



Preschool Educator Guide: Butterfly



National Standards (K)

4.1 Science as Inquiry

- Understanding scientific inquiry
- Abilities necessary to do science inquiry

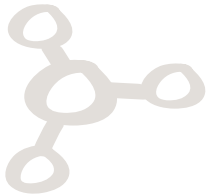
4.3 Life Sciences

- Characteristics of organisms
- Life cycles of organisms
- Organisms and environments

The Learning Continuum: Before, During and After Your Visit

Guide Theme

In preparation for a visit to the New York Hall of Science, each child will imagine that he/she is a scientist. As a group of scientists, your students will use the inquiry method to practice observation skills and make discoveries through exploration and play. Placing a NYSCI visit at the center of an inquiry provides the students with continuity and purpose, and provides teachers with a way of assessing student understanding.



Begin Exploration at School

Before coming to NYSCI, students can practice being scientists at school by trying the continuum activities and reading books from the list provided. These continuum activities vary in time, depth and work to prepare early learners to get the most out of their trip.

Exploration at NYSCI

Students will experience a butterfly-themed activity at NYSCI. The workshop focuses on the life cycle and body parts of caterpillars and butterflies. After the guided activity, students will have time to use their skills and explore the exhibits in the Preschool Studio.

Preschool Studio Exhibits List

- Loft
- Ball Drop Wall
- Discovery Boxes
- Puppet Theater
- Brickworks
- Train Table
- Soft Arch



Finish Exploration at School

Students can continue their experience at school with one or more of the continuum activities.





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Continuum Activities

Butterfly Wing Symmetry

Show the pictures of the butterfly wings. Does a butterfly's wings look the same? Yes they do because of symmetry. Write the letter M on the board. Draw a line down the middle. This has symmetry because if you cut it in half, it looks exactly the same on both sides. We'll be making our own butterflies with symmetrical wings.

Time: 20 minutes

Materials

- Water
- Glue
- Paintbrushes or drip bottles with tempera paint
- Cardstock paper
- Scissors
- A picture of butterfly wings

Instructions

1. Fold cardstock paper in half. Draw outline of one butterfly wing on one side, with the insides of the wing being along the crease.
2. Cut out the wing through both halves of the paper, leaving the crease intact.
3. Open the wings up and write your name on the back.
4. Turn over your wings. Decorate your wings by brushing or squirting paint on one of the wings.
5. While the wing is still wet, close it, press together, and open it back up.
6. Let dry.
7. Now you have a symmetrical butterfly. What other things have symmetry? (letters, objects, our bodies)

Raising Butterflies

Have you wondered how a caterpillar turns into a butterfly? We'll now be able to observe this every day.

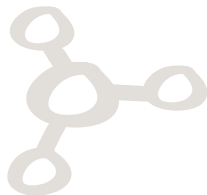
Time: Long-Term Unit – just a few minutes each day

Materials

- Butterfly Kit (purchased from Carolina Biological)

Instructions

1. Follow instructions on setting up the butterfly sanctuary.
2. Make sure to feed and observe the caterpillars everyday.
3. When grown, you can release these butterflies into the wild.



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Stages of Butterfly

A caterpillar turns into a butterfly, but it doesn't just happen in one stage; it happens in four. Show pictures of the life cycle. It starts off as an egg, then a caterpillar, then a chrysalis, and finally a butterfly.

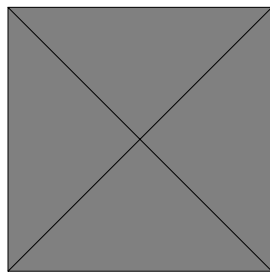
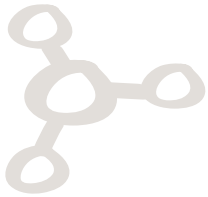
Time: 30 minutes

Materials

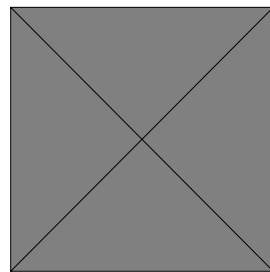
- Cycle template
- Pasta (any spherical shaped pasta, spiral or cork screw pasta, shell pasta, bow pasta)
- Crayons or markers
- Glue

Instructions

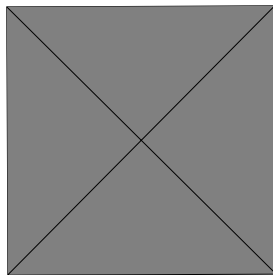
1. Have your students illustrate the stages by drawing pictures or gluing pasta onto the template.
2. Have students write the name under each stage.



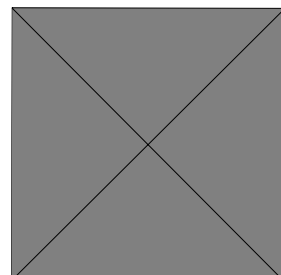
Spherical shaped pasta—egg



Spiral shaped pasta—caterpillar



Shell shaped pasta—chrysalis



Bow pasta—butterfly





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Curriculum Connections

Guide Theme

- Classifying:* Arranging or distributing objects, events, or information according to some method or skill.
- Creating Models:* Displaying information, using multi-sensory representations.
- Generalizing:* Drawing general conclusion from particulars.
- Observing:* Becoming aware of an object or event by using any of the senses (or extensions of the senses) to identify properties.
- Predicting:* Making a forecast of future events or conditions expected to exist.
- Animal Diversity:* How do variations in form and function help animals meet their needs?

Book List

- Butterfly* – Moira Butterfield
- I'm a Caterpillar* – Jean Marzollo
- The Very Hungry Caterpillar* – Eric Carle
- The Crunching Munching Caterpillar* – Sheridan Cain

Vocabulary List

- Symmetry
- Chrysalis
- Caterpillar
- Egg

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