

# Caterpillar Surprise

## MATERIALS

### FOR STUDENT: (for one set of the four stages)

- FloraCraft® Make It: Fun® Foam Balls, thirteen 1" diameter
- Artificial (silk) floral leaf, green, about 3" diameter
- Cardstock, orange, 8 1/2" x 11" (one sheet per two groups)
- Tissue paper, green, 4" x 7" piece
- Chenille stem, green, 1 1/2" length
- Baker's twine, 1 yard
- Wiggle eyes, four 10mm
- Toothpicks, five
- Pencil
- Washable black fine line felt tip marker (optional)
- Ruler
- Scissors
- Glue stick
- Paper plate
- Small plastic cup (to hold parts)
- Plastic zip-sealed bag (to hold when finished) (optional)

### FOR TEACHER:

- FloraCraft® Design It:® Wire Cutter
- Ruler
- Paper cutter
- Scissors
- Large tapestry needle (with long eye and blunt tip)
- Glue gun (for teacher only)
- Photocopier



## SCIENCE

GRADE LEVEL

KINDERGARTEN – FIRST

### COMPLETION TIME

- 60 – 90 minutes (depending on how you structure the process in the groups)



### OBJECTIVES

Students learn:

- About the life cycle of animals
- The stages of growth for a butterfly
- To cooperatively work with others to accomplish a goal

### STANDARDS

- Animals have life cycles
- Life cycles include: being born; developing into juveniles, adolescents, then adults; reproducing (which begins a new cycle); and eventually dying
- The details of the life cycles are different for different animals

## TEACHER PREPARATION

*Note: Read through all the instructions first and check out the TIPS! Decide if you'll have 3 or 4 students in each group making one set of stages; and whether the members of each group will work together along with you or if each member will make a stage, all at the same time. (This would probably require older student or adult help.) Have a glue gun plugged in and ready to use (ideally set on low temperature) but out of student reach. This can give you immediate adhesion when you're in a hurry to help students. It is also recommended that you make one set first, before preparing the materials for any others, since knowing how the parts fit, might affect how you prepare the rest of them.*

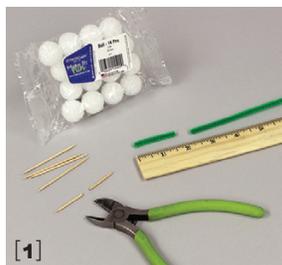
**[1]** For each group of students to connect the foam balls, use a wire cutter to cut five toothpicks in half. Also cut one 1 1/2" length of green chenille stem (to fold in half) for the antennae for each group.

**[2]** Decide if you'll use the filled-in butterfly pattern or give the students the outline and have them draw the wing design based on reference books or from their imagination. Use the photocopier to copy the selected pattern on orange cardstock, for each group. Use scissors to cut a 1 yard length of baker's twine and snip one leaf from floral stems or

garland for each group.

**[3]** Use the paper cutter to cut apart the butterflies, one per group. Also cut a 4" x 7" rectangle of green tissue paper for each group.

**[4]** For each group, put onto a paper plate: Pencil, ruler, scissors, (black marker if students are using outline-only butterflies), glue stick, leaf, tissue paper, orange cardstock butterfly, and cup with 13 foam balls, four wiggle eyes, tapestry needle and baker's twine.



[1]



[2]



[3]



[4]

## LESSON INTRODUCTION

- Explain to students about the cycle of life, through the growth stages of a caterpillar – first the egg, then a caterpillar, a chrysalis and as an adult monarch butterfly. It grows inside the egg for four days, then munches milkweed and grows as a caterpillar (larvae stage) for two more weeks. It is inside the chrysalis (pupa stage) ten days and lives as an adult butterfly two – six weeks. Also explain that a cocoon is a silk case that moths and sometimes other insects spin around the pupa, and is often confused with the chrysalis.



makeitfuncrafts.com

# INSTRUCTIONS

**[1]** Explain how you want the students to work together in groups to make the four stages. Assign the groups.

Caution the students to be careful with the tapestry needle in the cup. Demonstrate and have students thread one end of the twine on the needle. Show them how to insert the needle coming up from the bottom, into the center of the leaf, coming out on one side of the main plastic vein. Then have them insert the needle back down through the leaf, going in on the other side of the main plastic vein. This makes one stitch. Have students make their stitch.

Then, have them pull the twine through the leaf for about half the length of the twine, remove the needle and return it to the plastic cup.

For the egg, demonstrate how to wipe one foam ball on the glue stick to catch a lump of glue and then press it onto the stitch area of the leaf. (This keeps the twine from slipping and secures the egg to the leaf.) Have students set aside the leaf with the egg and twine, for now.



**[2]** For the caterpillar, demonstrate and have the students use three toothpick-halves to connect four foam balls as shown. Explain that to create the look that the caterpillar is inching its way along, they should attach the second foam ball so that it is up higher than the first and third foam balls. Then, attach the head foam ball on top of the third. If any of the foam balls are loose, have the students slightly separate them, scrape off a lump of glue stick with another toothpick half, and wipe it in between the foam balls before pushing them back together.

For the antennae, have them fold the chenille stem in half and press the fold into the top of the head. Glue the eyes onto the head by wiping the edge of the back of each wiggle eye onto the glue stick, to catch a lump of glue. Then, press each one onto the head. Set aside the caterpillar to dry, with the leaf/egg.



**[3]** For the chrysalis, have the students use toothpick-halves to connect four foam balls, in a straight line. Demonstrate how to set the foam ball unit onto the tissue paper and have one student roll one long tissue paper side around it, while another student applies glue to the other side of the tissue paper. Have them be sure the foam balls are tightly wrapped and then roll them onto the glued edge to secure.

Demonstrate how to fold in one end, like a package and secure with glue stick. Then have the students fold and secure both ends of their chrysalis and set them aside to dry with the first two stages.



**[4]** If the students are drawing their butterfly wings, have them do that in pencil, first and then trace with marker and cut out. Have them use toothpick-halves to connect the last four foam balls in a straight line, as they did the chrysalis, and glue the middle of the wrong side of their wings onto the second foam ball. Also glue the wiggle eyes to the front of the head foam ball.



**[5]** Show and explain to the students that in order for the caterpillar to hang straight, they need to insert the tapestry needle straight down into the front-side of the higher foam ball. If they put it into the middle of that ball, the weight of the head will tip the caterpillar forward. Have them carefully use the tapestry needle to make a

hole going straight down into the foam and then remove the needle. Next, have them thread the needle with the bottom end of the twine (coming out from the bottom of the leaf/egg) and go down through the hole they just made in the caterpillar. (It may slip around on the twine for now but they can secure it later.)

With the tapestry needle, still threaded, have one student hold the chrysalis while another student inserts the needle diagonally, through it.



**[6]** Have the students lightly write in pencil, their group number (or names) on the under side of the butterfly. To attach the butterfly, demonstrate and have students carefully push the needle through the wing, and down through the second foam ball, next to the head. When it comes out the bottom, turn the butterfly over and pull the twine through until there are only a few inches of the end left. Show the students how to tie four knots on top of each other to make one large knot, at the end. Press the knot onto the glue stick to collect a lump of glue. Pull the twine through the butterfly until the knot is up against the foam ball.

Then, the students can slide the stages along the twine leaving about 4" of space between them, working from the bottom up. Have them leave the top long so that it can be tied to something to hang.



## REFERENCES

- A Butterfly's Life* by Dona Herweck Rice
- Butterfly Garden* by Margaret McNamara
- Are You A Butterfly* by Judy Allen
- Velma Gratch & The Way Cool Butterfly* by Alan Madison



[makeitfuncrafts.com](http://makeitfuncrafts.com)

## MODIFICATIONS

### *To simplify project:*

- Eliminate the twine and mount the stages on a piece of poster board.
- Pre-glue the foam balls.

### *To expand project:*

- Have the students research the different types of insects and their stages, using the correct colors of paint on the foam balls and the tissue paper. Have them make signs for the names of the stages of their insects.
- Create a backdrop: Tape together two heavy-weight cardstock sheets to make an L-shape on its side, for display. Students can make a large tree on one side, sky at the top and a foreground at the bottom. Then they can glue the egg, caterpillar and chrysalis in the tree branches and the butterfly in the sky.

### *For multiple ages:*

- Younger and older students can work side-by-side, with the older students making the stages more realistic, using paints, other tissue papers and glue to create a hard-shell chrysalis.
- Older students can do research on the fascinating story of the generations, migration and hibernation of the monarch butterfly.

## ADDITIONAL IDEAS

- All around the room, hang the projects by the baker's twine.
- Show a Discovery.com video of migratory monarch butterflies and how they fill the trees – as many as 300 million.
- Create dioramas and write stories about the development to provide sequencing practice.
- Make giant models using 4" foam balls, jumbo wiggle eyes, a large floral leaf, full sheet of tissue paper and one 12" x 12" sheet of orange cardstock per wing. (Use the photocopier to enlarge half the wing unit to get one large wing.)
- Plan on devoting a week to the project by dividing the construction into one stage a day and discussing each stage more thoroughly. At the end of the week, the stages can be assembled.

## TIPS

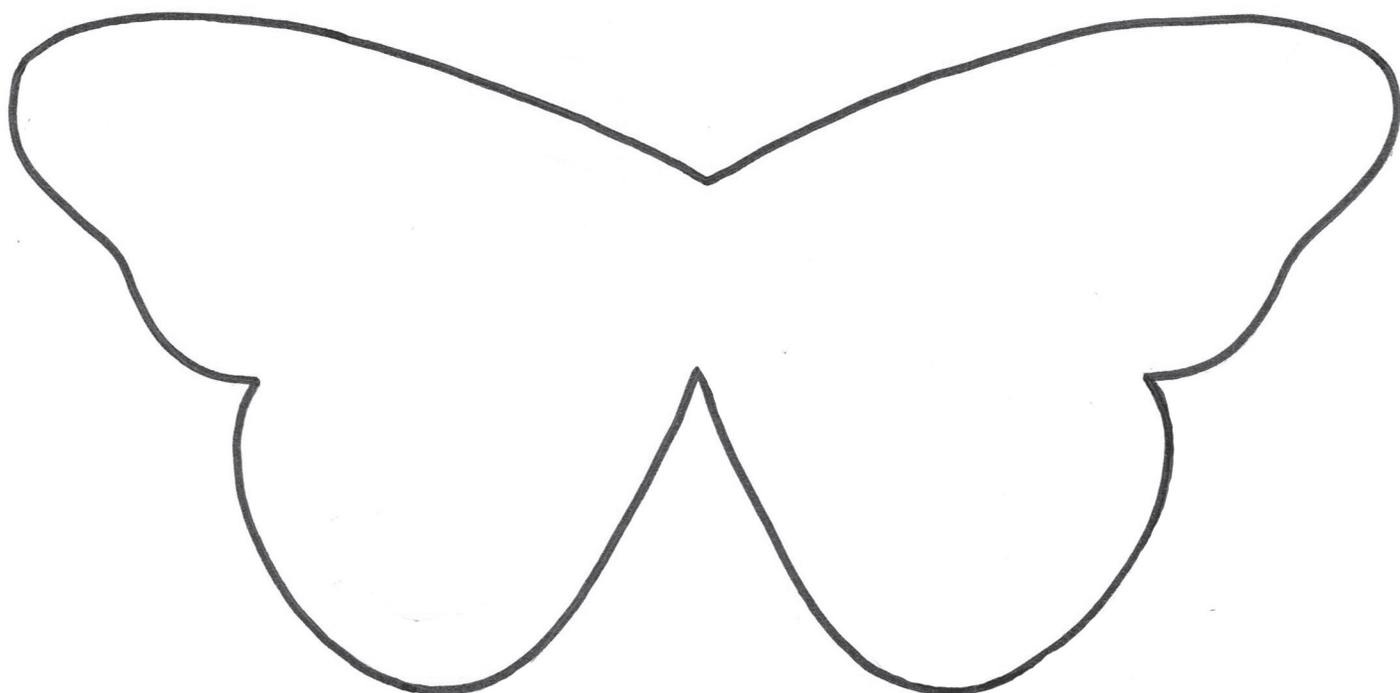
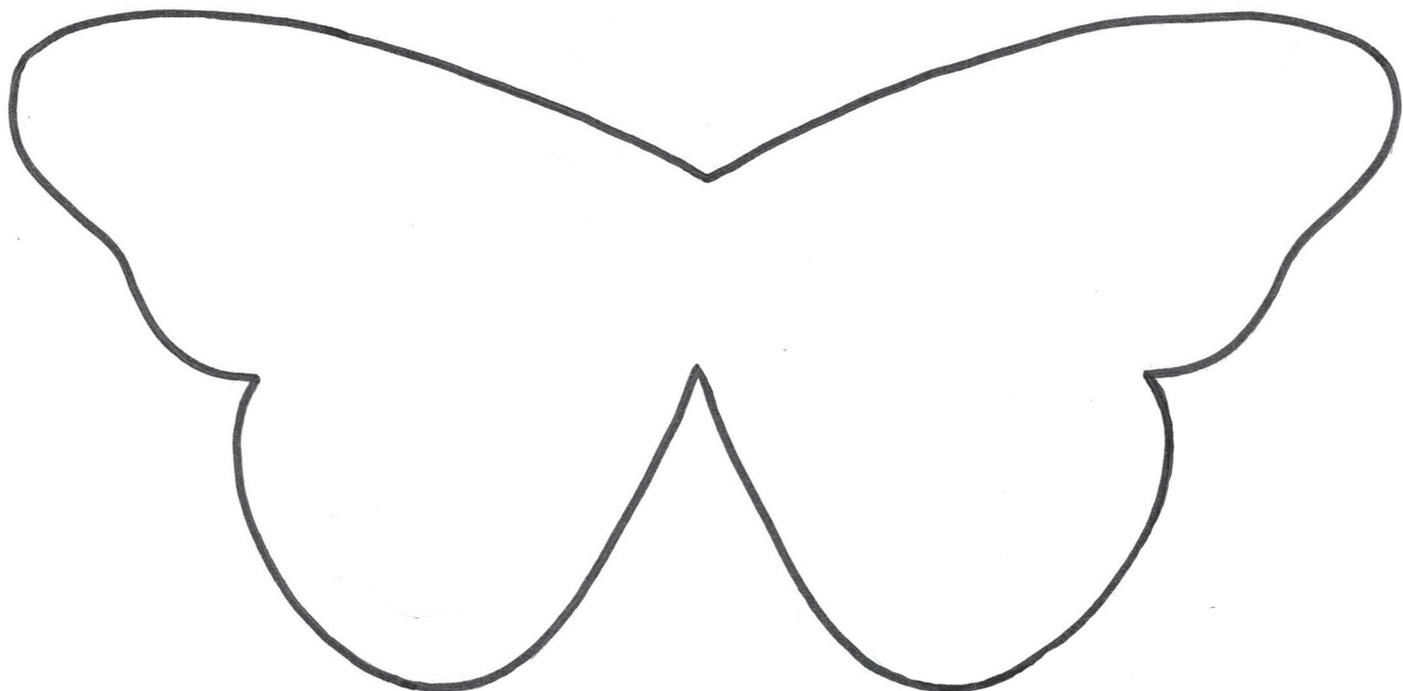
- When cutting chenille stem pieces or toothpicks in half, work inside a paper bag to safely catch the flying pieces.
- Be sure that you're using tapestry needles because they have blunt points.
- If it's difficult for the students to understand how to diagonally insert the needle, either let them push them straight in (and the chrysalis will hang horizontally) or you can go around to each group and insert the needle for them. Just make sure that students don't hold the caterpillar or chrysalis in their hands when inserting the needles.
- If using needles, even blunt ones, concerns you, have the students use toothpicks to make the holes and then you can later string the twine through each group's stages using a needle.
- Have extras of all materials on hand.
- Use a glue gun to attach any foam balls that won't stay in place.
- If the foam ball stages slip down on the string, spot glue a dot of glue gun glue underneath the foam ball, and touching the twine, where you want it to stay.

# PATTERN

Print at 100%



[makeitfuncrefts.com](http://makeitfuncrefts.com)



# PATTERN

Print at 100%



[makeitfuncrafts.com](http://makeitfuncrafts.com)

