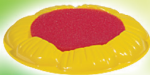


# Butterfly Pavilion School Kit Instructions

## The Ultimate STEM Experience!



More Caterpillars are always available at [insectlore.com](http://insectlore.com)!



### Contact Us

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We're open Monday through Friday, 8am - 5pm PST.

**Please read all instructions before beginning your project**

## Please note:

32 Painted Lady caterpillars have arrived in one 8 oz cup with a small amount of caterpillar food inside. This food provides nourishment for the caterpillars during shipping. Also included are two cups of special Insect Lore caterpillar food (one 8 oz cup and one 2 oz cup).

It will be your job to transfer a small portion of this food (1 Insect Lore spoon equals 1/2 tablespoon) into the 32 small cups included in your kit. Then, you will gently transfer a baby caterpillar into each of the small cups. We have provided you with all of the food you need to fill each small cup.

Your caterpillars may seem inactive when you first receive them, but don't worry! They need time to adjust to their new surroundings after shipping. Move your caterpillars to the small cups as soon as possible, but once they have been transferred, please give them 24 to 48 hours to acclimate. Soon they will be eating, growing and changing before your very eyes!

## Your Butterfly Pavilion School Kit Includes:

- One 8 oz cup containing 32 Painted Lady caterpillars and enough caterpillar food to maintain them during shipping
- One 8 oz cup of Insect Lore caterpillar food
- One 2 oz small cup of caterpillar food
- 2 foot tall Butterfly Pavilion
- 32 small cups
- 32 small cup lids
- Insect Lore spoon and knife
- Caterpillar transfer brush
- 64 hook and loop fasteners
- Feeding Dropper
- 2 sugar packets
- Flower shaped butterfly feeder
- Comprehensive Butterfly Pavilion School Kit Instructions
- READ ME with helpful caterpillar-raising tips
- STEM Butterfly Journal



# 1. Prepare the Small Cups and Caterpillar Food

- a. Separate the small cups and lids.
- b. Remove the lid from your caterpillar food.
- c. Scoop exactly one spoonful (1/2 tablespoon) of caterpillar food with the special Insect Lore spoon. Level the food off with the knife to measure the correct amount of food. Drop this exact measurement of food into the bottom of each small cup. The knife is helpful to scoop out any food that may stick to the spoon.
- d. Then, use the bottom of one of your extra small cups to gently press the caterpillar food down into the small cup. Do not squeeze the food too firmly –you don't want to squeeze the moisture out of the food. Just make sure the food is wedged into the bottom of the cup. **DO NOT overfill!** 1/2 tablespoon is more than enough food for one caterpillar.

Using the method described above, place the caterpillar food in each small cup.



## 2. Transfer the Baby Caterpillars to the Small Cups

- a. Open the large cup of larvae. Using the brush, **GENTLY** pick up a caterpillar and transfer it into a small cup containing 1/2 tablespoon of food.
- b. Continue transferring the caterpillars to the small cups. Each time you transfer a caterpillar, snap a lid on the small cup. Keep your brush dry and don't forget to save it - you will need it when it's time to move your chrysalides to their habitat.

There is no need to punch holes in the lid; the caterpillars have plenty of air to breathe.

**Important Note!** If we have sent you more than 32 caterpillars (sometimes this happens), leave the remaining caterpillars in the original 8 oz cup they were shipped in. There will be enough food in that cup to nourish the extra caterpillars throughout their life cycle.



## 3. Watch Them Grow!

Your students will observe and record significant caterpillar changes every day!

- a. Place your small cups of caterpillars upright and in a safe place away from sunlight, windows or drafts.
- b. Do not shake or disturb the caterpillars.
- c. Keep the lids on the small cups at all times.

**Avoid rapid changes in daytime and nighttime temperatures.** If nighttime temperatures lower dramatically, place a towel over the small cups of caterpillars in the evening. Swings in temperature can cause condensation to form in the small cups. Condensation can result in an unhealthy environment for your caterpillars.



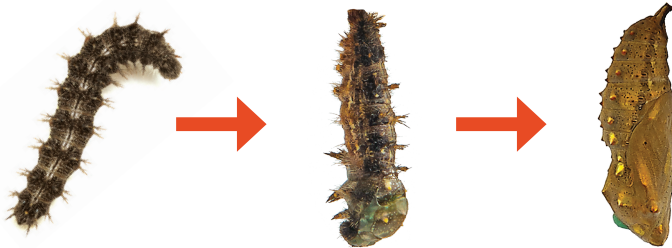
## See Exciting Changes!

The caterpillars will eat and grow for approximately 7 to 10 days before changing into chrysalides. If the room is warm or humidity is high, your caterpillars will grow more quickly.

It is a very good sign if you see your caterpillars spinning silky webbing in the cup! In a caterpillar's natural habitat, this webbing protects the caterpillar from many dangers. A caterpillar will use the webbing to attach itself to a leaf so it will not be blown away by the wind.

As your caterpillars eat and grow, they will produce tiny balls of waste, or "frass". You'll see this frass at the bottom of your caterpillar cup.

Your caterpillars will climb to the tops of the small cups once they have eaten their fill, stored enough energy, and are ready to pupate (become chrysalides). There they will spin a silk pad, which will be the anchoring point for the chrysalis. The caterpillars will use this silk pad to attach themselves to the lids, and then will hang in a "j" shape.



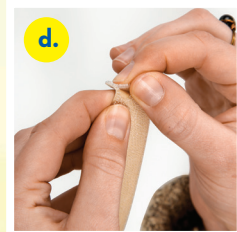
Do not disturb the caterpillars for 3 days in order to allow them to safely harden into chrysalides.

If you shake or disturb your chrysalides, you might see them "wiggle"! This is your chrysalides' way of saying "Don't touch!", and in the wild is an effort to frighten away predators.

## 4. Move the Chrysalides to the Butterfly Habitat

After 3 days have passed, your chrysalides have hardened and are ready to be moved to the habitat, where they will transform into butterflies in 7 to 10 days. Follow these steps to stick each of the small cup lids with the chrysalides attached to the inside wall of the habitat.

- a. Get your transfer brush, butterfly habitat, and strips of hook and loop fasteners ready.
- b. Gently remove the lid (with a chrysalis attached) from a small cup.
- c. Using the transfer brush, remove all silk strands and frass from the lid and surrounding the chrysalis. **This is very important**, as any remaining silk strands and frass may entangle your emerging butterfly.
- d. Peel the first dot off the strip of hook and loop fasteners.
- e. Stick the dot on the back of the lid (the side the chrysalis is not attached to).
- f. Peel a second dot off and stick it to your index finger
- g. Press the side of the lid with the dot attached to it against the inside mesh wall of the habitat, so the teeth of the dot push through the mesh (from the inside to the outside).
- h. Connect the teeth of the second dot on your index finger to the teeth of the first dot (through the mesh) to securely attach the lid (and your chrysalis) to the inside wall of the habitat.



- i. Repeat these steps with all 32 lids, and be sure to space each lid (with chrysalis attached) at least 2 inches apart.

If a chrysalis falls off a lid, gently remove any frass surrounding it and place it on a paper towel at the bottom of your habitat, near the mesh wall.

The butterfly will emerge there successfully. Be sure to place the habitat away from direct sunlight and drafts. Place a towel or paper towels underneath the habitat.

### **Please Note:**

Like any birth, the transformation from chrysalis to butterfly can be a little messy. You may notice a small amount of red meconium. Do not be disturbed by this natural occurrence. Meconium is not blood; it is the waste liquid left over after metamorphosis. That's why it is a good idea to place a paper towel or cloth under the habitat to protect any permeable surfaces or furniture from staining.

## **5. See Your Butterflies Emerge!**

For 7 to 10 days, the chrysalides may look like they are sleeping, but an amazing transformation is taking place inside!

You will know your butterflies will soon emerge when the chrysalides darken noticeably and you can see the outline of the wings beneath.

When a butterfly is ready to emerge, it takes in air through spiracles (tiny holes) in the chrysalis. This added air pressure helps the butterfly split the chrysalis open at specific seams or "lines of weakness".

The butterfly will climb out of the split chrysalis with soft, crumpled wings and then position itself head upward in a vertical position. It will sway from side to side, forcing blood into the veins of its wings in order to expand them to their full size. Do not touch or disturb the butterfly during this process. You may see the butterfly expel a small amount of red meconium during this wing expansion.



When a butterfly is born, its tongue (or proboscis) begins as two long strands or halves that must be fused together. The two halves eventually join to form a tube-like tongue. The butterfly will use this tube to sip or soak up nectar.

## 6. Feeding and Care

- a. Empty 2 sugar packets into 1/3 cup water and mix well. Drip a few drops onto your butterfly feeder with your feeding dropper.
- b. Or, provide your butterflies with slices of fresh fruit like watermelon or oranges. Score the fruit with a knife to bring the juices to the surface. This makes it easier for your butterflies to sip.
- c. If you do not have sugar packets, combine 3 teaspoons of sugar with 1 cup of water. Stir until sugar is completely dissolved. Then drip a few drops of the nectar onto your butterfly feeder.



Refrigerate any leftover nectar. Give your butterflies fresh food every day.

Do not leave containers of water or nectar in the habitat; your butterflies may fall into the container and drown.

## 7. Let Them Go!



Our educators often plan their butterfly releases to coincide with a special celebration like Parent/Teacher Day, Graduation, Earth Day, or the last day of school. Please be sure daytime temperatures are above 55 degrees when you let your butterflies go. Open the habitat carefully and watch your butterflies flutter away to pollinate and begin the life cycle all over again. Butterflies often land on little hands and faces before taking flight!

Your Insect Lore habitat is reusable. Wash your habitat with warm water and a drop of mild dishwashing liquid. Be sure to rinse thoroughly and then hang to dry. Once your habitat is dry, collapse it for easy storage! **Order your Caterpillar Refills at [InsectLore.com](https://www.insectlore.com).**

# The Pollinator

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