

# **We are curious about how living things change.**



**First Grade learned about the life cycle of a Monarch caterpillar. We raised baby Monarch caterpillars and watched as they transformed into a Monarch butterfly.**

**NGSS 1-LS1-2 Read texts and use media to determine patterns of behavior of parents and offspring that help offspring survive.**

**What is on the Monarch Caterpillar's Menu?****Background Knowledge for the Teacher**

Milkweed is the "host plant" for Monarch butterflies. That means it is necessary for the survival of Monarch butterflies. The adults will only lay eggs on milkweed and the caterpillars will only eat milkweed. Loss of milkweed habitat is a threat to monarch butterflies. Eating milkweed leaves makes Monarch caterpillars toxic to some predators. The adult butterfly does not eat the leaves, but it still has the milkweed chemicals in its body. "The bad taste and toxicity of both the larvae and adults are advertised by conspicuous, warning coloration. When a bird predator tastes a monarch, it learns to associate this color pattern with the bad taste, and avoids preying on monarchs in the future." <http://www.monarchlab.org>

**Resources:**

- Caterpillars
- Paper plates (1-4)
- Milkweed leaves, tree leaves, some grass, apple slices, etc.
- Monarch Journal page 9.

**Set up by Teacher in advance**

On a paper plate, set out a milkweed leaf, a tree leaf, some blades of grass, and a piece of apple around the edge of the plate. (If possible, set up this same experiment on more than one plate to make it easier for students to observe and to test more than one caterpillar.)

**Engage**

1. Ask students to think about their favorite food. Ask them what they would eat if their favorite food were not available.
2. Show the prepared plates to the students.

**Explore**

1. **The teacher** should gently remove a caterpillar from its milkweed leaf with a Q-tip or small paint brush and place it in the middle of the plate. (Do the same for other caterpillars and prepared plates).
2. Watch to see what the caterpillar does. Check back later, if necessary. Discuss results. (*The caterpillar should move to the milkweed leaf and begin eating.*)
3. Have students record results in Monarch Journal on page 9.

**Explain**

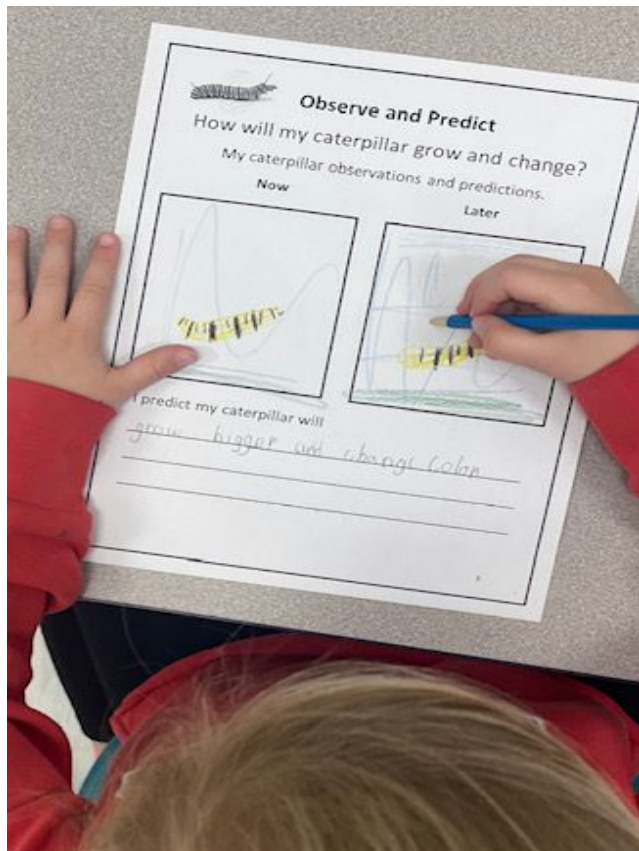
Explain that milkweed is the "host plant" for Monarch caterpillars. That means it is necessary for the **survival** of Monarch butterflies. The adults will only lay eggs on milkweed and the caterpillars will only eat milkweed leaves. Eating milkweed helps the caterpillars survive in two ways:

1. The milkweed leaves are food (energy source).
2. The milkweed leaves make Monarch caterpillars taste bad to some predators, such as birds. When the caterpillars become butterflies, they are still taste bad. Birds and some other predators learn to avoid eating the Monarch caterpillars and butterflies because of this bad taste.

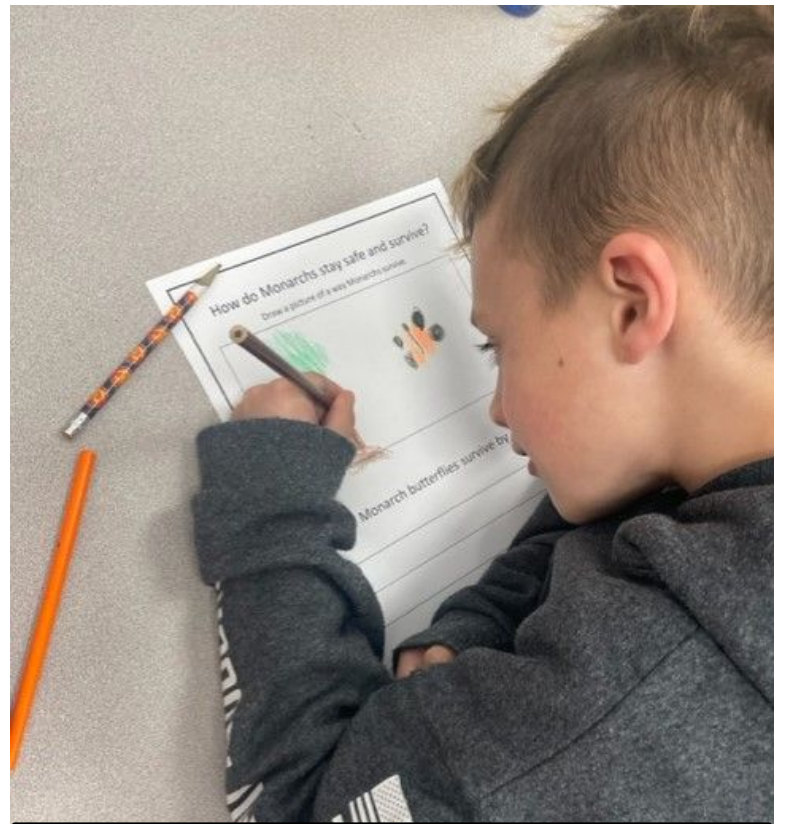
**Extend**

What body part do you think the Monarch caterpillar used to:

- Find the milkweed? *The caterpillars have tiny antennae on their faces (not the tentacles) that they use to smell/taste the air for milkweed chemicals. When they find milkweed, they also taste it with their feet. There are 6 pairs of tiny eyes that are not very good at seeing, so they are probably not important in finding food. The tentacles are used for touch so the caterpillar can feel its way around.*
- Travel to the milkweed? *Legs*
- Eat the milkweed? *Mouth*



A first grade student made predictions about how caterpillars will grow and change throughout their life cycle.



A first grade student write a journal entry about how monarch butterflies stay safe in their environment using what they learned from the unit.

At the conclusion of the unit, Students released their Monarch Butterflies to their natural habitat to begin their migration south.

