

BUTTERFLY SCIENCE



9 Science Activities for PreK, K & 1-3



1 800 698 4438

EarthsBirthday.org

CONTENTS



Butterfly Life Cycle Song	4
Changing Butterfly Dance	5
What Is a Caterpillar?	6
Caterpillar & Pupa Timelines	8-12
Day-by-Day Bar Chart	13
Is a Butterfly an Insect?	14
Butterfly Life Cycle Flipchart	15-17
Buttefly Anatomy	18-19
Butterfly Coloring	20

Earth's Birthday Project cultivates hope for the future by inspiring wonder, learning & care of the natural world in children, teachers & parents.

Since 1989, more than 15 million children have delighted in raising butterflies, learning about the natural world & supporting conservation. Our work empowers students to initiate environmentally responsible actions in school & at home.

Butterflies

DELIGHT YOUR LEARNERS WITH ANY OF OUR FOUR BUTTERFLY OPTIONS. PICK THE ONE THAT WORKS BEST FOR YOUR HOME, CLASSROOM OR CLUB.

1. **PLB**

Painted Lady Butterfly

Caterpillars A cup of 3-5 caterpillars along with our life-cycle poster. Great if you already have or want to build your own butterfly house.

Code: PLB \$14.50



2. **BEGB**

Beginner Butterfly Kit A cup of caterpillars, life-cycle poster and fold-out paper cottage. Everything you need and easy to use!

Code: BEGB \$17.50



3. **GAW**

Growing and Wonder Kit A cup of 3-5 caterpillars, life-cycle poster, fold-out paper cottage and our Sunflower Challenge. A great combination of hands-on learning experiences!

Code: GAW \$23.50



4. **ABB**

Amazing Bugs Butterfly Kit A cup of 3-5 caterpillars, special Amazing Bugs Kits poster and reusable pop-up mesh house.

Code: ABB \$23.50



For more information and to place orders,
call us toll free at (800) 698-4438 or visit us online
at EarthsBirthday.org.

BUTTERFLY SCIENCE

BUTTERFLY LIFE CYCLE SONG



For All the Butterflies

*Sing to the tune of "Brother John"
or "Frère Jacques"*

I'm a flower, I'm a flower
Roots below, roots below
Soil and rain and sunshine
Soil and rain and sunshine
Watch me grow!
Watch me grow!

I'm an egg, I'm an egg
On a little leaf, on a little leaf
Soon I'll be a caterpillar
Soon I'll be a caterpillar
Watch me eat!
Watch me eat!

I'm a caterpillar,
I'm a caterpillar
You're one too, you're one too
Soon we'll both be butterflies
Soon we'll both be butterflies
Something new!
Something new!

I'm a chrysalis, I'm a chrysalis
Warm and dry, warm and dry
Changing from the inside
Changing from the inside
Into a butterfly!
Into a butterfly!

I'm a butterfly, I'm a butterfly
Flying all around,
flying all around
Looking for a flower
Looking for a flower
Searching up and down.
Searching up and down.

I'm a flower, I'm a flower
Open to the sky,
open to the sky
I have lots of nectar
I have lots of nectar
For all the butterflies.
For all the butterflies.

BUTTERFLY SCIENCE

CHANGING BUTTERFLY DANCE



Materials: Instrumental music and audio system

Simple Instructions: Guide students through an improvisational dance. Have students sit on the floor in a circle and ask them to imagine changing butterflies—how eggs hatch caterpillars, caterpillars crawl, eat and grow, then become a pupa and finally emerge as a butterfly with wings. Show them how to curl up as eggs, then push out of the egg and wiggle like a growing caterpillar, then wrap themselves tight into a pupa and then spread arms and open hands as butterflies emerge. Lead them through the process several times. Then let them try it on their own with music.

Use your dance often as a wake-up exercise or a break from study, allowing students to move and get the wiggles out.

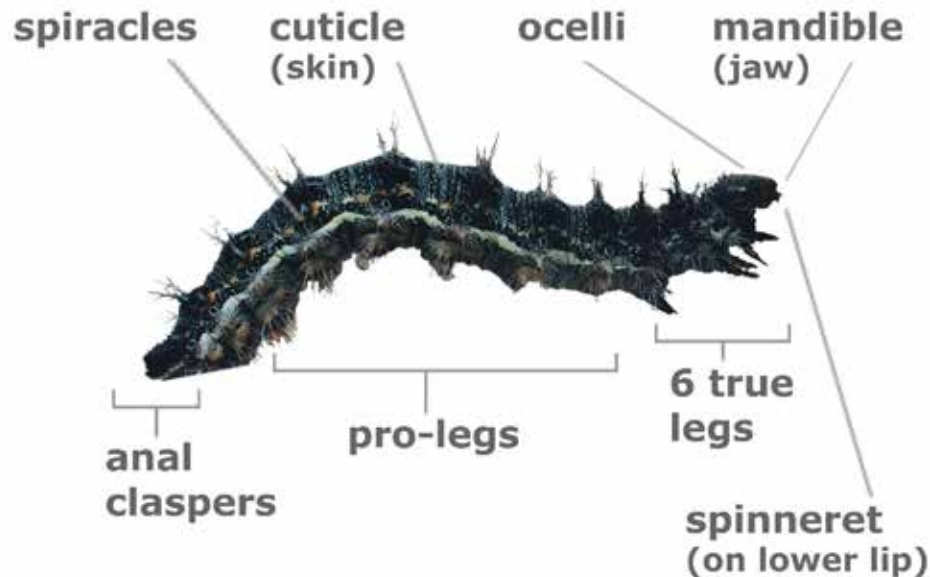


BUTTERFLY SCIENCE

WHAT IS A CATERPILLAR?



Caterpillar Anatomy



Larva—the second stage of metamorphosis, another term for caterpillar.

Mandible—the caterpillar's jaw

Ocelli—name for the three sets of eyes your caterpillar has. The caterpillar's vision is poor even with all those eyes!

Pro-legs—found on segments 3 through 8 and the last segment of a caterpillar.

Spinneret—opening of the silk gland, found on the caterpillar's lower lip. It's used to create the silk pad to which the chrysalis attaches.

Spiracles—breathing holes. Found in pairs, one on each side of all segments of the caterpillar except the second, third and last. Spiracles are also found on the chrysalis and butterfly.

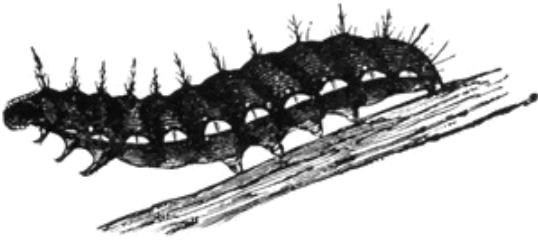
Anal-claspers—used to attach to the silk pad the caterpillar spins at the beginning of the chrysalis stage.

Cuticle—the skin or exoskeleton of the caterpillar and chrysalis. The Painted Lady caterpillar's cuticle has short spines. These spines are a defense from predators.

What Is a Caterpillar?

Name _____

Look closely at the pictures below. Circle **Yes** below if it is a picture of a caterpillar.
Circle **No** if the picture is not a caterpillar.



YES NO



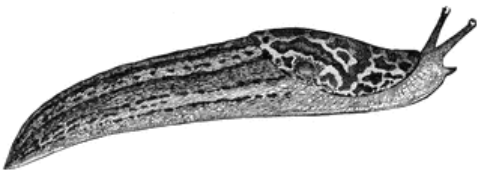
YES NO



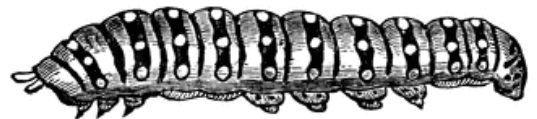
YES NO



YES NO



YES NO



YES NO

BUTTERFLY SCIENCE

OBSERVE, PREDICT & RECORD: CATERPILLAR & PUPA TIMELINES



Overview

In spring, many classrooms order a cup of live painted lady caterpillars to continue hands-on discovery in this life science unit. As living creatures, the painted lady butterfly is a reliable and hardy insect for study during the warm months, but it cannot be raised successfully during the cold months.

Having live caterpillars is a wonderful opportunity to encourage the children to observe closely and ask lots and lots of questions.

Over approximately 21 days the 3-5 live caterpillars will eat prepared food in the bottom of the cup, and when ready they will form pupas attached to paper that covers the top of the cup. After they emerge as adult butterflies, it is delightful to observe them for a few days and then release them into the wild on a sunny day. Butterflies are solar-powered. They will find flowers for nectar, pollinate the flowers as they go from one to another and lay eggs on their preferred host plants.

Timelines

Two timelines, one for the caterpillar stage and one for the pupa stage, are included to help the students look closely, make predictions and then record what they have learned about the organism.

Make 2-sided copies of both timelines. Demonstrate for your students how to fold each timeline in half lengthwise, then show them how to cut the paper halfway on the two dotted lines. This makes a flipchart for the students to complete step-by-step.

Discuss with your students what it means to make a prediction. Then use the Day-by-Day Bar Chart to confirm what you have learned about the number of days the organism is a stage, then compare your predictions.

DAY _____

**I
SEE**

**I
PREDICT**

**I
LEARN**



Name _____

**A
CATERPILLAR.**

**I predict that
my caterpillar
will grow to
2 inches in
_____ days.**

**I learned that
in _____ days
my caterpillar
grew to 2 inches.**

**This is how
my caterpillar looks.**

**I predict the
caterpillar will look
like this.**

**I learned the
caterpillar looks
like this.**

DAY _____

**I
SEE**

**I
PREDICT**

**I
LEARN**



Name _____

**A
PUPA.**

**This is how
my pupa looks.**

**I predict that
a butterfly will
emerge in
____ days.**

**I predict the
butterfly will look
like this.**

**I learned that
in ____ days
a butterfly
emerged.**

**I learned the
butterfly looks
like this.**

Butterfly Day-by-Day Chart

Name _____

WHAT IS IT TODAY?

Did I observe a caterpillar today? Is it a pupa? Or a butterfly? Fill in one rectangle each day on the bar chart. On the day that you release your butterflies, write the word FLY in the rectangle. Count and compare the number of days the organism was a caterpillar, pupa and butterfly.

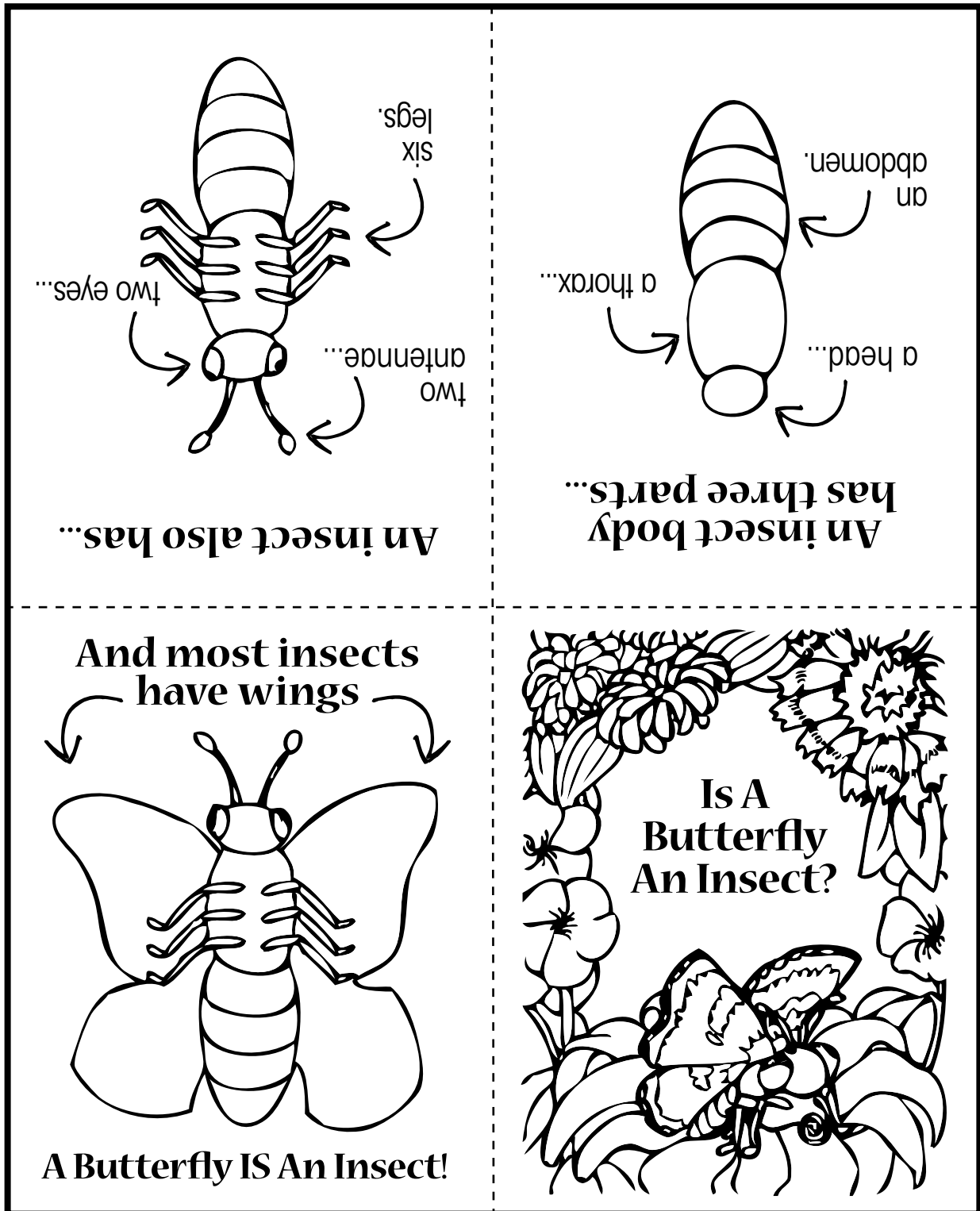
16				16
15				15
14				14
13				13
12				12
11				11
10				10
9				9
8				8
7				7
6				6
5				5
4				4
3				3
2				2
1				1
DAY	CATERPILLAR	PUPA	BUTTERFLY	DAY

BUTTERFLY SCIENCE



Is A BUTTERFLY AN INSECT?

Color these pictures, cut along the heavy black line, then fold your paper on the dotted lines. Look! You've made your own little book about butterflies. Practice reading it to your friends!



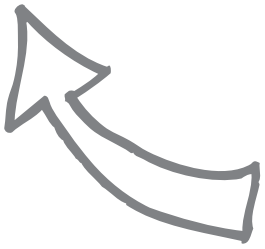
BUTTERFLY SCIENCE

BUTTERFLY LIFE CYCLE



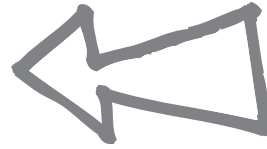
Cut out the four pictures.
Paste the pictures inside the flip chart of a butterfly life cycle.





**PUPAS
CHANGE**

**CATERPILLARS
GROW**



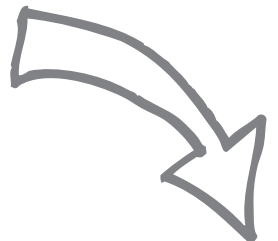
Name _____



**BUTTERFLIES
FLUTTER**

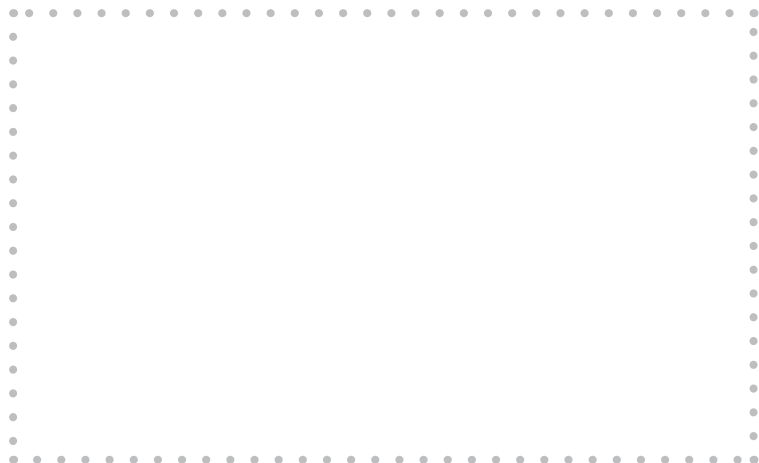


**EGGS
HATCH**



**A butterfly flutters
& lays eggs for
_____ days.**

**An egg
hatches in
_____ days.**

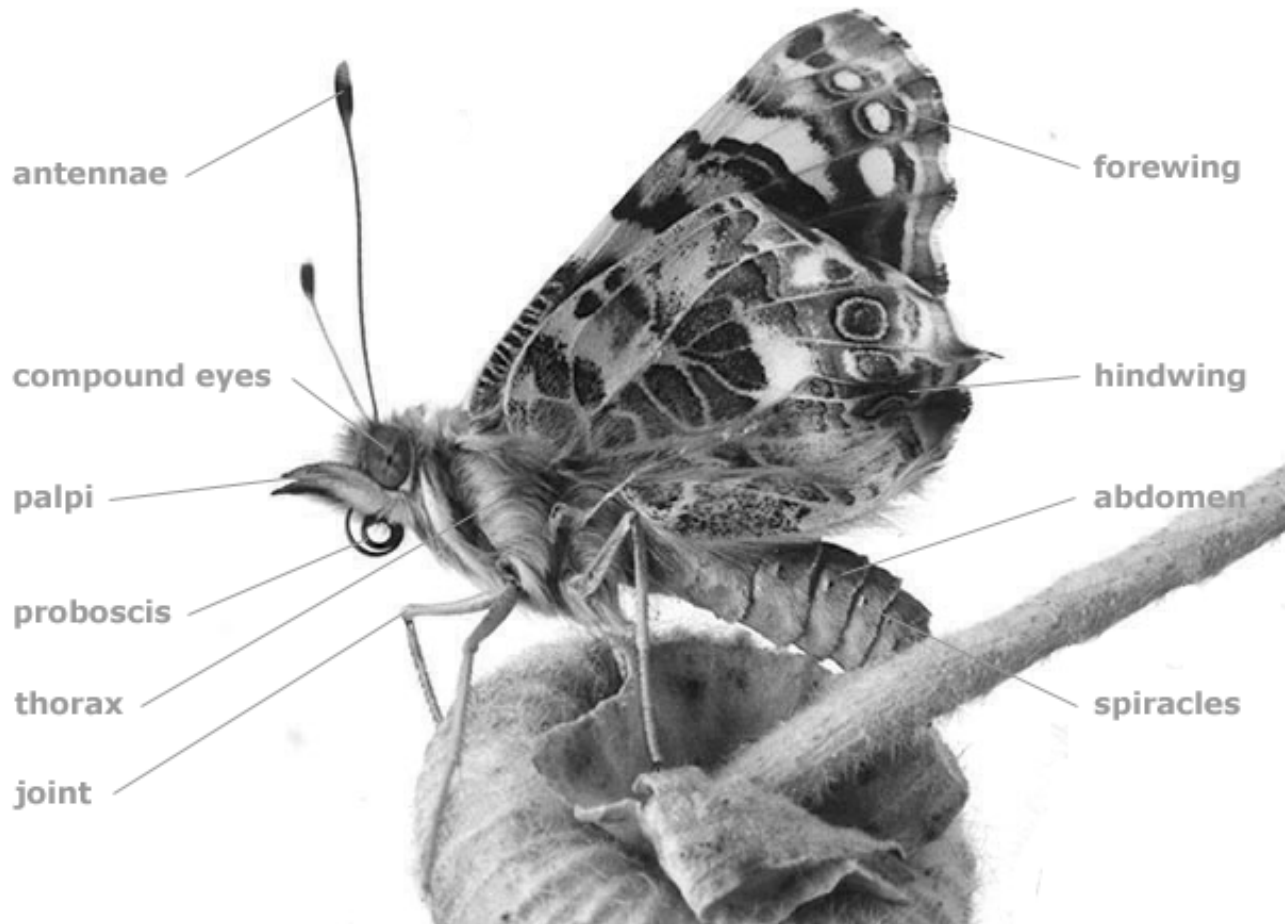


**A pupa
changes for
_____ days.**

**A caterpillar
grows for
_____ days.**

BUTTERFLY SCIENCE

BUTTERFLY ANATOMY



Abdomen—the hind part of the body on the caterpillar and the butterfly

Antennae—found on the butterfly's head, used to taste the air and help with balance and orientation

Compound eyes—found on the butterfly's head. Thousands of tiny lenses help the butterfly see in all directions and recognize color, pattern and movement.

Proboscis—the butterfly tongue, which works like a drinking straw. In metamorphosis, the proboscis is formed as two separate parts, which the butterfly uncoils and zips together to form a tube for drinking.

Thorax—the three front segments of the caterpillar, each segment with a pair of legs. The front part of the butterfly's body.

Palpi—feelers that help the caterpillar “see” where it’s going, found on the butterfly’s head.

Butterfly Anatomy

Name _____

Can you match the words on this page to the correct body parts on the butterfly?
All you have to do is 1. Write the correct number inside each circle, and
2. Fill in the blank below each picture.

- | | | |
|-----------------|------------------|---------------|
| 1 wings | 2 antenna | 3 head |
| 4 thorax | 5 abdomen | 6 leg |



