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Units & Lessons

MATHEMATICS

Pre-Kindergarten

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## Lesson 5: Making More with Five Frames

**Focus Standard(s):** PK.OA.1, PK.OA.2

**Additional Standard(s):** PK.CC.2, PK.CC.3, PK.CC.4

**Lesson Activity Materials:**

- Chart paper
- Food Counters
- *The Very Hungry Caterpillar* by Eric Carle
- White board/Smartboard
- Handout 2.1: Five Frames
- Handout 5.1: Concentration
- Illuminations Five Frame Activity: <https://illuminations.nctm.org/Activity.aspx?id=3564>

**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 understand the relationship between numbers and the quantities that combine to make them.

**Guiding Question(s):**

- How can I show a number using different combinations of the same objects?
- How can a Five Frame help me to show more?

## 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

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

**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

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 identify the numbers on the Five Frame.

**Anticipatory Set/Introduction to the Lesson: Five Frame Online Game**

Play [Illuminations Five Frame Activity](#) to review using a Five Frame.

Create a five-frame anchor chart on chart paper. Facilitate a conversation about patterns noticed on the Five Frame.

Sample Anchor Chart:

0					
1					
2					
3					
4					
5					

**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:**

- Provide students with one-on-one, small groups, or peer assistance.

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

- Students will record combinations using numerals and/or drawn objects and take turns presenting and explaining answers.

**Activity 1: Concentration (Teacher-led Small Group)**

**Note:** Prior to the lesson, have number combinations and 5-frames found on **Handout 5.1: Concentration** cut apart.

Display a Five Frame and number combinations:

- 1 and 4
- 2 and 3
- 4 and 0
- 3 and 1
- 0 and 5

Allow students take turns drawing circles in the Five Frame to match the number combinations.

Have students play Concentration using Five Frames and counters. The pieces are turned face down on the table. With guidance and support, students will take turns turning over TWO pieces at a time to reveal number combinations and 5 frames that are a match. If there is a match, students will explain how the two pieces go together. If there is no match the student will turn the pieces over on the table and the next student takes a turn. Other number combinations may include:

- 0 and 0
- 0 and 1
- 0 and 2
- 0 and 3
- 2 and 2

### Learning Centers

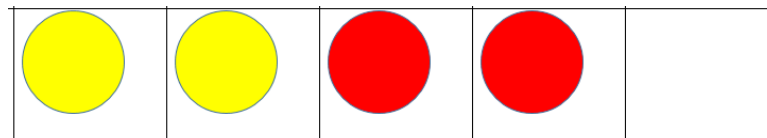
**Note:** Learning Centers are designed to be developmentally appropriate for all students. The teacher and teacher assistant move about to observe and offer support, as needed. Learning centers will operate in conjunction with small group.

- ✓ **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 antennae.

### Reflection and Closing:

Using crayons and a Five Frame, students will create their own number combination and illustrate it on the Five Frame by coloring in the correct number of frames. Model how to complete this activity before letting students complete on their own.

For example: 2 and 2



Reflect on how well the students mastered adding as it relates to combinations of different amounts.

Reflect on how well the students answered the following essential questions by examining evidence of student learning.

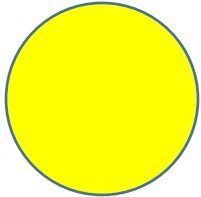
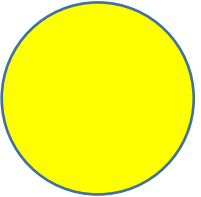
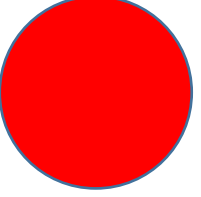
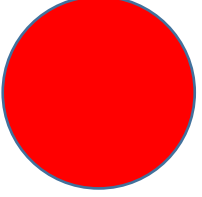
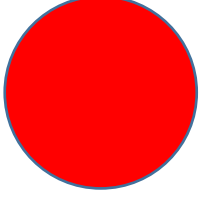
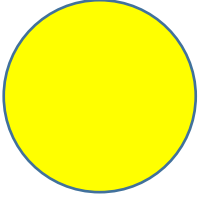
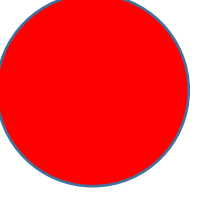
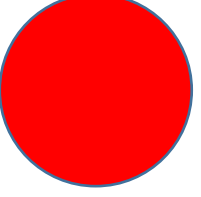
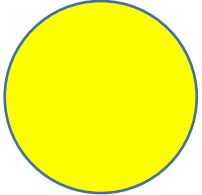
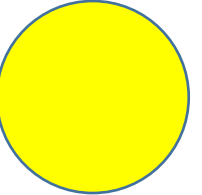
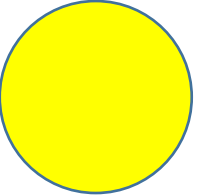
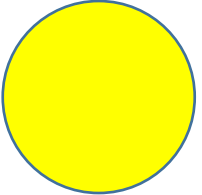
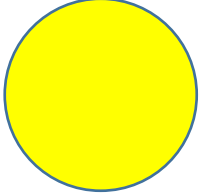
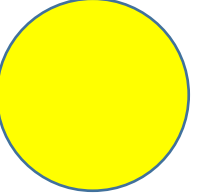
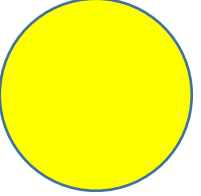
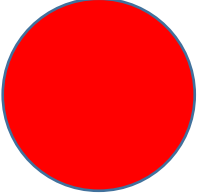
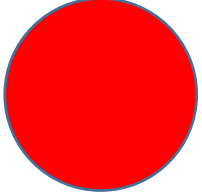
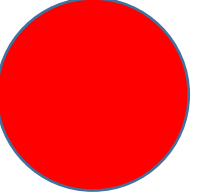
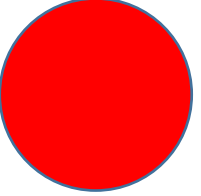
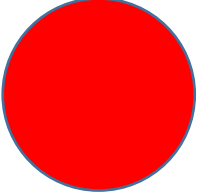
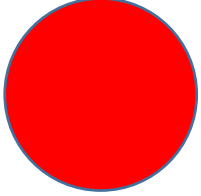
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- How can a Five Frame help me to show more?

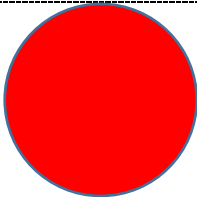
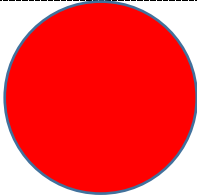
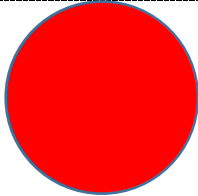
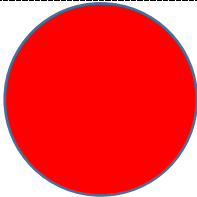
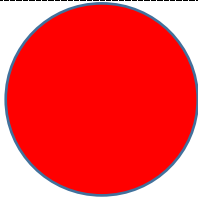
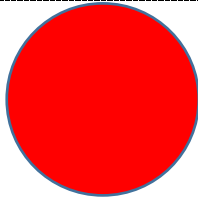
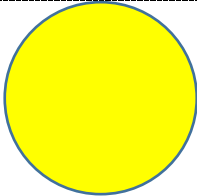
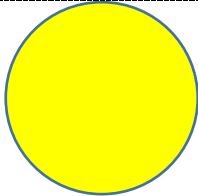
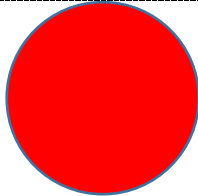
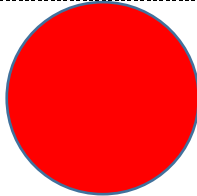
## Homework

Homework is not developmentally appropriate for pre-kindergarten.



## Handout 5.1: Concentration

<b>2 and 3</b>					
<b>1 and 2</b>					
<b>4 and 0</b>					
<b>3 and 1</b>					
<b>0 and 5</b>					

<b>0 and 1</b>					
<b>0 and 2</b>					
<b>0 and 3</b>					
<b>2 and 2</b>					

Create your own:


For training or questions regarding this unit,  
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