

BUTTERFLY SCHOOL PROJECT

Let's get started!

When your caterpillars arrive, begin the scientific process by asking questions - finding out what students are curious about and making predictions about the butterfly life cycle.

Step 1: Get Ready!

- Explain to students that you'll be raising Painted Lady butterflies in your classroom, and learning all about them. Explain that this activity gives students a chance to talk about what they want to find out about butterflies.
- Draw two big circles- one for "What We Know," and one for "What We Want to Know."
- Divide students into small groups, and hand out two papers to each group. Have each group designate a writer and write "What I Know" in the first paper

Step 2: Find out what you know

- Give students five minutes to come up with everything they know about butterflies.
- If a group finishes early, one student from that group (the designated writer) can write their responses on the board.
- Come together as a class and talk about your responses. Write all responses into the blank "What we Know" circle on the board. Have students categorize their responses (ie: life cycle, food, habitat, etc.). You can use different colors to differentiate the categories.

Step 3: Find out what you want to know

- Have the designated writer, write "What I Want To Know" in the second paper.
- Give students five minutes to come up with everything they want to know about butterflies.
- Come together as a class and talk about the questions everyone came up with. Write all questions into the blank "What We Want to Know" circle on the board. Categorize as described above.

Step 4: Make Predictions!

- Lead the class in making guesses, or predictions, about their butterflies. Remember to explain that predictions are ideas, not answers. Use the "What We Want To Know" circle to guide you.
- Explain to them that they will have to check the accuracy of their predictions as the Painted Ladies grow and change!
- Have each student predict the date s/he thinks the first butterfly will emerge from its chrysalis!

Step 5: Discover Learning!

Now that the students have generated their own questions, lead them in coming up with options for getting the answers. Ideas might include observation, research, reading, internet browsing, or asking an expert, asking your teacher, getting books from the library.

Butterfly Anatomy.

Use the Butterfly Anatomy Student Sheet and help the students answer it. Attached to it is a teacher's sheet with the answers.

The Butterfly Life Cycle

There is an attached sheet with the butterfly life cycle and also a answer sheet for you. Have the students cut out the figures and form a life cycle circle, then glue them to a piece of paper.

Set up a culture vessel for the student's individual larvae.

Read the attached instructions. They have all the information you need to know.

This is only a summary of the instructions:

The painted lady larvae arrive in cups that contain enough food for their journey to your classroom. Each student sets up a culture vessel for his or her individual larva. You will give each student a small plastic cup, lid, and a piece of tissue paper. Using the provided spatulas you will help the students scoop a little bit of the culture medium "looks like sand" into the bottom of their plastic cups. Then, you will use the provided brushes to transfer one butterfly larva to their vessels. They will cover the vessels with the tissue paper and lids.

The cups have to be placed in an area with no direct sunlight.

In 5 to 10 day, the larva will climb to the top of the cup and form a pupa, known as a chrysalis.

Then you will have to return to the classroom in 5 to 10 days (somewhere in between, you will have to keep touch with teacher) to help move the chrysalis which will be attached to the top of the cup to the tissue paper.

The tissue paper has to be taped to the Mesh "Butterfly Sanctuary".

Here is a link to a presentation so that you have an idea of what we are doing. PLEASE READ THE ATTACHED INSTRUCTIONS TOO

http://www.carolina.com/text/teacherresources/workshop_presentations/pdfs/butterfliesclassroom.pdf

You will need the teachers help too. They have to keep in spraying the Caterpillar once they are taped or pinned to the sanctuary.

They will have to mist the inside of the habitat once a day to prevent the chrysalises from dying out.

Once the butterfly emerge your teacher and the kids will have to give them food. This is a sugar solution that they can be placed in the middle of the sanctuary in a cup. Also they have to keep in misting the habitat.

When the butterflies emerge, they can let them out to celebrate Earth day!!!

CLEANING UP- Use Butterfly Symmetry Sheet

You can let the student draw the other half of the butterfly while cleaning.

HERE ARE SOME FUN FACTS TO TALK ABOUT:

- Male Painted Ladies have smaller abdomens than females.
- Favorite butterfly flowers = aster, cosmos, thistle, and buttonbush.
- Favorite caterpillar plants = thistle, mallow, hollyhock, malva, and sunflower.
- Butterflies are diurnal (active during the day).
- Painted Lady Butterflies see more patterns, a wider range of color, and more shades of green than people do.
- The tiny scales attached to butterfly wings give the wings their color.
- Butterflies have taste sensors on their legs.

BUTTERFLY STAGE	Predators to watch for:	Defense against predators:
Eggs	bugs	
Caterpillar	ants, birds, lizards	short spine
Chrysalis	birds and lizards	shaking
Butterfly	birds, spiders, frogs, lizards	good eyes, camouflage

The Egg (3-5 days)

Adult female butterflies lay their eggs on plants that Painted Lady caterpillars like to eat, like thistle. The eggs are the size of a pin head, each one containing a caterpillar beginning to grow.

The Larva or Caterpillar Comes Out! (5-10 days)

The hungry caterpillar uses its strong jaws to munch through leaves, eating constantly and growing quickly. As it eats, the caterpillar's skin gets tighter. Soon it sheds this tight skin, emerging with new skin underneath. Each caterpillar changes skin four times before it's fully grown. After three weeks, this hairy, black and yellow caterpillar stops growing - it's almost 2 inches long!

The Chrysalis—Metamorphosis Begins (7-10 days)

The caterpillar finds a safe place to rest. With a silk thread that comes out of a hole just below its mouth (spinneret), the caterpillar spins a silk pad to attach to. The caterpillar hangs from this pad. Soon, the caterpillars' skin splits open, from head to abdomen, revealing a shiny green case underneath—the chrysalis.

What is happening in the chrysalis? Inside the chrysalis, the caterpillar is becoming completely liquid and reforming itself into a butterfly. The butterfly pushes from inside and slowly struggles out, until the case splits open.

The Butterfly Emerges! (2-3 weeks)

When the butterfly first emerges from the chrysalis, its wings are soft and crumpled. The tired butterfly rests, and then slowly unfolds its wings to dry.

After a few hours, the butterfly will be ready to fly. The Painted Lady Butterfly has a 2-week life span. During that time, its main goal is to reproduce and lay eggs so the cycle can begin again!

Have fun!

Liliana Brenner