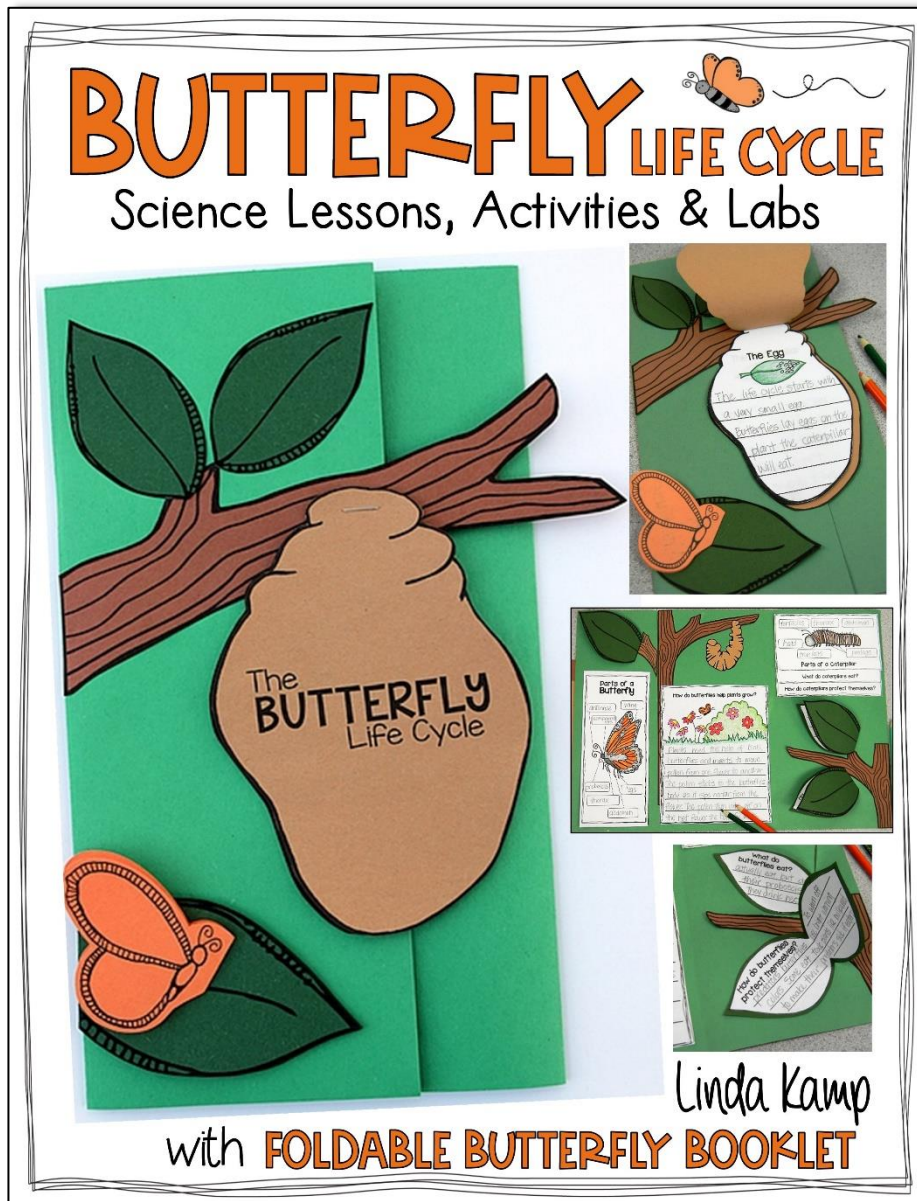


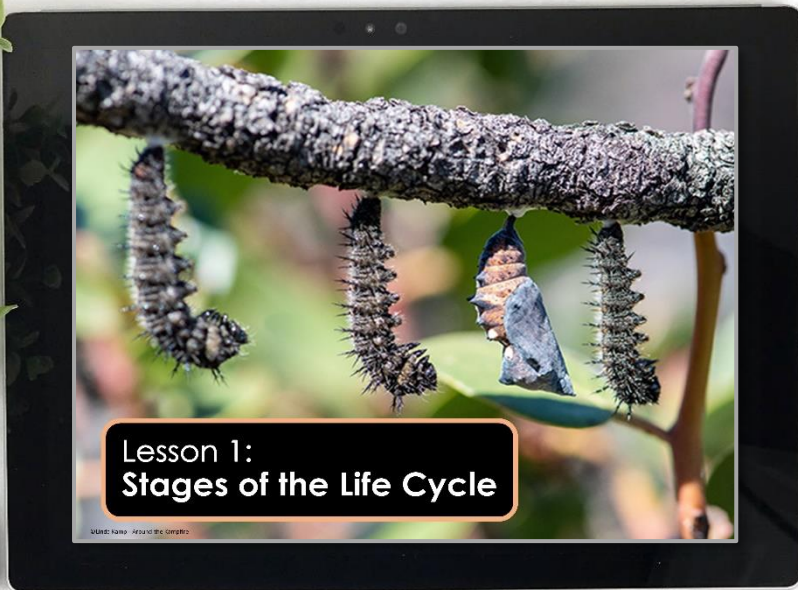
A Complete Butterfly Science Unit



UNIT INCLUDES:

- 8-Lesson teaching PowerPoint
- Detailed, 14-day lesson plan
- 3 Hands-on science labs
- Unit Assessment
- Interactive diagrams
- Butterfly observation journal
- Science-based literacy centers
- Math integration activities
- Vocabulary posters
- Life cycle bulletin board set
- Butterfly booklet writing project

Teaching PowerPoint



9 ENGAGING SCIENCE LESSONS

- Stages of the Life Cycle
- Raising Butterflies
- The Life of a Caterpillar
- The Life of a Butterfly
- Adaptations
- Pollination
- Metamorphosis
- The Compound Eye
- Comparing Butterflies To Moths

Teaching PowerPoint



**EMBEDDED VIDEOS
MAKE EACH LESSON
COME ALIVE!**

Watch a Video:
Compound Eyes

Watch a Video:
Avoiding Predators

Watch a Video:
The Great Monarch Migration

Watch a Video:
Monarch Caterpillar Eating Leaves

Watch a Video:
Monarch Butterfly Laying Eggs

Watch a Video:
Painted Lady Butterfly Metamorphosis

Watch a Video:
Caterpillar Hatching from Egg

Watch a Video:
Caterpillar Forming A Chrysalis



Painted Lady Butterfly Transformation (4:11)



Butterfly: A Life | National Geographic



Lesson plans & assessment

14 DAYS OF DETAILED LESSON PLANS including

- Unit pacing guide
- Teacher directions
- Lab materials and procedures
- Management and prep tips

Match It Up!

Directions: Match the word to its meaning. Write the letter of the definition next to the correct word.

metamorphosis _____ a. A series of physical changes that some animals go through to become adults.

compound eye _____ b. The stage of a caterpillar's life inside the chrysalis.

camouflage _____ c. Long appendages attached to a butterfly's head that help it to sense its environment.

antennae _____ d. Color and pattern on an animal that allow it to blend in to its environment.

pupa _____ e. A long, thin, tube-like structure.

Label It! Label the parts of the butterfly.

wing legs
antennae proboscis
thorax abdomen
compound eye

Time Saving MANAGEMENT TIPS

There is a lot included in this resource. Each component of the foldable booklet includes a mini-lesson with either written responses or mini-book included in the booklet. How can you fit it all in? Consider spreading lessons, activities, writing, and labs across your daily time blocks. Try requiring us to integrate science and social studies in our teaching!

KWL CHART AS

WORKING with VOCABULARY

Use the large word cards and picture cards to introduce the vocabulary at the start of each lesson. Display the cards in a pocket chart as a reference for the unit. The small cards can be used for a variety of activities.

BUTTERFLY Life Cycle Unit		LESSON PLANS & PACING GUIDE
Day	Lesson/Activities	Materials
9	Lesson 5 continued How do butterflies protect themselves? -Read the lesson slides to students and watch the videos. -Students write ways butterflies protect themselves in the leaf mini book.	Teaching Slides How do butterflies protect themselves? writing template Leaf mini book cover
10	Lesson 5 continued The Compound Eye -Read the lesson slides to students and watch the videos. Compound Eye Lab -Students investigate a butterfly's compound eye	Teaching Slides Vocabulary cards Compound Eye Lab materials (See directions page.) Student lab sheet
11	Lesson 6: Plants Rely on Butterflies -Read the lesson slides to students and watch the videos. Pollination Lab: How do butterflies help plants grow? -Students simulate pollination	Teaching Slides Pollination Lab materials (See lab page)
12	Lesson 7: Comparing Moths & Butterflies -Read the lesson slides to students and watch the videos. -Students either complete the graphic organizer or the writing template shown in the teaching slide.	Teaching Slides Graphic organizer or writing template How is a butterfly different than a moth?

BUTTERFLY Life Cycle Unit		LESSON PLANS & PACING GUIDE
Day	Lesson/Activities	Materials
1-2	Lesson 1: Stages of the Life Cycle -Begin KWL Chart -Read the lesson slides to students. -Introduce related vocabulary & write it in the vocab. mini book. -Draw the stages of the life cycle. -Write about each stage in the chrysalis booklet.	Teaching Slides Vocabulary cards Vocabulary mini book Prepped KWL chart Life Cycle flow chart Chrysalis shaped writing templates <i>*NOTE: If raising live butterflies begin the observation journals when your caterpillars arrive, observing and recording changes each day.</i>
3	Lesson 2: Metamorphosis -Read the lesson slides to students. -Introduce related vocabulary & write it in the vocab. mini book. -Students write a short description of metamorphosis.	Teaching Slides Vocabulary cards Vocabulary mini book Metamorphosis writing template
4	Lesson 3: Observing the Life Cycle -Students make and begin their observation journals. This lesson can be saved until your caterpillars arrive if needed.	Teaching Slides Observation journals
5-6	Lesson 4: The Life of a Caterpillar -Read the lesson slides to students and watch the videos. -Introduce related vocabulary & write it in the vocab. mini book -Make the caterpillar step book	Teaching Slides Caterpillar Step Book templates
7	Lesson 5: The Life of a Butterfly -Label the parts of a butterfly on the interactive diagram. -Students complete the Parts of a Butterfly diagram	Teaching Slides Parts of a Butterfly diagram

Butterfly science labs



HANDS-ON LABS FOR STUDENTS TO EXPLORE

- Adaptations
- Pollination
- A compound eye
- Parts of a caterpillar
- Parts of a butterfly

Observation journals



JOURNAL INCLUDES:


- Caterpillar facts
- How to handle your caterpillars with care
- Word bank to assist students in writing
- Observation recording pages
- 2 Cover options

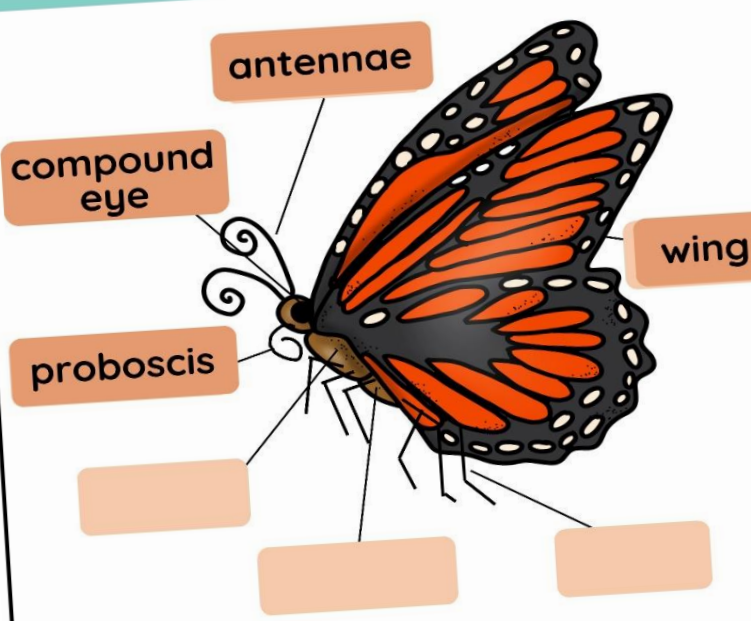
Interactive diagrams

MOVEABLE PIECES TO LABEL:



Parts of a caterpillar

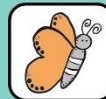
 Diagram Activity
Label the Parts of a Butterfly

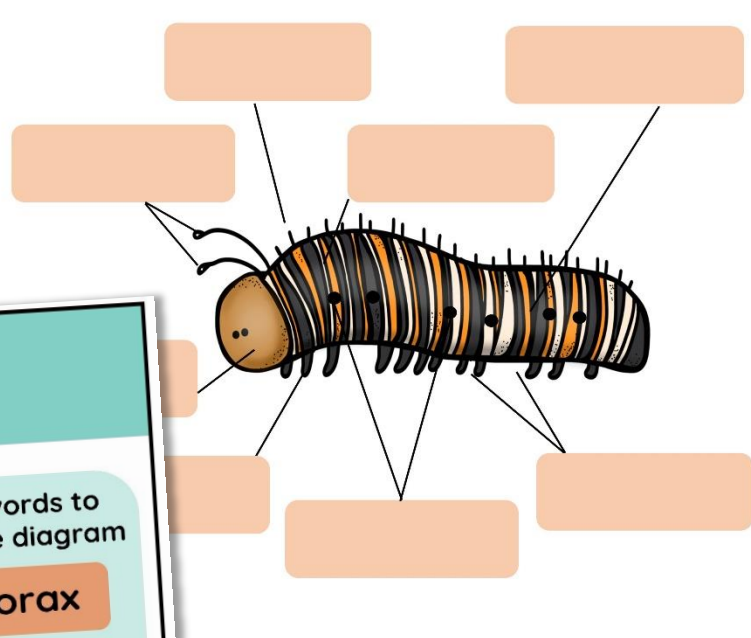


antennae
compound eye
proboscis
wing

Slide words to label the diagram

- thorax
- legs
- abdomen

 Diagram Activity
Label the Parts of a Caterpillar



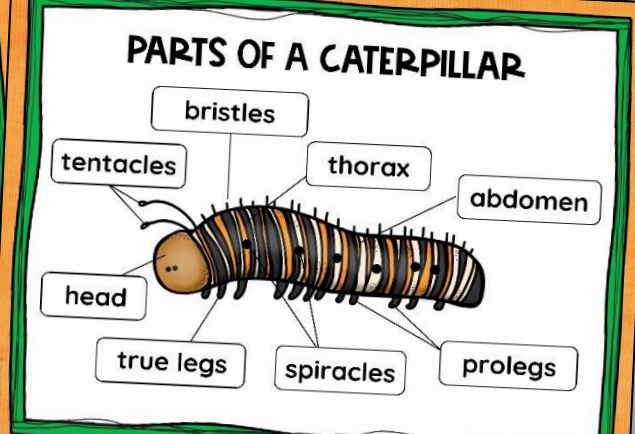
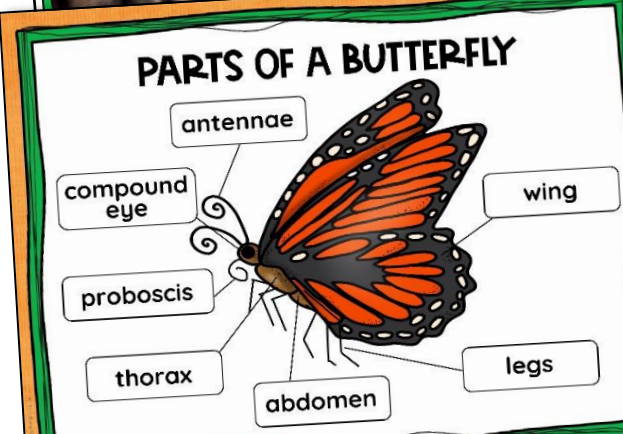
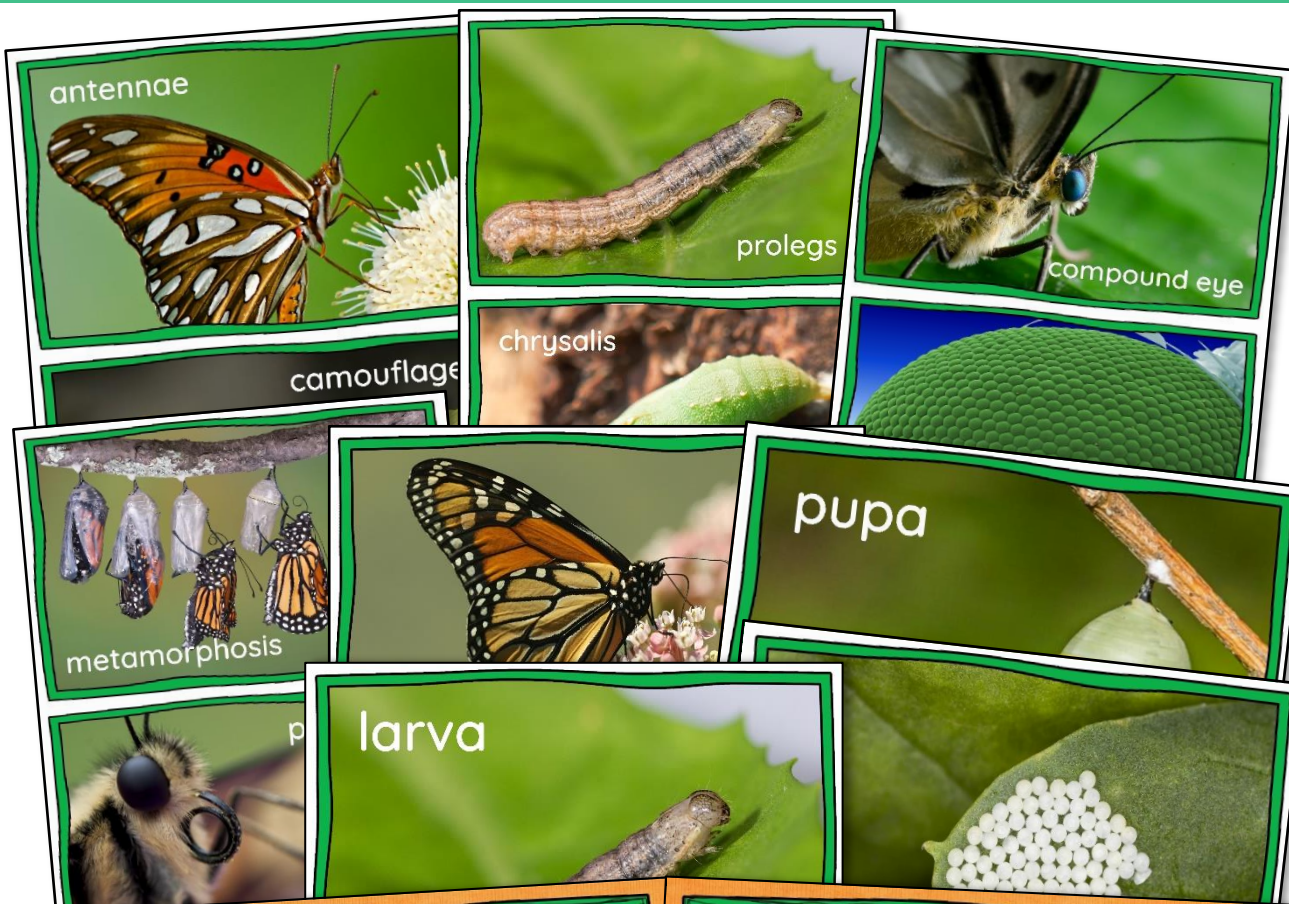
Slide words to label the diagram

- head
- bristles
- prolegs
- thorax
- true legs



Parts of a butterfly

Vocabulary posters & cards



prolegs
Short legs with hooks on them found on the abdomen of a caterpillar

camou
metamorphosis
A series of physical changes that some animals go through to become adults

prob
ch
proboscis
A long straw-like feeding tube that butterflies use to sip nectar from flowers

comp
ev
antennae
pdages attached to

camouf
Color and patterns animal that help it b its environme

metamorphosis
A series of physical changes that some animals go through to become adults

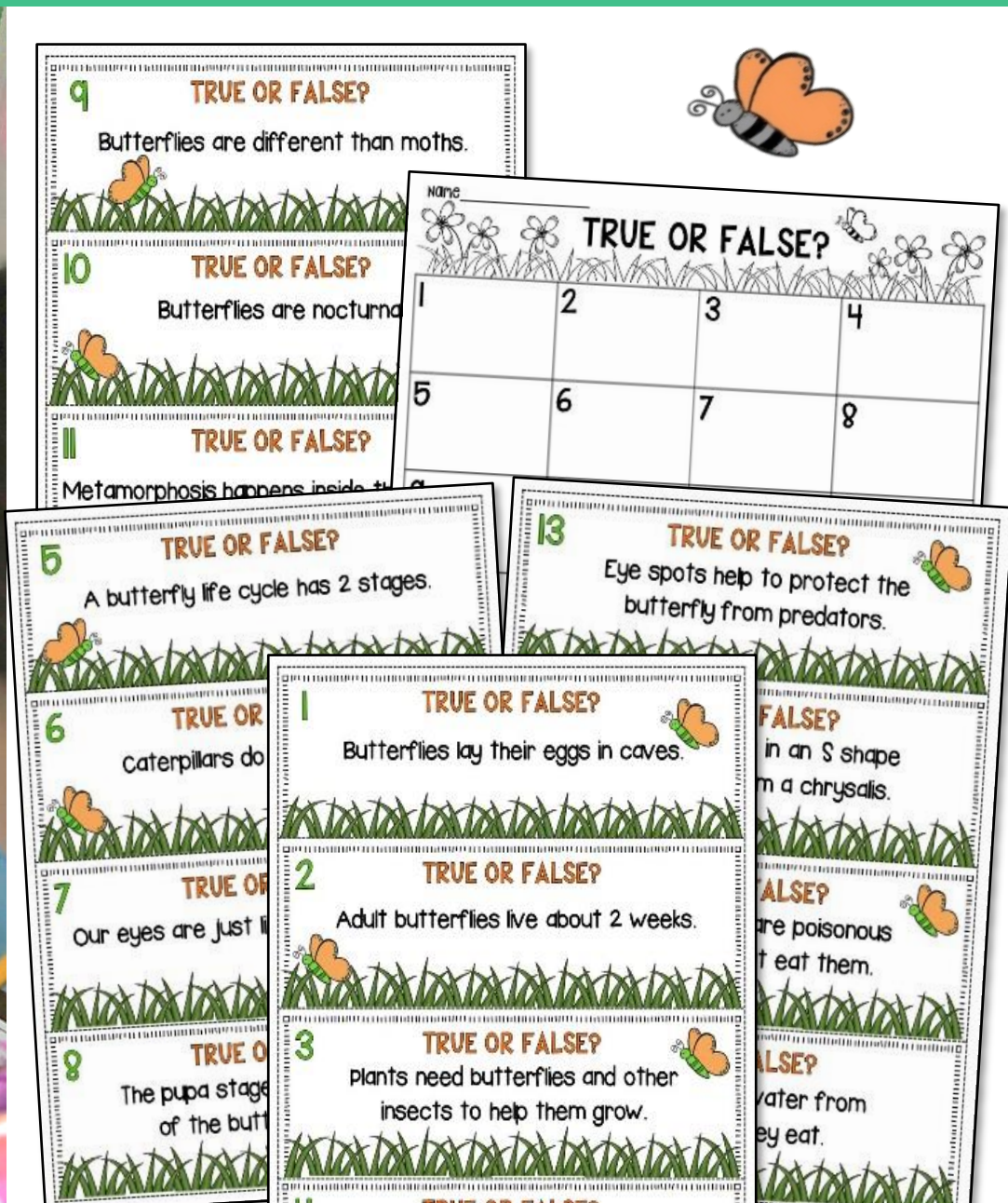
proleg
Short legs with hooks found on the abdor caterpillar

chrysalis
The hard shell spun by a caterpillar where metamorphosis takes place

compound
The eye of a butterfly of many individual

pupa
The stage of a caterpillar inside the chrysalis

Science-based literacy centers



TRUE OR FALSE ROAM THE ROOM OR PLAY SCOOT

Science-based literacy centers

Name _____

PROBLEM

When the caterpillars hatch they will be hungry and need food.

Lizards, larger insects, and birds like to eat butterflies.

A hungry bird lands close to a chrysalis.

The caterpillar grows quickly, but its skin does not stretch or grow.

The new butterfly's wings are soft and folded when it emerges.

SOLUTION

The mother butterfly lays her eggs on leaves the caterpillars like to eat.

Butterflies use camouflage, large eye spots, and mimicry to avoid being eaten.

The pupa wiggles the chrysalis to scare away predators.

The caterpillar sheds its skin or "molts" several times as it grows.

The butterfly pumps blood into its wings to help them work.



Students read butterfly related problems then match them with solutions

Literacy Activity
PROBLEM/SOLUTION

Objective: Students will identify and match problem and solution situations related to a butterfly's life cycle.

Materials:
Problem/solution cut and paste cards
Problem/solution work mat

Procedure:
Use the activity whole group or as an independent center activity.

Independently

- 1 Students cut out the problem and solution cards.
- 2 Match the problems to the solutions table.
- 3 Glue the card pairs in the appropriate boxes.

Whole Group:
You may wish to use the problem cards to play a matching game. Call on students to explain why a problem or solution arose during the life cycle. Have them tell how the butterfly or caterpillar solved the problem.

MANAGEMENT TIP:
When using activities with small, cut-out pieces, Ziplock bags are available. Students then "box" their unfinished activity. Students can play with the activity to clean up then return it to the basket with the other materials.

PROBLEM	SOLUTION

PROBLEM & SOLUTION

Math integration



STUDENTS PRACTICE

CALENDAR SKILLS

MEASUREMENT

ADDITION & SUBTRACTION

Name _____

THINK ABOUT IT!

Data Discussion Cards

1

2

Name _____

1 Fill in the calendar with the dates of the month you are observing your caterpillar.

2 On the date it happened, write important changes you observe. Save space write phrases like these:

arrived molted formed J
formed chrysalis moved from cup emerged

Use this calendar to help you answer the questions on the cards and on your paper.


THINK ABOUT IT!

THINK ABOUT IT!

THINK ABOUT IT!

How many days did it take your caterpillar to have a J shape?

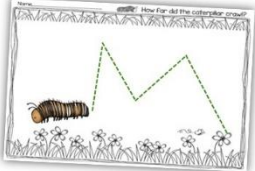
card 3

 Math Lab Activity

HOW FAR DID THE CATERPILLAR CRAWL?


Objective: Students will add lengths and compare units by measuring the paths that a caterpillar crawls.

Materials per student:
- a cm and in ruler
- garden drawing page
- student recording pages
- Write About It math journal page (optional)
- live caterpillar (optional)
*This activity should be closely monitored by the teacher when using live caterpillars.



Procedure:

1. Give each student a garden drawing page. If using live caterpillars carefully place one on the page. If not using live caterpillars have students draw a small caterpillar on the page then draw 4 paths the caterpillar might crawl.
2. As the live caterpillar crawls, have students draw a line from where it started to where it stops. Repeat until students have 4 paths drawn. Carefully place the caterpillar back in its cup.
3. Students then estimate and measure the length of the paths with two different units (inches and centimeters).
4. Record estimates and measurements on the recording page. Students then use their measurements to add, compare, and find differences between the lengths.


 Math Activity

HOW FAR DID THE CATERPILLAR CRAWL?

Math Journal Display


Objective: Students will record the solution to a math problem, along with the strategy and thought process used to arrive at the solution.

Materials per student:
- Completed garden drawing page with paths from How Far Did the Caterpillar Crawl? activity
- Write About It math journal page
- 12 x 18 piece of construction paper

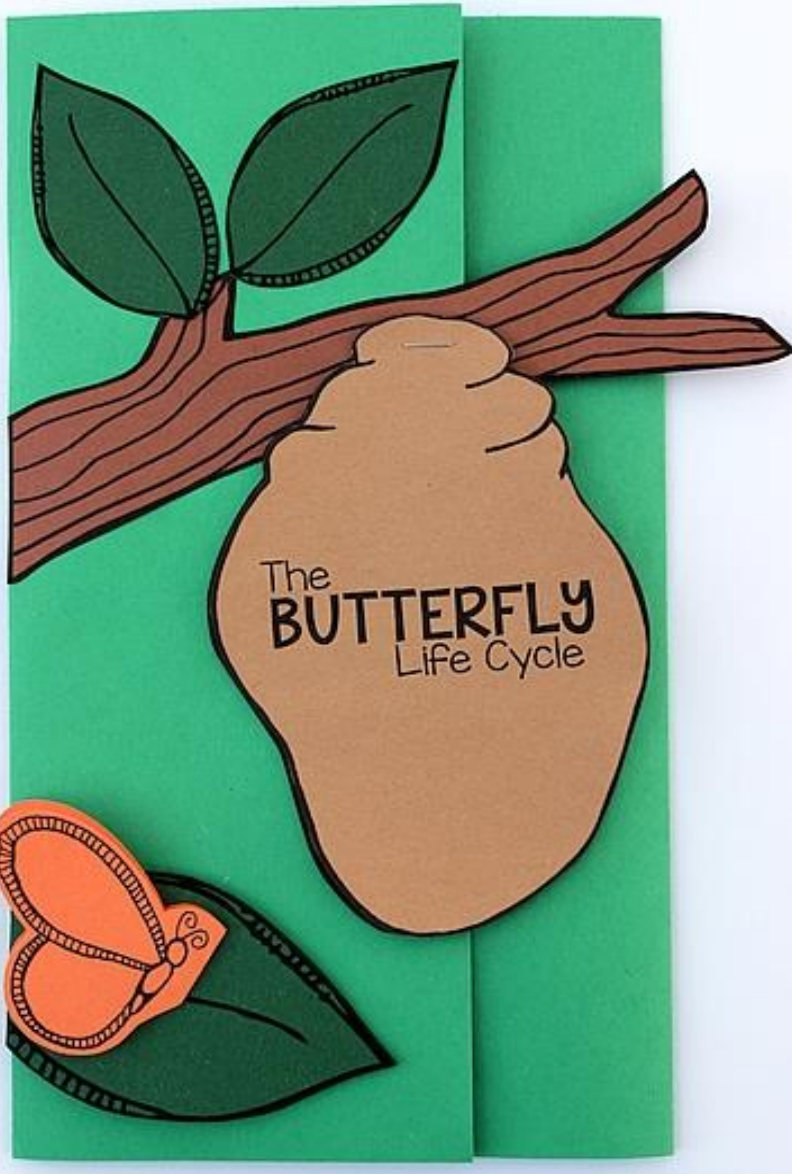


Procedure:

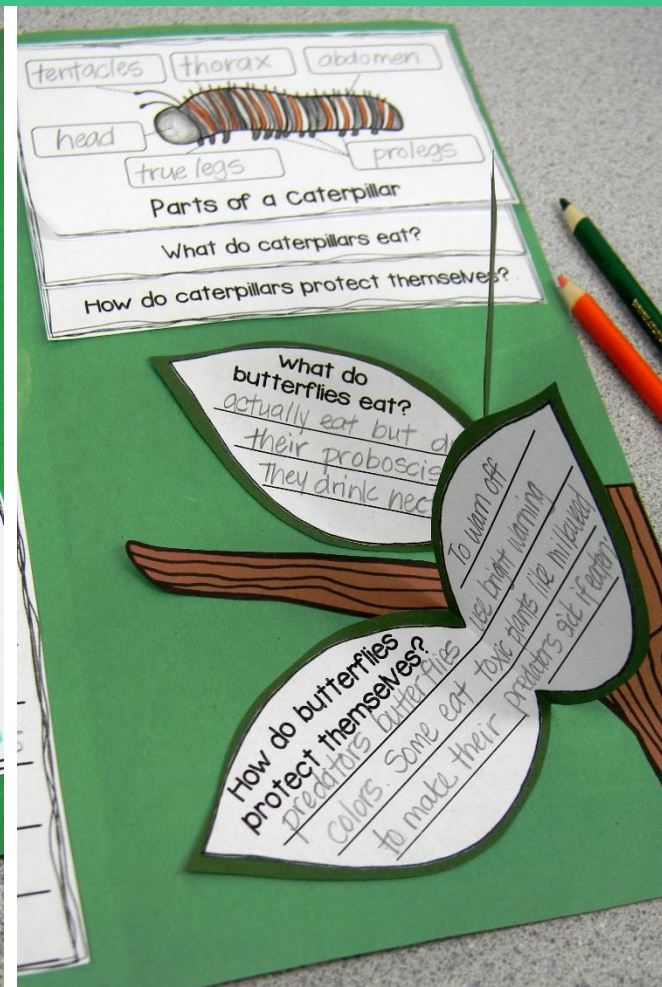
1. Give each student a Write About It journal page.
2. Ask students to explain in writing the steps they took to complete the How Far Did A Caterpillar Crawl? activity including measuring the paths with two different units.
3. Have students be sure to include the solution to their problem as well as with their thought process and the strategy they used to arrive at their solution.
4. Trim the journal page and glue it along with the completed garden drawing page with the caterpillar paths to a 12 x 18 piece of construction paper.

 MANAGEMENT TIP:

Foldable butterfly booklet



Foldable butterfly booklet



GET YOUR KIDS WRITING ABOUT SCIENCE!

Students complete short written response activities after each lesson to add to the foldable butterfly booklet. These make ideal learning portfolios!

Bulletin Board Set



Full-page posters & display elements

BUTTERFLY
Life Cycle

egg

larva

pupa

adult

PARTS OF A CATERPILLAR

- bristles
- tentacles
- head
- true legs
- spiracles
- prolegs
- thorax
- abdomen

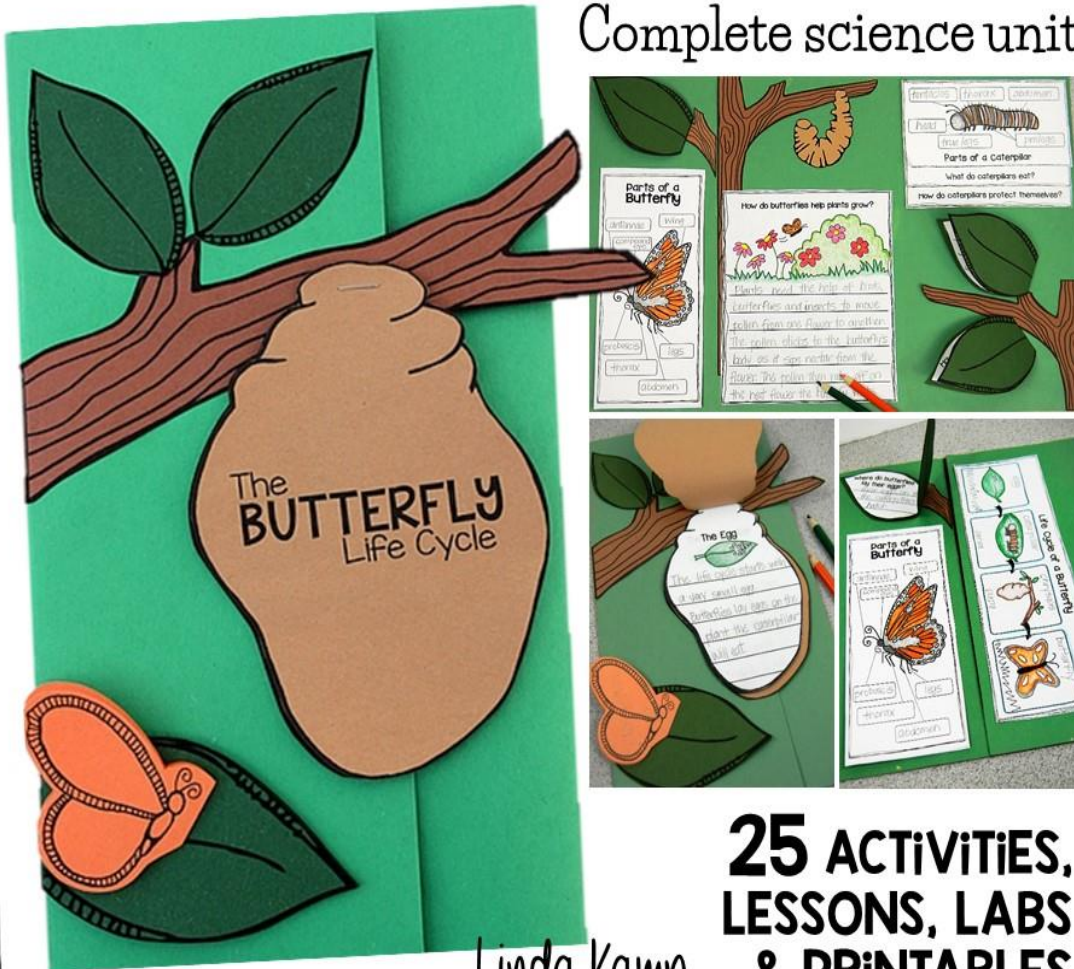
PARTS OF A BUTTERFLY

- antennae
- compound eye
- proboscis
- thorax
- abdomen
- wing
- legs

BUTTERFLY LIFE CYCLE



Complete science unit



Linda Kamp

25 ACTIVITIES,
LESSONS, LABS
& PRINTABLES



A complete science unit to learn about the life cycle and raise butterflies in your classroom!

