe place for a caterpillar to build a chrysalis. Depending on the time frame for the activity and materials available children could make either a 2D or 3D representation. If time permits children could even go on a short walk outside to collect materials for their art project such as twigs, leaves or similar items (make sure to remind children not to pick leaves or flowers off a living plant). *Extension*—children could create signs to tell others about their safe space and encourage them not to touch or disturb the chrysalis.



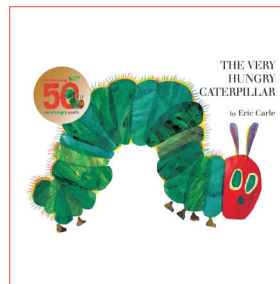


EXTENSIONS: BUTTERFLY PICTURE BOOKS

There are many wonderful picture books that introduce children to the lifecycle of a butterfly, their habitat, migration and how they support the ecosystem. Here are a few suggestions that are readily available at your local library:



A Butterfly Is Patient
By Diana Hutts Aston



The Very Hungry Caterpillar
By Eric Carle

Anatomy of a Butterfly

Antenna:

The organ on a butterfly's head that allows them to find food, migrate, mate and sleep.

Thorax:

Central part of a butterfly's body that contains the muscles that make the legs and wings move.

Abdomen:

Contains a simple tube-like heart, reproductive organs, many breathing spores (spiracles) and most of the digestive system.

Legs:

Butterflies have six legs with taste sensors in their feet.

Wings:

Butterflies have four wings, called forewings and hindwings.

PAINTED LADY BUTTERFLY





Gumboot Kids' Field Notes

The Vanishing Caterpillar curio.ca/en/video/the-case-of-the-vanishing-caterpillar-21422



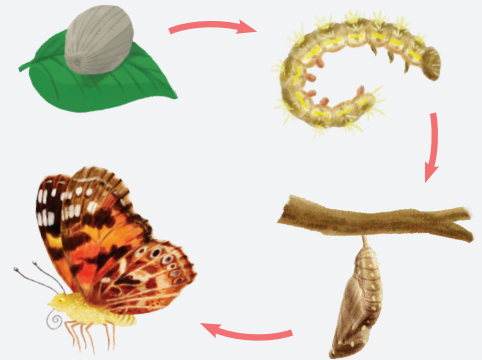
Butterflies often have brightly coloured wings with unique patterns made up of tiny scales.



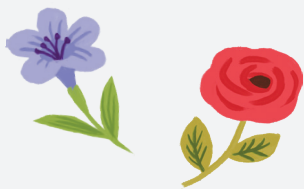
Scientists estimate that there are between 15,000 and 20,000 different species of butterfly.



A chrysalis is a hard shell in which the caterpillar transforms into an adult butterfly.



A butterfly's lifecycle is made up of four parts: egg, larva (caterpillars), pupa (chrysalis), and adult (butterfly). Metamorphosis occurs at the pupal stage, where the caterpillar transforms into a butterfly.



Most butterflies feed on nectar from flowers.



Monarch butterflies are known for their long migration. The northern migration from Mexico to southern Canada and northern United States takes four generations and covers thousands of kilometres.



Gumboot Kids' Nature Craft

Flower Butterflies curio.ca/en/video/flower-butterflies-21446

Scout and Daisy were so inspired by solving the Case of the Vanishing Caterpillar that they made a nature craft. Would you like to make a flower petal butterfly?

STEP 1

Head outside and collect some flower petals and leaves. This craft works best if the flowers are pressed. Place your flowers and leaves flat between two sheets of paper and two heavy books. Leave them for a few days until they're dried and pressed.



STEP 2



Gather some paper and glue. Imagine what you want your butterfly to look like.

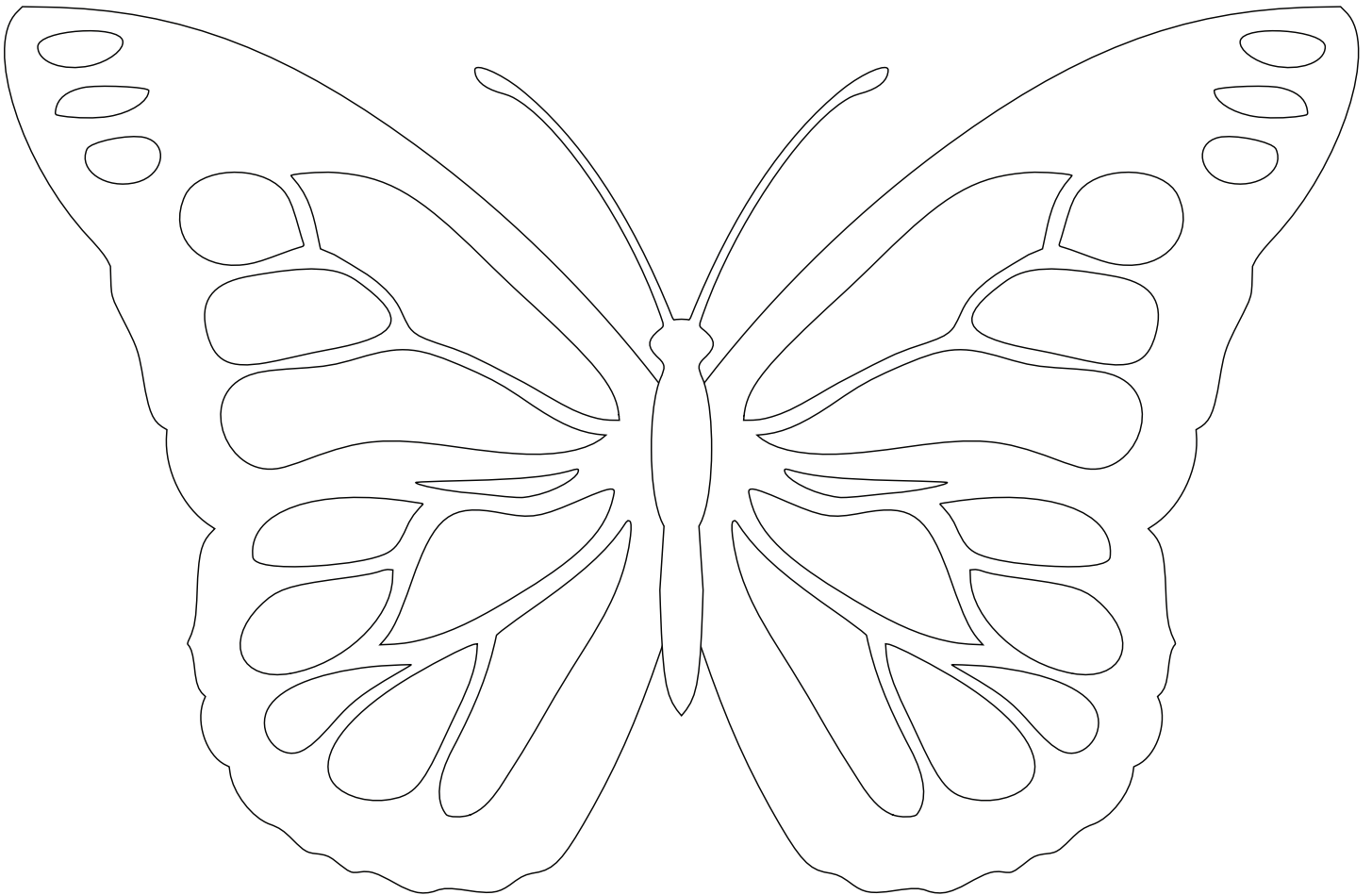
STEP 3

On a sheet of paper, arrange your flower petals and leaves into the butterfly's wings, the abdomen and the antennae. Glue them to the paper. You can add details with paint, felt pens or crayons. There is no right or wrong way to make a nature craft, so have fun!



Colour your own butterfly!

Name _____



Magical Moment

Music by Jessie Farrell

With your delicate wings and your
beautiful flight
you help to make the flowers bloom
so bright

Butterfly fly fly
Butterfly fly fly

It's a magical moment when you appear
You rest and hide till you've got your
wings and you fly
Butterfly fly fly
Butterfly fly fly

Oh oh oh oh...
fly fly (you and I you and I)
Oh oh oh oh..

[Repeat all]

Beautiful butterfly

AVAILABLE ON:
ME AND MY APPLE



 gumbootkids.com/shop



GUMBOOT KIDS TEAM

Created by Eric Hogan & Tara Hungerford

Mindfulness: Molly Stewart Lawlor, Ph.D
Zoologist: Michelle Tseng, Ph.D
Botanist: Loren Rieseberg, Ph.D
Teacher: Sarah Beairsto, MEd

Developed for Television with Cathy Moss
Head of Production Tracey Mack
Music By Jessie Farrell
Illustrations by Kate Jeong
Photography by Michelle Tseng, Annick Violet
Scout & Daisy Animation Deanna Patridge-David
Additional Animation by Affolter Brothers,
Lynn Dana Wilton

We are passionate about connecting children with nature. We also love how nature teaches and reminds us to be mindful.

We would love to hear from you! Let us know if you have any feedback. We hope you stay connected as we continue to add new curriculums to the Gumboot Kids collection.

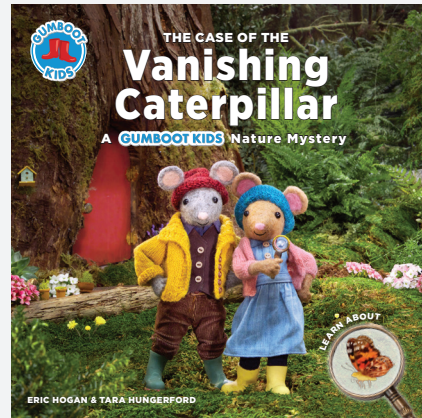
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Additional Resources



The Case of the Vanishing Caterpillar

By Eric Hogan
& Tara Hungerford



Me and My Apple

By Jessie Farrell



VIEW NOW!



FOR MORE INSPIRATION ON BUTTERFLIES:

Visit our Pinterest board at pinterest.ca/gumbootkids/learn-about-butterflies