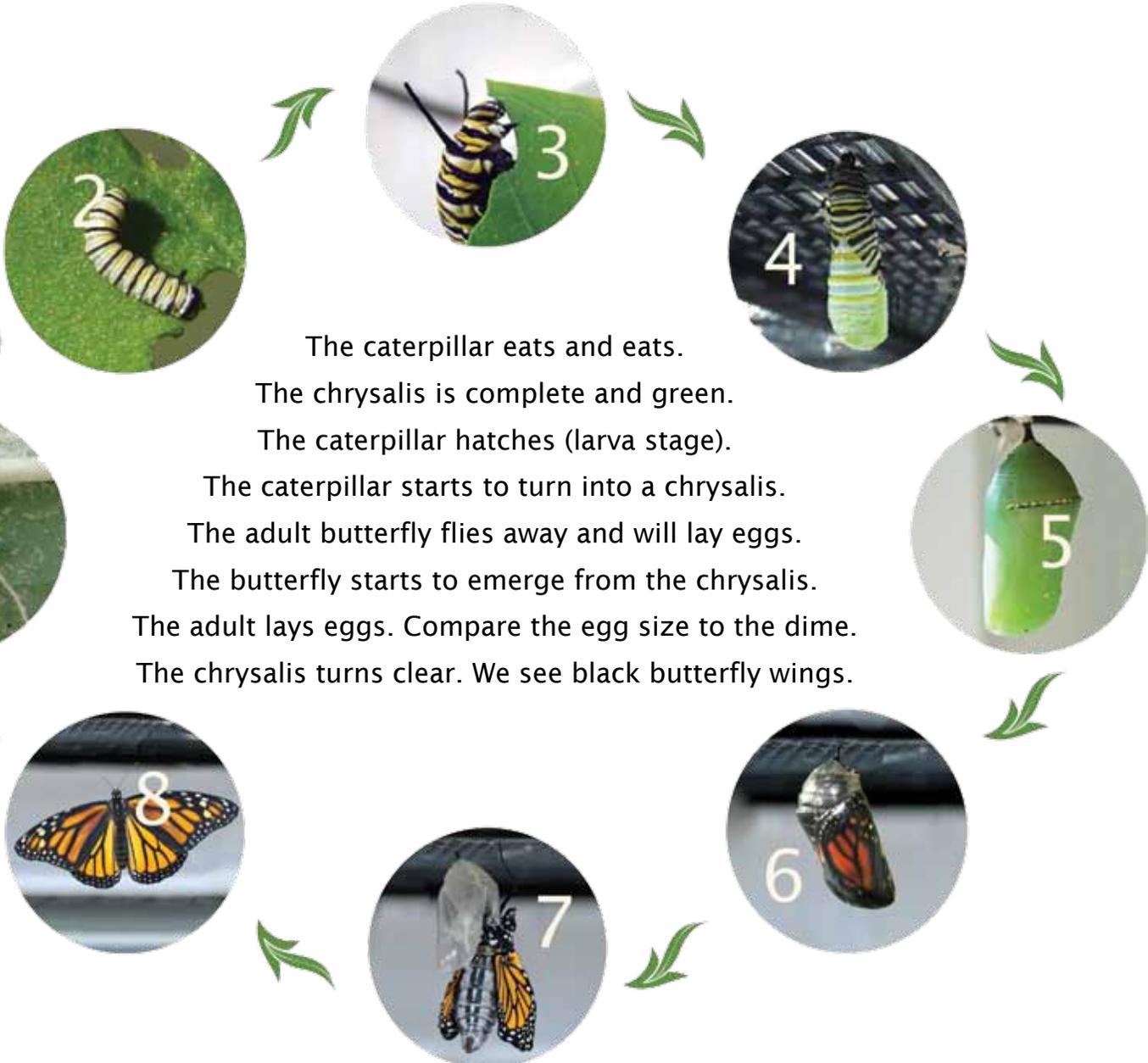


For Creative Minds

This For Creative Minds educational section contains activities to engage children in learning while making it fun at the same time. The activities build on the underlying subjects introduced in the story. While older children may be able to do these activities on their own, we encourage adults to work with the young children in their lives. Even if the adults have long forgotten or never learned this information, they can still work through the activities and be experts in their children's eyes! Exposure to these concepts at a young age helps to build a strong foundation for easier comprehension later in life. This section may be photocopied or printed from our website by the owner of this book for educational, non-commercial uses. Cross-curricular teaching activities for use at home or in the classroom, interactive quizzes, and more are available online. Go to www.ArbordalePublishing.com and click on the book's cover to explore all the links.

Monarch Life Cycle Sequencing

Put the descriptions of the butterfly life cycle stages in order to match the pictures.



Answers: 1) Adult lays eggs. 2) The caterpillar starts to turn into a chrysalis. 3) The caterpillar eats. 4) The caterpillar starts to turn into a chrysalis. 5) The green chrysalis is complete. 6) The chrysalis turns clear. 7) The butterfly emerges. 8) The butterfly flies away.

Butterfly Vocabulary Matching Activity

Match the word to the description.



butterfly



chrysalis



egg



frass



host plant



instar



larva



metamorphosis



migration



molt



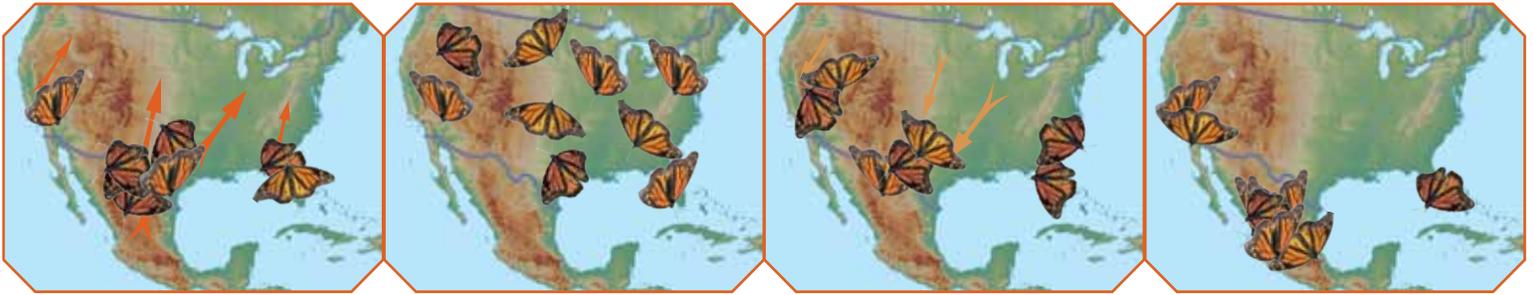
nectar



proboscis

1. This is the final and adult stage of this insect's life cycle.
2. This is the second stage of the life cycle when the caterpillar is an eating machine and grows. Under normal summer temperatures, this stage lasts from nine to fourteen days.
3. This is the "resting stage" during which a caterpillar changes into a butterfly. This third stage of development lasts ten to fourteen days under normal summer conditions and is also called "pupa."
4. This is laid by an adult female on a milkweed leaf and is the first stage of the life cycle.
5. A special word for caterpillar droppings (poop).
6. The only plants on which butterflies and other insects lay their eggs. Monarchs only use milkweed. There are over 100 types of milkweed. Other butterflies use other plants.
7. This is the time between molts of the caterpillar when the body grows. Monarch caterpillars have five.
8. This is a life-cycle change of an insect to an adult.
9. This journey from one location to another is usually to follow food sources and climate changes.
10. As a caterpillar grows, it sheds its outer layer of skin with a new, bigger skin underneath that will then harden.
11. The sugary juice made by flowers that is used as food by butterflies and other insects.
12. A butterfly uses this straw-like tongue to drink water and nectar. When not in use, the butterfly curls it up and keeps it out of the way.

Monarch Generations and Migrations



Spring

Summer

Fall

Winter

Most of us are familiar with birds migrating in the spring and fall. Did you know that some insects, like the monarch butterfly, migrate too?

The Generations

The generation that spent the winter in Mexico will fly north to look for milkweed. These monarchs will lay eggs and after a very long life, will die.

First generation—March and April: The eggs hatch into caterpillars, form chrysalises, and emerge as butterflies. These butterflies continue to migrate north to the area around where their parents hatched, laying eggs along the way.

Second generation—May, June and July: The eggs hatch into caterpillars, form chrysalises, and emerge as butterflies.

Third generation—July and August: The eggs hatch into caterpillars, form chrysalises, emerge as butterflies, and then lay their eggs.

Fourth generation—August, September and October: The eggs hatch into caterpillars, form chrysalises, and emerge as butterflies. Depending on the population to which they belong, monarchs migrate south to Southern California or Mexico where it is warm enough for them to survive the winter. Even though these butterflies have never been there before, they somehow find their way and usually even go to the same trees as their great-grandparents! Once there, the butterflies stay through the winter. Monarchs in Florida do not migrate. Some scientists are studying whether some “East Coast” monarchs migrate to Florida instead of Mexico.

Fourth generation (still)—February and March: Monarch butterflies start flying north again and lay their eggs. The cycle starts again!



Raising Monarchs



You will need a safe habitat for the caterpillars and lots of fresh milkweed. You should use milkweed that is native to your area. For more detailed information, please go to the “teaching activities” by clicking on the book’s cover at ArbordalePublishing.com.

Caring for the caterpillars:

Monarch caterpillars are very hungry but they *only* eat milkweed leaves! Add leaves to the habitat daily. When the caterpillars get bigger, they will eat a lot, so be sure to check often and add leaves as needed.

Keep the leaves moist by adding water to small containers or wrap the ends in a damp paper towel. If they are not fresh, keep extra milkweed leaves in a plastic bag in the refrigerator.

Keep the habitat clean by removing the frass and dried leaves and changing the paper towels often.

Things to watch for:

If your caterpillar wanders off and stops moving, do not disturb it. It is molting.

Don’t let your caterpillars get too crowded or your habitat dirty. Bacteria can form that can make your caterpillars sick.

After 10-14 days, your large caterpillar will stop eating and wander to the top of the habitat. First it will spin a silk knot, then tuck in its feet in and hang head down. It looks like a “J.” After about 14 hours, it will begin to twist and do a “pupa dance” as it changes into a pale green chrysalis.

About two weeks later, the chrysalis will look black. This means that your butterfly will emerge in about 24 hours!

Monarchs usually emerge early in the morning—it happens fast so don’t miss it! The butterfly will pop out and hang on the chrysalis shell for two hours while it pumps fluid into the wings. You can watch the wings grow. This is the most dangerous time for a butterfly. If it falls, or if it is touched, the wings will be damaged and it won’t fly. The new butterfly will hang for several hours while the wings dry.

Three to four hours after the butterfly emerges it is safe to release to the garden. The butterfly doesn’t eat until the day after it is born, so if it is raining, you can keep your butterfly in a flight cage for a day or two.

Release the butterfly in your garden where there are flowers. If you live in a city, you can release the butterfly in a park or a garden center, but be sure not to release it where people have sprayed pesticides.