Exploring Caterpillars and Butterflies in Our Schoolyard Garden (8/23/11)

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Target grade: Kindergarten

Target subjects: mathematics, science, language arts

Duration: 45-60 minutes per day for 1-2 weeks

Lesson Overview: Students will learn what a caterpillar is and what it will become. They will listen to stories about caterpillars and how they become butterflies during story time at the carpet. During math center time, students will sort caterpillars and butterfly counters and count them. At the language arts center, students will make picture books of butterflies. During the math lesson children will count butterflies. During science, we will observe caterpillars change into butterflies. This will prepare students for going into our school yard classroom to hunt for caterpillars, pupas, and butterflies in the garden where we will count what we find.

Sources consulted:
Trade books:
  Where Butterflies Grow by Joanne Ryder
  From Caterpillar to Butterfly by Deborah Heiligman
  The Butterfly Alphabet Book (or Jerry Pallotta’s Alphabet Book) by Brian Cassie
  The Magic School Bus Butterfly and the Bog Beast: A book about butterfly camouflage, Scholastic INC.
  The Hungry Caterpillar, by Eric Carle
Pers. Communication: Mike Mansour, Hawk Woods
Michigan Curriculum Framework and Grade Level Content Expectations

Learning Objectives:

Students will be able to:
  i) Describe the 4 steps in the life cycle of a butterfly: Egg, Caterpillar, Pupa, Adult caterpillar,
  ii) Count objects to 10
  iii) Make the sound of B and recognize the sound of B in other words---bat, building, bud, bird
  iv) Define the word metamorphosis
  v) Give examples of other animals that go through metamorphosis , i.e. life cycle of a frog

Grade Level Content Expectations:

Science
  S.IP.00.11 Make purposeful observations of the natural world using appropriate senses.
  L.OL.00.11 Identify that living things have basic needs.
  L.OL.00.12 Identify and compare living and non-living things.

English Language Arts
  R.WS.00.01 Demonstrate awareness by wide range of sound manipulation competencies
including sound blending and deletion.
R.WS.00.02 Recognize that words are composed of sounds blended together and carry meaning.

Materials:
Trade Books listed above,
40 blank 4-page books to color crayons,
butterfly counters and caterpillar counters - what is a counter?
live caterpillars,
1 magnifiers per child or pair
butterfly house.

New Vocabulary: Caterpillar, Pupa, Stage

Focus Questions:
- How are caterpillars different from butterflies?
- What is the habitat (food, shelter, space) of a caterpillar? Butterfly?
- How many different kinds of butterflies/ caterpillars live in Michigan?

Classroom activities:

1. Take children outside and do the above mentioned focus question.

2. Ask students “How are caterpillars different from butterflies?” -- shape, size, body parts, how they move

3. Read trade books at carpet time during the week. After read trade book for the day teacher should ask question regarding each specific story, each specific class and each specific student, ie. For the hungry caterpillar what did he eat on the 4 day and how many? Teacher will develop these question at the time of reading the story so that it applies to ea

4. During center time thru out unit have children make books at LA center, have children count butterfly counters in math center and sort the counters. In the science center have children use life cycle model of a butterfly to place in order of the life cycle of a butterfly. In the dramatic play area have the children be caterpillars, pupas, and butterflies. In the social studies area have children draw a picture of where they would find a butterfly and where they would find a caterpillar. ie. Neighborhoods

5. Introduce the live caterpillars during science on first day of the lesson. After introduction have children observe live caterpillars in the science center and teacher will record their observations and post on the wall.

6. Teach children to count to 10 using caterpillar and butterfly counters.
7. Take children out to the school yard garden to find and count caterpillars and butterflies. Let class butterflies go on last day of unit. Take children outside in to garden weather permitting to trade books instead of carpet. Let children explore garden to look for caterpillars and butterflies that already live in our garden each day. Children will count and we will make a class graph of what we found in the outdoor classroom we have at our school.

**Assessment:** For a developmentally appropriate assessment at this age it would be observation and oral questioning of the children to see if they gained the knowledge that was being taught and this observation and questioning would occur throughout the lessons. Children will describe the life cycle of a butterfly to the teacher during the observation. Also students will be able to explain pupa, stage, caterpillar, butterfly, and metamorphosis.

**Reflection:** The lesson went great. I took my kindergartners out and we found 3 caterpillars and 2 pupas. To teach counting to 10 we counted flowers and other things we found in the garden.