

Facts about Caterpillars

- **A caterpillar has just one job – to eat.**
During the larval stage, the caterpillar must consume enough to sustain itself into adulthood. Without proper nutrition, it may not have the energy to complete its metamorphosis, or may be unable to develop eggs as an adult. Caterpillars can eat an enormous amount during a life cycle stage that typically lasts several weeks. Some consume 27,000 times their body weight during this life phase.
- **Caterpillars increase their body mass by as much as 1,000 times or more.**
The larval stage of the life cycle is all about growth. Within the span of a few weeks, the caterpillar will grow exponentially. Because its cuticle, or skin, is only so pliable, the caterpillar will molt multiple times as it gains size and mass. In most cases, when a caterpillar hatches from its egg, it will consume the remainder of the shell. The outer layer of the egg, called the *chorion*, is rich in protein, and provides the new larva with a nutritious start.
- **A caterpillar has as many as 4,000 muscles in its body.**
That's one seriously muscle-bound insect! By comparison, humans have just 629 muscles in a considerably larger body. The caterpillar's head capsule alone consists of 248 individual muscles, and about 70 muscles control each body segment. Remarkably, each of the 4,000 muscles is innervated by one or two neurons.
- **Caterpillars have 12 eyes.**
On each side of its head, a caterpillar has 6 tiny eyelets, called stemmata, arranged in a semi-circle. One of the 6 eyelets is usually offset a bit, and located closer to the antennae. You would think an insect with 12 eyes would have excellent eyesight, but that's not the case. The stemmata serve merely to help the caterpillar differentiate between light and dark. If you watch a caterpillar, you'll notice it sometimes moves its head from side to side. This most likely helps it judge depths and distances.
- **Caterpillars produce silk.**
Using modified salivary glands along the sides of their mouth, caterpillars can produce silk as needed. Some caterpillars, like [gypsy moths](#), disperse by "ballooning" from the treetops on a silken thread. Others, such as [eastern tent caterpillars](#) or [webworms](#), construct silk tents in which they live communally. [Bagworms](#) use silk to join dead foliage together into a shelter. Caterpillars also use silk when they pupate, either to suspend a chrysalis or to construct a cocoon.
- **Caterpillars have 6 legs, just as adult butterflies or moths do.**
But wait! There are way more than 6 legs on most caterpillars you've seen, right? Most of those legs are false legs, called prolegs, which help the caterpillar hold onto plant surfaces and allow it to climb. The 3 pairs of legs on [the caterpillar's thoracic segments](#) are the true legs, which it will retain in adulthood. A caterpillar may have up to 5 pairs of prolegs on its abdominal segments, usually including a terminal pair on the hind end. The
- **Caterpillars move in a wavelike motion, from back to front.**
Caterpillars with a full complement of prolegs move in a fairly predictable motion. Usually, the caterpillar will first anchor itself using the terminal pair of prolegs, and then reach forward with one pair of legs at a time, starting from the hind end. There's more going on than just leg action, though. The caterpillar's blood pressure changes as it moves forward, and its gut, which is basically a cylinder suspended inside its body, advances in sync with the head and rear end. Inchworms and loopers, which have fewer prolegs, move by pulling their hind ends forward in contact with the thorax, and then extending their front half.

- **Caterpillars get creative when it comes to self defense.**
Life at the bottom of the food chain can be tough, so caterpillars employ all kinds of strategies to avoid becoming a bird snack. Some caterpillars, such as the early instars of [black swallowtails](#), look like bird droppings. Certain inchworms in the [family Geometridae](#) mimic twigs, and bear markings that resemble leaf scars or bark. Other caterpillars use the opposite strategy, making themselves visible with bright colors to advertise their toxicity. A few caterpillars, like the spicebush swallowtail, display large eyespots to deter birds from eating them. If you've ever tried to take a caterpillar from its [host plant](#), only to have it fall to the ground, you've observed it using [thanatosis](#) to thwart your efforts to collect it. A [swallowtail](#) caterpillar can be identified by its smelly [osmeterium](#), a special defensive stink gland just behind the head.
- **Many caterpillars use the toxins from their host plants to their own advantage.**
Caterpillars and plants co-evolve. Some host plants produce toxic or foul-tasting compounds meant to dissuade herbivores from munching their foliage. But many caterpillars can sequester the toxins in their bodies, effectively using these compounds to protect themselves from predators. The classic example of this is the monarch caterpillar and its host plant, milkweed. The [monarch caterpillar](#) ingests glycosides produced by the milkweed plant. These toxins remain within the monarch through adulthood, making the butterfly unpalatable to birds and other predators.

Facts about Butterflies

- Butterflies are insects.
- A butterfly's lifecycle is made up of four parts, egg, larva (caterpillars), pupa (chrysalis) and adult.
- Butterflies attach their eggs to leaves with a special glue.
- Most caterpillars are plant eaters (herbivores).
- Fully grown caterpillars attach themselves to a suitable twig or leaf before shedding their outside layer of skin to reveal a hard skin underneath known as a chrysalis.
- An adult butterfly will eventually emerge from the chrysalis where it will wait a few hours for its wings to fill with blood and dry, before flying for the first time.
- Butterflies can live in the adult stage from anywhere between a week and a year, depending on the species.
- Butterflies have four wings.
- Butterflies often have brightly coloured wings with unique patterns made up of tiny scales.
- Most butterflies feed on nectar from flowers.
- Butterflies have taste receptors on their feet.
- Scientists estimate that there are between 15000 and 20000 different species of butterfly.
- Monarch butterflies are known for their long migration. Every year monarch butterflies will travel a great distance (sometimes over 4000 km), females will lay eggs and a new generation of monarchs will travel back, completing the cycle.

SOCIAL

Very Hungry Caterpillar

Either read the book or watch this link from YouTube

<https://www.youtube.com/watch?v=4HI7q38VmQ>

Target: peer interactions

Caterpillar, Caterpillar, Butterfly

Play this as you would the Duck, Duck Goose Game!

Target: taking turns

Things That Grow and Change

Materials Needed: Pictures of items that grow with two stages pictured. Some suggestions are:

Small plant, larger plant

A baby, a grown up

A baby bird and an adult bird

A kitten and a cat

A tadpole and a frog

a caterpillar and a butterfly

Use this activity to introduce the caterpillars and butterflies theme! Show the 2 pictures and ask the children to describe them (small and big, baby and mommy or daddy, etc.)

Explain that all living things grow and change. We all grow and change. We used to be babies, and NOW look at us! This used to be a baby plant, but now look how big!

Target: sharing ideas

Life Cycle

Materials: Life Cycle of a butterfly picture cards. There are life cycle sequence cards attached to the email

Show the children each stage:

1. Egg Stage Adult butterfly lays tiny, little eggs on leaves.

2. Larva Stage The caterpillar hatches from the egg and then it eats and eats and eats.

3. Pupa Stage The caterpillar will hang upside down from a branch or from our butterfly house and turn into a chrysalis.

4. Adult Stage A beautiful butterfly!

Follow up with this song (sung to the tune of Pop Goes The Weasel):

I spin and spin my chrysalis (twirl finger around and around)

Then go to rest inside. (close fingers and let your twirling finger rest inside)

When I come out, I have changed A LOT! (Open fingers very slowly.)

LOOK! I'm a butterfly! (Fly hand away like a butterfly!).

Target: peer interaction

PHYSICAL

Gross Motor

Parachute Your Butterflies

Place plastic or fabric butterflies (Can be purchased at the Dollar Store) in the middle of a sheet or blanket to shake off! Have the children move the blanket/sheet up and down slowly and then faster to see how it affects the way the butterflies bounce off of the blanket/sheet.

Target: muscle coordination

Life Cycle Movement Activity

Encourage the children to shape their bodies or move their bodies in a way that represent each stage of the life cycle for butterflies:

Be an egg!

Hatch from the egg!

Crawl around and munch on food like a caterpillar.

Hang from a branch and make a chrysalis.

Come out as a butterfly! **Target: coordination**

The Caterpillar

The fuzzy little caterpillar went up into a tree (act like your climbing)

spun his cocoon and then (yawn) went to sleep (spin hands)

While he was sleeping he dreamt that he could fly (making flying motion)

When he woke up (loud, excited) he was a butterfly.

Caterpillar

(Sung To "Row, row your boat") **Target: balance**

Fine Motor

Fingerprint Creepers

Materials Needed: washable colored ink pads or different colored paint; white paper; colored markers or colored pencils. The children press their fingers into the stamp pads or paint and make fingerprints on their papers. They use the markers and/or pencils to make wings, feet, eyes, antennae, etc. **Target: grasping**

Pipe Cleaner Caterpillars

Provide different colors and shapes of pipe cleaners for the children to manipulate and sort or twist together to make a cool "worm" structure! **Target: grasping**

1,2,3

1,2,3 (hold up fingers one at a time)

There's a caterpillar on me!

Where did it go? (Brush your clothes off)

I Don't Know! (look around and the shrug and look confused!)

Target: finger manipulation

The Caterpillar

A caterpillar crawled to the top of a tree, (index finger of one hand moves like a caterpillar up your arm)

"I think I'll take a nap", said he.

so under a leaf, he began to creep (Wrap other hand over the caterpillar hand)

To spin its chrysalis and it fell asleep.

For many weeks it slept in its chrysalis bed, (Keep hand over fist)

Until one warm day when the sun came out and said,

"Wake up You sleepy head!

Time to get out of bed!" (Shake your hand so that your fist starts to come out of your hand!)

So, it opened its eyes that sun shiny day (Shake your fingers and then look into your hands)

And LOOK! It was a butterfly and flew away! (Make hands into butterfly wings and fly into the air). **Target: finger manipulation**

Fuzzy Little Caterpillar

Fuzzy little caterpillar crawling on the ground (make a finger crawl on the floor).

Spin yourself a blanket and then go fast asleep (Twirl on finger around and around in circles then tuck that finger into your other hand).

Fuzzy little caterpillar wakes up by and by

Now you have two pretty wings. You're a butterfly! (Make butterfly fly away!) **Target: finger manipulation**

INTELLECTUAL

Cognitive

Caterpillar

Little fuzzy caterpillar

In your warm cocoon

The long weeks are over and you'll be hatching soon.

Then you'll spread your wings

On a warm and pretty day

And wave us all goodbye

As you fly away! **Target: vocabulary**

Caterpillars

What do caterpillars do?

Nothing but chew and chew!

What do caterpillars know?

Nothing much but how to grow!

They just eat what, by and by,

Will make them become a butterfly.

But that is more than I can do

However much I chew and chew!

Target: rhyming

Caterpillars and Butterflies

sung to Three Blind Mice

Caterpillars. Caterpillars.

See how they crawl? See how they crawl?

They spin themselves in a chrysalis

And go through something called metamorphosis

It's a sight that you wouldn't want to miss!

When they become butterflies. When they become butterflies!

Target: vocabulary

Caterpillars

One caterpillar , two caterpillars, three caterpillars today.

Four caterpillars, five caterpillars eating all the day.

One cocoon, two cocoons three cocoons today.

Four cocoons, five cocoons sleeping all the day.

One butterfly, two butterflies three butterflies today.
Four butterflies, five butterflies, flying, flying away. **Target: number vocabulary**

The Little Caterpillar

(Sung to "Itsy, Bitsy Spider")

The little caterpillar crawled up into a tree,
Spun his cocoon and slept so quietly,
All through the winter he didn't make a sound,
He dreamt of his new life when he'd be flying all around.
While he was sleeping the snow did gently fall,
Winter came and went, then he heard the robin's call,
Come on Mr. Butterfly, out of your cocoon
Spread your wings and fly for me, while I sing my tune. **Target: sequencing**

Fuzzy Caterpillar

The fuzzy caterpillar curled up on a leaf.
Spun her little chrysalis and then fell fast asleep.
While she was sleeping, she dreamed that she could fly.
And later when she woke up, she was a butterfly. **Target: sequencing**

Butterfly Match

Use the attached matching template for this activity. **Target: matching**

CREATIVE

Bug Painting

Materials needed: small, plastic butterflies, caterpillars and insects and various colors of paint, paper. Have the children paint using bugs instead of brushes! **Target: decision making**

Flying Butterflies

What You Need:

Tissue Paper
Paint, or colors, markers
Twisty Ties

What You Do:

- Cut out wings out of the tissue paper. Then let the kids decorate them however they want. Next put the twisty tie around the wings to make the thorax and antennas. Then put all the butterflies in a popcorn bowl. Let your kids wave books, poster board, etc. Next to the bowl and watch the butterflies fly. **Target: creativity**

Coffee Filter Butterflies

What You Need:

- Coffee Filters
- Spray Bottle with water
- Washable Markers
- Clothespins

What You Do:

- Let kids color coffee filters, then spray them with the spray bottle, then twist and clip with clothespin. This will make the butterfly wings, the kids can then color a face and antennas on the clothespin. **Target: texture**

Butterfly Footprints

What You Need

- Large White Paper
- Paint
- Markers, Glitter, or Other Decorating Materials

What You Do:

- Put the Children's footprints on the paper (separated to make wings of a butterfly) Then (after they have dried) let the kids design their own unique butterfly. **Target: texture**

Insect Collage

What You Need:

Contact Paper

Construction Paper or Tissue Paper

What You Do:

Cut the contact paper in the shape of a butterfly. Let you kids put the construction paper or tissue paper on it and make great collages. **Target: making choices**

Make Your Own Caterpillars

What You Need:

- egg cartons
- google eyes
- pipe cleaners
- construction paper
- glitter, any other material that you want to use.

What You Do:

- Cut the egg cartons into strips and let the children make their own caterpillar. Rinse out the egg carton with a water and bleach solution
Target: making choices

Playdough Caterpillars

Encourage the children to roll the playdough into different sized balls. Add googly eyes and pipe cleaners so that the children can make their own caterpillar. **Target: texture**

EMOTIONAL

"The Very Hungry Caterpillar" Role Play

After reading the "The Very Hungry Caterpillar" have your children act out the stages of a butterfly.

Caterpillar: Crawl on the Ground pretending to eat everything

Cocoon: Role up into a tight ball, and then slowly uncoil

Butterfly: Have them hold their arms out and run around the room. **Target: self expression**

Catch Some Butterflies

Get some jars with covers or use bug catcher ups if you have them. Take them outside and look for bugs to investigate. Let them free before going in. Give the children magnifying glasses so that they can look at the insects up close.

Target: self confidence

I Would Eat...

Caterpillars eat and eat and eat until they are ready to change into butterflies. Invite your children to draw the foods they would eat or provide them with grocery flyers to cut out the foods that they would like to eat and glue them to a piece of paper. Remind them what types of food they should eat to become healthy butterflies!

Target: independence

Go Outside!

There is so much to see, just enjoy being outside where butterflies live, even if you don't see any! **Target: self expression**

COOKING

Make a Caterpillar

Ingredients and Items needed: Cherry tomatoes, pretzel sticks, raisins, ranch dressing .

The children use the tomatoes as bugs and insects body parts-pretzel sticks for legs and the ranch dressing to "glue" raisin eyes on! If your children don't like tomatoes substitute them from grapes cut in half for the younger children or another fruit or vegetable that your children like.

Use yogurt for the "glue" if you use a fruit instead of a vegetable.

Target: independence

Read a book –Target- vocabulary

NON-FICTION

[Face to Face with Caterpillars \(Face to Face with Animals\)](#) by Darlyne Murawski

[From Caterpillar to Butterfly \(Let's-Read-and-Find-Out Science, Stage 1\)](#) by Deborah Heiligman

[Monarch Butterflies: Mysterious Travelers](#) by Bianca Lavies

Caterpillars and Butterflies- June 2016

Also: Check with your local library to find which types of butterflies are native to your area and to find books on them!

FICTION

[Caterpillar Spring, Butterfly Summer: 10th Anniversary Edition](#) by Susan Hood

[Charlie the Caterpillar](#) by Dom Deluise

[Clara Caterpillar](#) by Pamela Duncan Edwards

[The Crunching Munching Caterpillar \(My First Storybook\)](#) by Sheridan Cain (Also available on CD!)

[Butterfly Meadow #1: Dazzle's First Day](#) by Olivia Moss

[The Very Hungry Caterpillar](#) by Eric Carle