



MISSISSIPPI

EXEMPLAR

Units & Lessons

MATHEMATICS

Pre-Kindergarten

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Lesson 1: Eat Caterpillar, Eat!!

Focus Standard(s): PK.CC.4

Additional Standard(s): PK.RL.1, PK.CC.2, PK.CC.3

Lesson Activity Materials:

- Chart paper
- Circle Map
- Days of the week chart or calendar
- Food Counters (manipulatives for counting)
- Number cards
- White board/smart board
- *The Very Hungry Caterpillar* by Eric Carle
- Handout 1.1: Pre-Assessment
- Google Images of Caterpillars:

https://www.google.com/search?q=picture+of+a+caterpillar&safe=strict&espv=2&biw=1366&bih=623&tbm=isch&tbo=u&source=univ&sa=X&ved=0ahUKewi8_amYgL_NAhVDJh4KHe84DRIQsAQIGw

Learning Center Materials:

- Black pipe cleaners
- Coffee filters
- Life Cycle of a Butterfly Chart
- Markers
- Paint brush, dropper, or sponge
- Play-Doh and baking trays/cookie sheets
- Popsicle Sticks and glue sticks
- Water
- *The Very Hungry Caterpillar* Animated Story:

<http://www.bing.com/videos/search?q=the+very+hungry+caterpillar&view=detail&mid=B1960DAECAE2A8B23271B1960DAECAE2A8B23271&FORM=VIRE>

- Handout 1.2: *The Very Hungry Caterpillar* Story Props

Lesson Target:

- Students will count up to 10, using one-to-one correspondence to show understanding of putting together and adding to.

Guiding Question(s):

- How can we show more?
- How can we put smaller amounts of things together to make larger amounts of things?

Vocabulary

Academic Vocabulary:

- Add
- More
- Total

Note: Expose students to various ways to mathematically express these terms. For example, when discussing the word **add**, include phrases such as **putting together**, **altogether**, and **added to**.

Instructional Strategies for Academic Vocabulary:

- Introduce words with student-friendly definitions and pictures
- Model how to use the words in discussion
- Discuss the meaning of word in a mathematical context
- Create pictures/symbols to represent words
- Write/discuss using the words


Direct Instruction Text Vocabulary:

- Apple
- Caterpillar
- Cocoon
- Oranges
- Pear
- Plum
- Strawberry

Instructional Strategies for Direct Instruction Text Vocabulary:

- Introduce words with student-friendly definition and pictures
- Model how to use the words in discussion
- Write/discuss the meaning of word in multiple contexts
- Provide pictures/props to represent words

Note: Consider which of these words would fall into Tier 2 for your students when introducing vocabulary.

Symbol	Type of Text and Interpretation of Symbol
	Instructional support and/or extension suggestions for students who are EL, have disabilities, or perform well below the grade level and/or for students who perform well above grade level
✓	Assessment (Pre-assessment, Formative, Self, or Summative)

Instructional Plan

Understanding Lesson Purpose and Student Outcomes: Students will be able to count items and then put smaller amounts of items together to make larger amounts.

Anticipatory Set/Introduction to the Lesson: Pre-Assessment

- ✓ Administer the pre-assessment found on **Handout 1.1: Pre-Assessment** to evaluate the students’ foundational skills needed to be able to add and subtract within 5 using developmentally appropriate pre-k materials. The pre-assessment is administered to individual children while others are engaged in learning centers or other activities.

Activity 1: Interactive Read Aloud (Whole Group)

Note: Conduct a movement/physical activity with the students between the Anticipatory Set and Activity 1 to make sure students are not sitting too long.

Activate the student’s prior knowledge by asking the following questions:

- Have you ever seen a caterpillar?
- How many legs do you think a caterpillar has?
- Have you ever seen a butterfly?
- How are a caterpillars and butterfly related?
- What do caterpillars eat?

(Record student’s answers to the last question on a piece of chart paper.)

Show students the cover of the book, *The Very Hungry Caterpillar* by Eric Carle. Allow students to make predictions about the story. Read *The Very Hungry Caterpillar*. During the reading, pause to discuss the pictures, vocabulary words, and allow the students to count the fruit on each page.

Ask:

1. What's happening to the caterpillar's body? Why?
2. What do you think will happen next? Why?
3. How many body parts does he have? Have a student to point to that number in the classroom.
4. How many eyes? Have a student to point to that number in the classroom.
5. How many legs? Have a student to point to that number in the classroom.

Note: (1) Struggling students are placed near the presenter or assistant, who occasionally redirects the students' attention during whole group and small group activities. (2) Whole Group should last between 15-20 minutes. If this time frame is too long for students, the Whole Group activities may be divided into two sessions. (3) Small Group should last approximately 15 minutes. Using the pre-assessment results, design the formation of small groups to reflect student capability and to drive the instruction throughout every lesson.

For students who are EL, have disabilities, or perform well below grade level:

- Display a picture of a caterpillar and/or butterfly. Review individually or in small group.

Extensions for students with high interest or working above grade level:

- Lead students in describing. Use sensory details to describe a caterpillar and/ or butterfly to students.

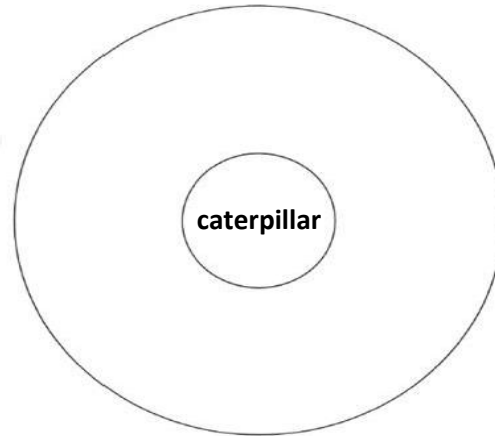
Activity 2: Circle Map (Whole Group)

Have students use background knowledge to define what they know about caterpillars.

On a chart paper, draw a small circle, and write the word "caterpillar" in the middle. Now, draw a larger circle around it. Explain that we are gathering information about the caterpillar. Put a drawing/picture of a caterpillar in the small circle with the word "caterpillar" and will record information about the caterpillar in the larger circle of the Circle Map.

Model thinking aloud and identify a key detail about the caterpillar. (e.g. “Caterpillars are little.”) Guide students in their thinking process to help identify information about the caterpillar. Give students time to think and share with partner. Ask students to share their thoughts to describe a caterpillar with the class. Record this in the larger circle on the outside. Use the students’ responses.

Note: To guide student responses, create sentence stems. For example, “The caterpillar is _____.”



Activity 2: Create a Picture Graph (Teacher-led Small Group)

Note: Rotate 4-5 students through this group at a time.

After re-reading the story, randomly select students to tell you the days of the week. Encourage students to use a calendar or anchor chart for reference. Write the days of the week at the top of chart paper to create a picture graph. Ask students to think about what the caterpillar ate each day. Have the students turn to their shoulder partner and share what the caterpillar ate each day. Elicit answers from students about what the caterpillar ate each day of the week. This will provide students with the opportunity to practice counting and combining numbers. Make sure to use the mathematical terms from the vocabulary list. Once the students count the items have one student to find the number on the number chart or number cards used in the classroom.

Illustrate on the chart and ask questions:

- How many pieces of fruit did the caterpillar eat on Monday? Tuesday? Wednesday, Thursday? Friday?
- What did he eat on Saturday?
- What did he eat on Sunday?

- How many items did he eat on Monday and Tuesday?
- On what day did he eat the most?
- How do you know that he ate the most on that day?

Learning Centers

Note: Learning Centers are designed to be developmentally appropriate for all students. The teacher and teacher assistant move about to observe and offer support, as needed. Learning centers will operate in conjunction with small group.

- ✓ **Writing Center** – Ask students to write and/or draw about their favorite foods. Have students reference the Word Wall, available books, charts and pictures in the classroom.
- ✓ **Dramatic Play Center** - Distribute **Handout 1.2: *The Very Hungry Caterpillar Story Props*** for students to make props for *The Very Hungry Caterpillar* and act out the story.
- ✓ **Math Center** - Using Play-Doh, have students make the items the caterpillar ate each day, count them and make the number for the amount.
- ✓ **Computer/Listening Center** – Provide technology for students to listen to *The Very Hungry Caterpillar* on CD, DVD, or online with [The Very Hungry Caterpillar Animated Story](#). If listening to the story on CD, the student will use the text to follow with the reader.
- ✓ **Reading Center** – Allow students to select fiction and non-fiction books about butterflies and other insects to read and view.
- ✓ **Science Center** - Display a chart of the life cycle of a butterfly. Have students draw or create their own version of the butterfly life cycle using various art materials and writing utensils.
- ✓ **Art Center** – Have students make coffee filter butterflies. First, students color a coffee filter with washable markers creating beautiful patterns of colors. Then, students will wet the coffee filters using a wet paint brush, sponge, or medicine dropper and hang to dry. After the filters are dry, fold them like an accordion. Twist a pipe cleaner around the middle of the filter to make a caterpillar body and twist the pipe cleaner around clockwise at least twice to make the antennae.

Reflection and Closing:

Reflect on how well the students answered the following essential questions by examining evidence of student learning in whole and small group activities.

- How can we show more?
- How can we put smaller amounts of things together to make larger amounts of things?

Review the lesson to reinforce counting and number recognition. Read a story problem and display two kinds of fruit. Model counting aloud and write the numerals that represent the two fruits.

Example-

Read: The very hungry caterpillar ate 1 apple Monday. The caterpillar ate 4 strawberries on Thursday. How many pieces of fruit did the very hungry caterpillar eat altogether?

Model: Let's count together as I point: one, two, three, four, five. Do this 2-3 times using fruit from a combination of any two days from Monday through Thursday.

Homework

Not developmentally appropriate for pre-kindergarten students.

Handout 1.1: Pre-Assessment

Pre-Assessment

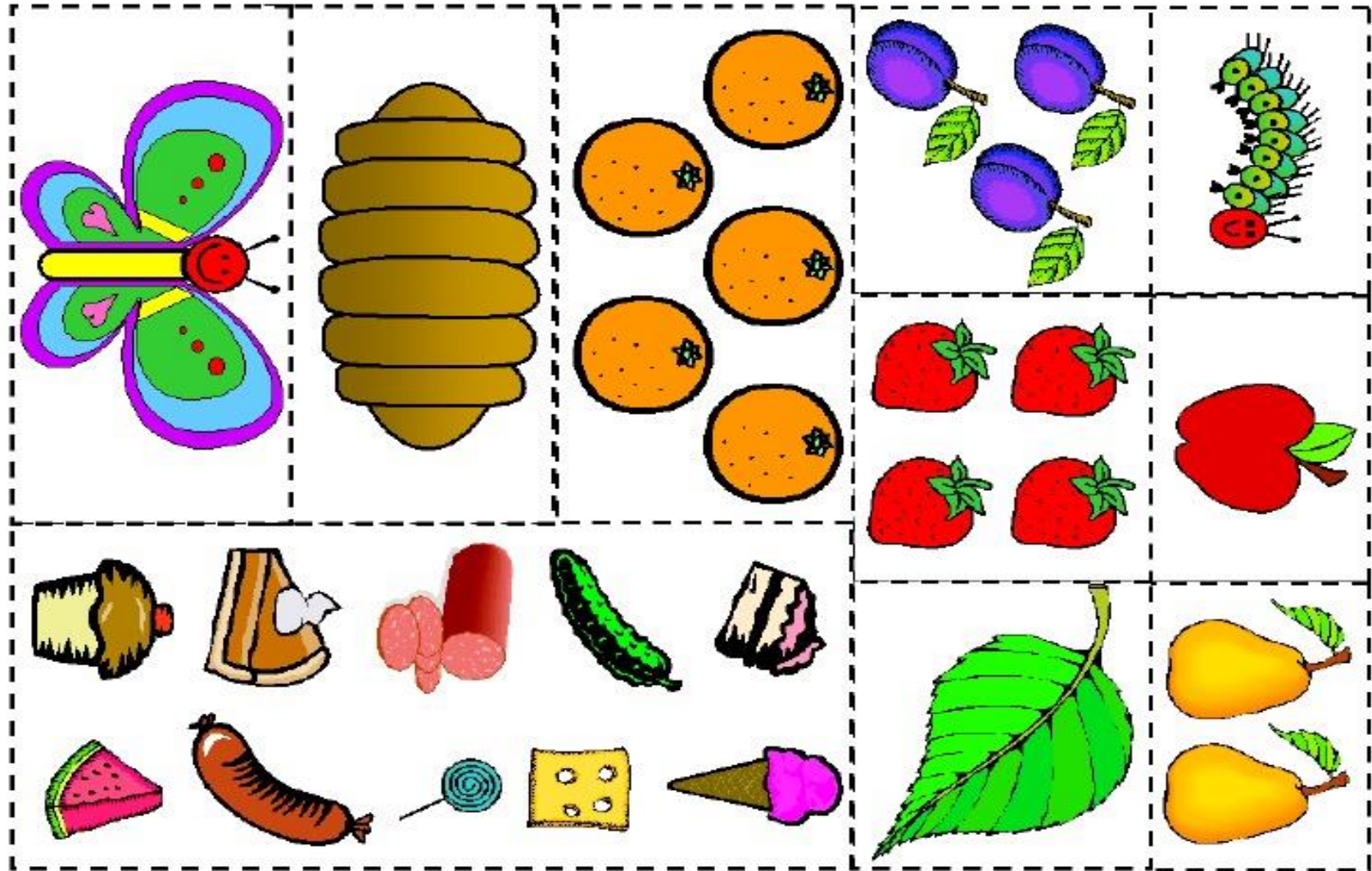
Student's Names	Recognizing Numbers						Counting Objects					
	0	1	2	3	4	5	0	1	2	3	4	5

Comments:

Using manipulatives and number cards:

1. Ask student to identify and name random numerals, 0 – 5.
2. Ask student to count objects in given sets, 0 – 5.

Handout 1.2: *The Very Hungry Caterpillar* Story Props



The Very Hungry Caterpillar sequencing cards

For training or questions regarding this unit,
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