Live Learning Program

-an interactive program for community groups

By Lori Stralow Harris** of **Salt Creek Butterfly Farm
www.saltcreekbutterflyfarm.com ~ www.wildadornment.com

Program overview

Five information stations allow the public to experience different aspects of the Monarch butterfly life cycle. This program is interactive, but I don't allow touching caterpillars or butterflies at a large event. I do, however, allow it at a small event or school visit where I bring fewer caterpillars and butterflies. I have to expect that the high amount of touching of the caterpillars will result in a much higher loss than normal. I also keep this stock isolated from any others I am raising when I return home with it.

Laminated fun fact sheets and activity sheets at each station allow parents and children to pass through the exhibit at their own pace, Although I prefer to do this program outdoors I have the flexibility of moving the program indoors to a school activity room because my feeding tent is a tension pole design, and does not need to stake into the ground.

Stations include:

Monarch Mammas
Hungry Caterpillars
Chrysalis Palace
Juice Bar
Feeding Tent

Set up:

10x10’ Shade tent with two 6’ tables pushed together in the middle for first four stations
Screened dining tent for fifth station- feeding experience

Overall Signage:

A banner with your Butterfly Farm Logo and website info

Possible Handouts:

Your business card
Butterfly host plant list, nectar list, seeds pkt. or other take home item that lists your business contact info
Hand stamp with a butterfly and your website or farm name

Staffing:

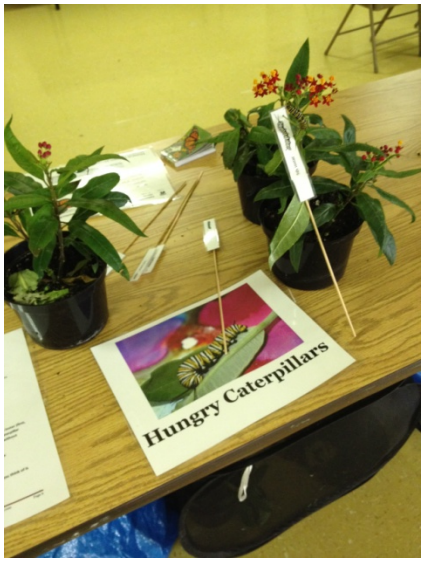
There should always be one person in the feeding tent at all times to insure safe handling of the butterflies.

At least one other person should be available to answer questions and interact with people as they view the other stations.

Station Supplies

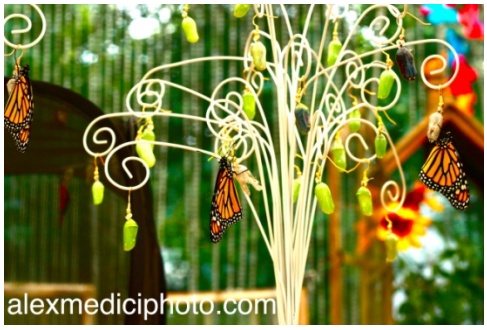
Station One: Monarch Mammas

Station ID sign
List of fun facts
List of Activities
Popup w gravid female on milkweed with nectar
Potted milkweed w eggs



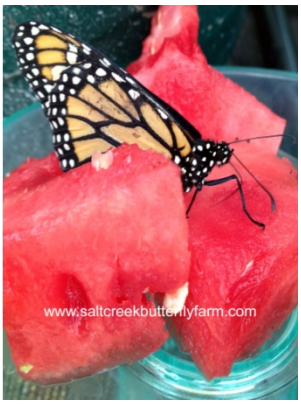
Station Two: Hungry Caterpillars

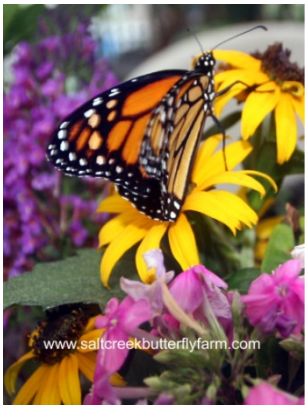
Station ID sign
List of fun facts
List of Activities
Potted milkweed w caterpillars of various instars
Laminated caterpillar pictures on a stick illustrating each instar correctly lifesized
Magnifying glasses

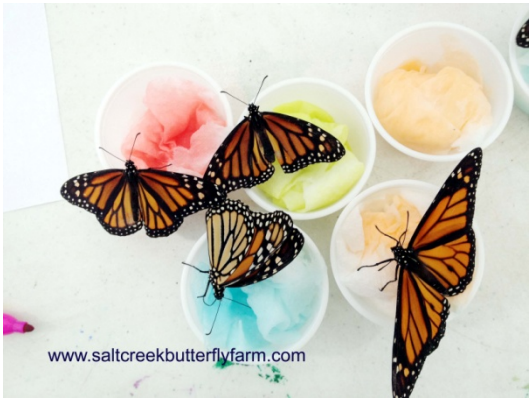


Station Three: Chrysalis Palace

Station ID sign
List of fun facts
List of Activities
Chrysalides; on a milkweed stalk, on a plate with paper towel, or hanging for display
Magnifying glasses

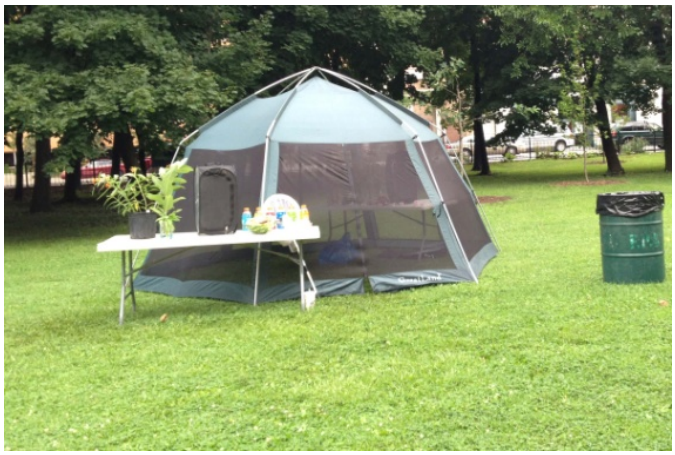


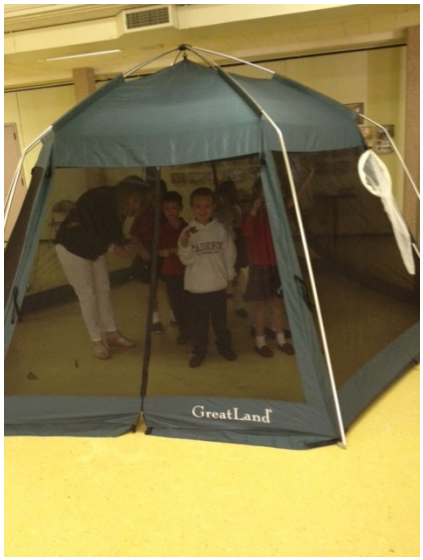




Station Four: Juice Bar

Station ID sign
List of fun facts
List of Activities
Watermelon
Watermelon ballers
Plastic shot glasses
Gatorade flavors
Q-tips or small cups with cotton balls
Fresh flowers





Station Five: Feeding Tent

Station ID sign
List of fun facts
List of Activities
3 dozen adult Monarchs

General

Laminated lifecycle
Trash can/Garbage bag
Baby wipes

Note: Print three copies of the attached lifecycle sheet; use one copy as signage with station one, the second copy inside feeding tent for male female difference, and cut up the caterpillar pictures from third copy to put on measuring stick. I laminate everything!

Station One: Monarch Mammas

Fun facts

1.) A female Monarch butterfly can lay up to 400 eggs within several weeks. She is more likely to lay eggs if:

-she has plenty of nectar available
-she has a healthy milkweed plant available
-she is in a protected space
-the sun is shining
-the temperature is warm

2.) In the wild, Monarchs prefer to lay one single egg on a milkweed plant.

3.) Monarchs taste with their feet. They can tell if they are on a plant which would be good for the butterfly's babies (caterpillars) to eat.

Activities

Evaluate:

Are conditions favorable for the Monarch to lay eggs? (Read fun facts)

Estimate:

How many eggs do you see on the potted milkweed plant?

Observe butterfly behaviors:

-Is the female Monarch tapping her feet on the milkweed leaves? Why do you think she does that?

Station Two: Hungry Caterpillars

Fun facts

1.) Caterpillars shed their skin five times as they grow (time between sheds is called an **instar**.

2.) If a person grew as fast as a monarch caterpillar, a baby would grow to the size of a school bus in two weeks.

3.) The Monarch caterpillar's color combination warns away predators, cautioning that it would taste bitter and make the predator sick.

Activities

Estimate:

- Look at a real caterpillar on the milkweed plant. Estimate its instar (first, second, third, fourth or fifth). Check your answer using the caterpillar photo stick. Hold the photo stick next to the real caterpillar without touching it. Does it match?

Compare:

-Look at your little finger. The monarch caterpillar will grow approximately the same size.

Observe and consider:

-What colors is the Monarch caterpillar? What else can you think of is those same colors that signals danger or caution?

Station Three: Chrysalis Palace

Fun facts

1.) Although it looks like nothing is happening during the pupa stage, a lot of changes are going on inside –like the wings are forming!

2.) At the end of the pupa stage, the surface of the chrysalis will change. Instead of appearing green, the chrysalis covering will become clear. You will be able to see orange and black wings through the surface.

3.) When caterpillars have plenty of nutritious food available, they eat well and form large chrysalides. When they don't eat well, the chrysalis is often smaller.

4.) A moth *makes* a cocoon by spinning silk threads around itself, but a butterfly *becomes* a chrysalis. Its outer layer is smooth and hard.

Activities

Observe:

Using a magnifying glass, look closely at the surface of a green chrysalis. Can you see the outline of wings?

Predict:

Which chrysalis do you think will be the first to eclose (have an adult butterfly emerge)? What makes you think that? It is possible that all the chrysalises on display are exactly the same age so they may not look different.

Evaluate:

Are all of these chrysalides the same size? If not, which do you think were the best eaters?

Station Four: Juice Bar

Fun Facts

1.) Butterflies do not have mouths that chew. They drink nectar with their proboscis.

2.) Sensory organs in the butterfly's feet indicate nectar, triggering them to unfurl their proboscis into the nectar source.

3.) Butterflies can receive nutrients from a variety of nectar sources. They will choose more nutrient dense sources when given a choice.

Activities

Select a nectar source that you want to feed your Monarch with.

Your nectar options are: watermelon, flowers and Gatorade

-Scoop two watermelon balls and place in plastic shot glass
-Choose a fresh flower stem
-Select a Gatorade flavor and wet a q-tip

Take your nectar source to Station Five, the feeding tent.

Station Five: Feeding Tent

Be quiet, calm and patient. No screaming – EVER.
The butterflies will probably be resting on the sides of the tent screen. Do not pick the butterflies up with your hands.

Activities

Attempt to feed your butterfly with your nectar choice. Do this by placing the nectar underneath the feet of the butterfly. Only carry butterflies on the nectar source- not with your hands. If your butterfly does not climb onto the nectar after you place it underneath the butterfly's feet, the attendant will help you.

Observe Butterfly Behaviors:

Did the butterfly immediately unroll its proboscis when it stepped onto the food source, or did it tap its feet on the food source?

Observe butterfly body:

On which two parts of the butterfly body can you find white dots on a black background?

Observe butterfly wing pattern:

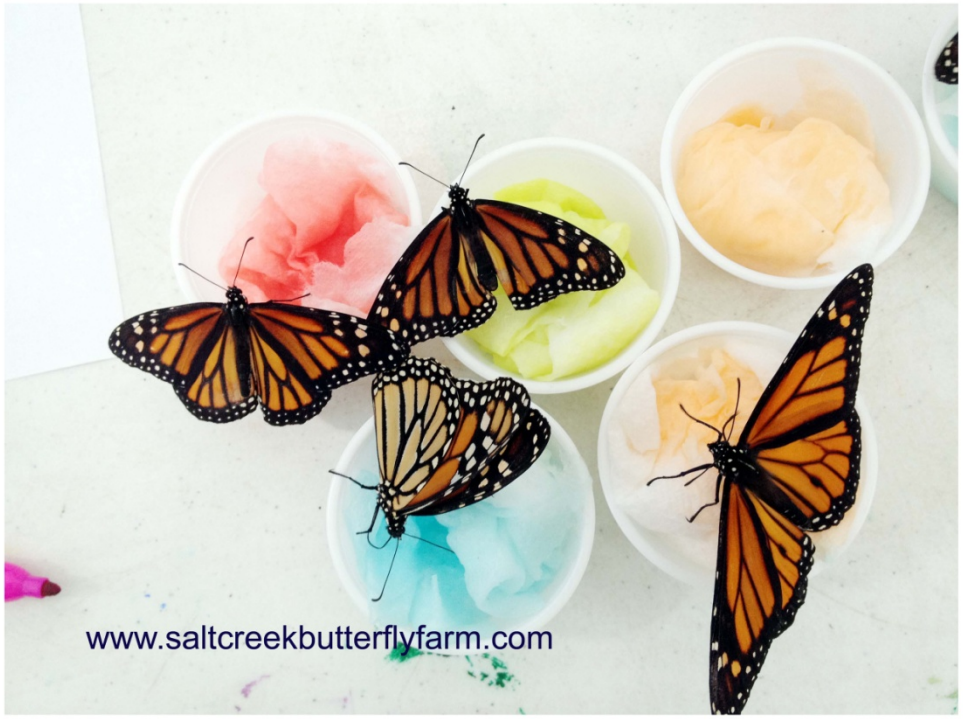
Is the butterfly you are feeding a male or female?

Monarch Mammas

Hungry Caterpillars

Chrysalis Palace

Juice Bar



Feeding Station

egg

3-4 days

caterpillar
(larva)

10 - 14 days

1st instar

2nd instar

3rd instar

4th instar

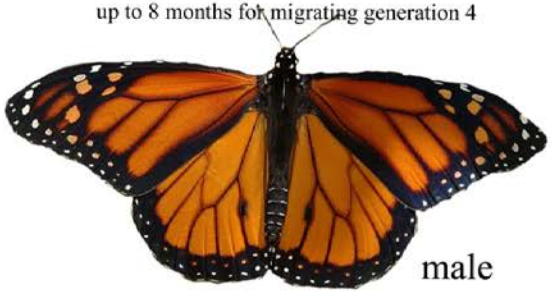
5th instar

chrysalis
(pupa)

10 - 14 days

butterfly

2 - 6 weeks for generations 1-3
up to 8 months for migrating generation 4



male

female

Monarch (Danaus plexippus)

www.saltcreekbutterflyfarm.com

black pheremone
spots on lower wings indicates male

no black spots on lower wings indicates female
females lay eggs