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MISSISSIPPI  
**EXEMPLAR**  
Units & Lessons  
MATHEMATICS

**Pre-Kindergarten**

Grant funded by:



**MISSISSIPPI DEPARTMENT OF EDUCATION**

P.O. Box 771 | Jackson, MS | 39205-0771  
Tel (601) 359-2586  
www.mde.k12.ms.us  
Twitter: @MissDeptEd

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**Director, Office of Human Resources**

MISSISSIPPI DEPARTMENT OF EDUCATION

359 North West Street, Suite 203

Jackson, Mississippi 39201

(601) 359-3511

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### Mississippi Exemplar Units and Lessons Project Leads

The Mississippi Department of Education gratefully acknowledges the following individuals for their leadership in the development of the Mississippi Exemplar Units and Lessons.

**Dr. Nathan Oakley**  
Chief Academic Officer

**Devin Boone**  
Office of Professional Development Program Manager

**Barbara Bowen**  
ELA Professional Development Coordinator

**Elise Brown**  
Math Professional Development Coordinator

**Wendy Clemons**  
Office of Professional Development Executive Director

**Dana Danis**  
Office of Secondary Education ELA Curriculum Specialist

**Dr. Marla Davis**  
Office of Secondary Education Bureau Director

**Joyce Greer**  
Office of Early Childhood Instructional Specialist

**Kristi Higginbotham**  
Special Education Professional Development Coordinator

**Dr. Felicia Jackson-Stewart**  
ELA Professional Development Coordinator

**Ashley Kazery**  
ELA Professional Development Coordinator

**Kristina Livingston**  
Professional Development Coordinator Director

**Celeste Maugh**  
Math Professional Development Coordinator

**Tanjanikia McKinney**  
Science Professional Development Coordinator

**Jennifer Nance**  
Office of Secondary Education Office Director II

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**Kimberlee Alexander**  
Greenville Public School District

**Teresa Amacker**  
Ocean Springs School District

**Terwinda T. Banks**  
Canton Public School District

**Ebony Bealer**  
Harrison County School District

**Kate Boteler**  
Madison County School District

**Lydia Boutwell**  
MDE Early Childhood Consultant

**Jeannie Brock**  
Benton County School District

**Elisa Bryant**  
Lafayette County School District

**Melissa Buck**  
MDE Literacy Coach

**Leigh Ann Cheeseman**  
MDE Literacy Coach

**Cindy Christian**  
Rankin County School District

**Nicole Cockrell**  
Madison County School District

**Angela Davis**  
MDE Literacy Coach

**Samantha Edwards**  
South Panola School District

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DeSoto County School District

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Pascagoula – Gautier School District

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Rankin County School District

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MDE Literacy Coach

**Catrice Mitchell**

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**Cyndi Parker**

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**Allison Ruhl**

Madison County School District

**Rebecca Russell**

Rankin County School District

**Kelly Smith**

MDE Literacy Coach

**Leigh Ann Smith**

Lauderdale County School District

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Jones County School District

**Lori Stringer**

MDE Literacy Coach

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Lafayette County School District

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MDE Early Childhood Consultant

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Jackson Public School District

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**Alesheia Cunningham**

DeSoto County School District

**Savannah Evans**

Lamar County School District

**Fanchon Freeman**

Clarksdale Municipal School District

**Beth Fulmer**

Math Curriculum Consultant

**Jennifer Gaston**

Coffeeville School District

**Kathleen Hamilton**

Marshall County School District

**Rachael Hayes-Magee**

Biloxi Public School District

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DeSoto County School District

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Ocean Springs School District

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George County School District

**Bonnie Maready**

DeSoto County School District

**Kimberly B. McKinney**

West Point Consolidated School District

**Hertensia V. Mixon**

DeSoto County School District

**Shalaan Oliver-Hendricks**

Columbus Municipal School District

**Amy Shelly**

Special Education Professional Development Coordinator

**TaShara Smith-Shoemaker**

Hattiesburg Public School District

**Mariella Simons**

MDE Consultant

**Ashleigh Syverson**

Harrison County School District

**David H. Taylor II**

Laurel School District

**Jennifer C. Wilson**

Rankin County School District

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## *Introduction*

### **Mission Statement**

The Mississippi Department of Education (MDE) is dedicated to student success, including the improvement of student achievement in English Language Arts (ELA) and mathematics in order to produce citizens who are capable of making complex decisions, solving complex problems, and communicating fluently in a global society. The Mississippi College- and Career-Readiness Standards (MS CCRS) provide a consistent, clear understanding of what students are expected to know and be able to do by the end of each grade level or course. The standards are designed to be robust and relevant to the real world, reflecting the knowledge and skills that students need for success in college and careers and to compete in the global economy. The goal of the MDE is to provide educators with the training and resources to understand and implement the MS CCRS effectively.

### **Purpose**

In efforts to facilitate implementation and promote understanding of the MS CCRS for ELA and mathematics, the W. K. Kellogg Foundation generously awarded the MDE a grant to secure a cadre of effective educators to develop the MS CCRS Exemplar Units for teachers. Specifically, a group of highly-effective Mississippi educators developed exemplar instructional units and lessons aligned to the MS CCRS for ELA and mathematics. The MS CCRS Exemplar Units address difficult-to-teach standards as determined by teachers and are designed to serve as exemplar models for instructional units, lessons, and resources. The MS CCRS Exemplar Units have been vetted through nationally renowned vendors to ensure exemplar quality.



### **Design Overview**

The MS CCRS Exemplar Units for ELA and mathematics address grade-level specific standards for Pre-Kindergarten-8<sup>th</sup> grade, as well as for Algebra, English I, and English II. The overall unit plan is described in the first section of the ELA and math units. This section includes the unit title, a suggested time frame, the grade level MS CCRS addressed and assessed, a unit overview with essential questions and a summary of lesson tasks, and the culminating/performance task description and rubric.

Though the math and ELA overall unit plan designs are very similar, some design aspects differ in order to accommodate the respective requirements of each content area. For mathematics, the first section also provides a segment designated for the Standards for Mathematical Practices (SMPs) addressed in the unit. For ELA, the first section also includes a text set with links to texts (if in the public domain) and a fresh/cold-read task.

The second section of each unit includes lesson plans. Within the lesson plans, provided are lesson-specific MS CCRS, suggested time frames, learning targets, guiding questions, required resources and materials, vocabulary terms and instructional strategies, teacher directions, instructional supports for students, enrichment activities, student handouts, assessments (formative, summative, pre-, and self-), and additional resources to aid in the implementation of the lessons.

### **Implementation**

The intention of the MS CCRS Exemplar Units for ELA and mathematics is to provide educators with resources to understand and implement the MS CCRS effectively. The implementation of the MS CCRS Exemplar Units for ELA and mathematics is voluntary. Additionally, the MDE will provide ongoing support for implementation of the MS CCRS Exemplar Units with initial regional trainings followed by site-specific support through our regional service delivery model. For regional and site-specific training, please contact the MDE Office of Professional Development.

Grade Level	Unit Title	Duration
Pre-K	Hungry for MATH!	10 days

### Mississippi College- and Career-Readiness Standards for Mathematics

**Focus:**

**PK.CC.4:** Count many kinds of concrete objects and actions up to 10, using one-to-one correspondence; and, with guidance and support, count up to 7 things in a scattered design.

- a. Use the number name to represent the number of objects in a set, using developmentally appropriate pre-kindergarten materials.

**PK.OA.1:** With guidance and support, experiment with adding and subtracting by using developmentally appropriate pre-kindergarten materials.

**PK.OA.2:** With guidance and support, model real-world addition and subtraction problems up to 5 using developmentally appropriate pre-kindergarten materials.

**Additional:**

**PK.RL.1** With prompting and support, ask and/or answer questions with details related to a variety of print materials (e.g., ask, “What is the duck doing?” or respond to, “Tell me about the duck.”).

**PK.CC.2:** With prompting and support, recognize, name, and attempt writing numerals 0 – 10.

**PK.CC.3** With guidance and support, understand the relationship between numerals and quantities.

- a. Recognize that a numeral is a symbol that represents a number of objects, using developmentally appropriate pre-kindergarten materials.
- b. Match quantities and numerals 0 – 5.

### Unit Overview

Throughout this unit, students will be engaged in a variety of grouping strategies that will enhance the instructional and learning processes. Each day, students will move in and out of Whole Group, Small Groups, and Learning Centers. Learning Centers are scheduled daily for students to participate in as a part of their learning. The Math Center will specifically contain developmentally appropriate materials for students to explore and experiment with numerals, quantities, addition, subtraction, and the relationships among all of these concepts.

## Lesson Tasks

**Lesson 1: Eat Caterpillar, Eat!**

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

**Lesson 2: Putting Together**

Students will understand addition as putting together and adding to; understand that a whole is made of parts.

**Lesson 3: More Counting**

Students will use number names, zero to five, to represent objects and understand the relationship between numbers and the quantities that combine to make them.

**Lesson 4: I Want More!**

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

**Lesson 5: Making More**

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

**Lesson 6: Putting Together and Taking Apart**

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

**Lesson 7: A Hungry Snake**

Students will understand addition as putting together and adding to and that addition can be represented in many ways.

**Lesson 8: Smart Little Mice**

Students will understand addition as putting together and adding to and that addition can be represented in many ways.

**Lesson 9: Run, Mice, Run!**

Students will understand addition as putting together and adding to and that addition can be represented in many ways.

**Lesson 10: The Food Finale**

Students will understand addition as putting together and adding to and that addition can be represented in many ways.

## Performance/Culminating Task

**The Food Finale**

Students will use manipulatives, food counters, actual food items, five frames, and hula hoops to model and solve addition problems within 5.

**Standards Assessed: PK.OA.1, PK.OA.2**

## Rubric for Performance/Culminating Task

Name \_\_\_\_\_

4	Exemplifying Mastery	Student chooses the correct number of manipulatives in the number sets can tell “how many” are in the number combination by adding, and uses the correct strategy
3	Approaching Mastery	Student chooses the correct number of manipulatives in the number sets but cannot tell “how many” are in the number combination by adding. Correctly shows one of the following: Correct number combination OR One correct strategy
2	Developing Mastery	Student counts one correct number of manipulatives in the number sets and attempts to solve the number combination by adding.
1	Not Representing Mastery	Student counts an incorrect number of manipulatives in the number sets and cannot add to solve the number combination.
0	No Understanding	No response

## Lesson 1: Eat Caterpillar, Eat!!

**Focus Standard:** PK.CC.4

**Additional Standards:** 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/Interactive white board
- *The Very Hungry Caterpillar* by Eric Carle
- Handout 1.1: Pre-Assessment
- 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](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)
- Handout 1.2: Daily Mastery Tracker

**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 1.3: *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 Questions:**

- 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:**

- Fruit names: apple, orange, pear, plum, strawberry
- Caterpillar
- Cocoon

**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	
<p><b>Understanding Lesson Purpose and Student Outcomes:</b> Students will be able to count items and then put smaller amounts of items together to make larger amounts.</p> <p><b>Anticipatory Set/Introduction to the Lesson: Pre-Assessment</b></p> <ul style="list-style-type: none"> <li>✓ Administer the pre-assessment found on <b>Handout 1.1: Pre-Assessment</b> 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.</li> </ul> <p><b>Activity 1: Interactive Read Aloud (Whole Group)</b></p> <p><b>Note:</b> Conduct a movement/physical activity with the students between the Anticipatory Set and Activity 1 to make sure students are not sitting too long.</p> <p>Activate the student's prior knowledge by asking some of following questions:</p> <ul style="list-style-type: none"> <li>• Have you ever seen a caterpillar?</li> <li>• How many legs do you think a caterpillar has?</li> <li>• Have you ever seen a butterfly?</li> <li>• How are a caterpillars and butterfly related?</li> <li>• What do caterpillars eat?</li> </ul> <p>Record students' answers to the last question on a piece of chart paper.</p>	

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 and vocabulary words, and to 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.

Encourage students to use the unit term with their numerical answer. ("2 eyes" instead of "2")

**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)**

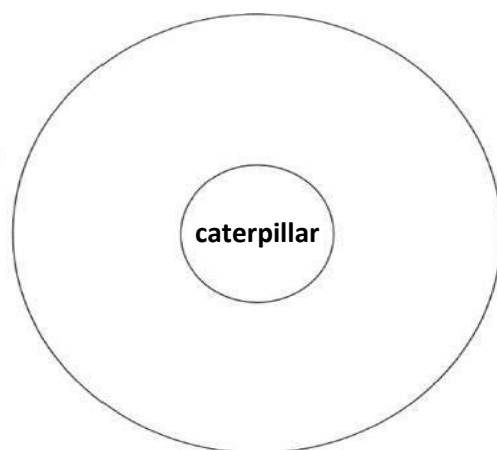
Have students use background knowledge to define what they know about caterpillars.

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, referencing the text if needed. 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?

### Formative Assessment

- ✓ Use **Handout 1.2: Daily Mastery Tracker** to record observations of students' understandings and abilities for each day. For Day 1, record a 0 if the student is unable to count the objects the caterpillar eats on each day, a + if the student is able to count the food but not combine the pictures to find a total of items eaten for two days, and a ✓ if the student is able to accurately count and combine the items.

### 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 1.3: *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 things together to make more 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 and show the pictures from the book, chart, or model, “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? 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**

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


**Comments:**

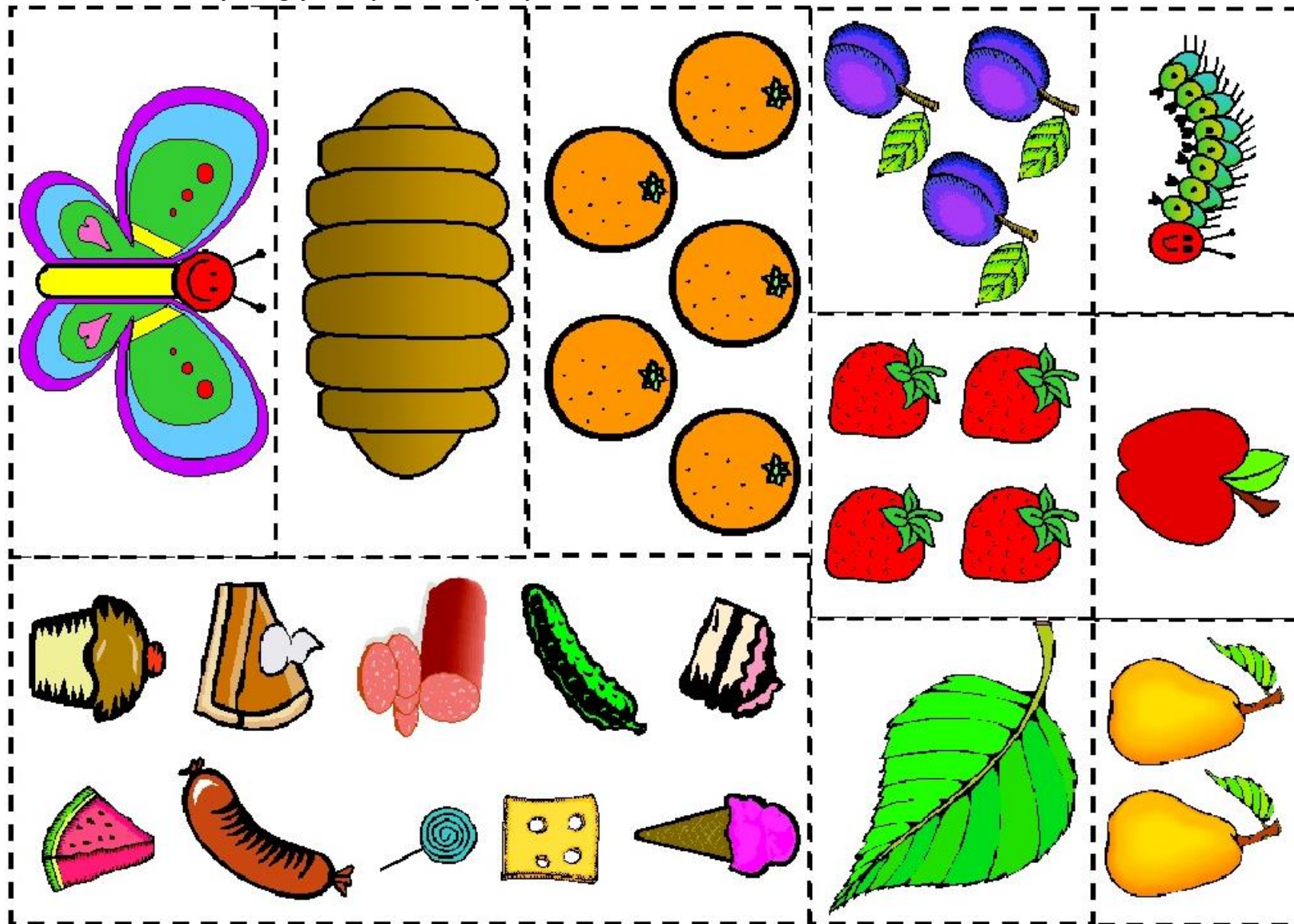
Using manipulatives and number cards:

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: Daily Mastery Tracker

Standards:	K.OA.2		K.OA.2		K.OA.2		K.OA.2		K.OA.2		K.OA.2		K.OA.2		K.OA.2		K.OA.2				
	Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		Day 7		Day 8		Day 9		Day 9		
<p><b>O</b> not progressing toward mastery, remediate before proceeding.</p> <p><b>+</b> progressing toward mastery, may some remediation</p> <p>demonstrating mastery of this lesson</p>	<b>O</b>	<b>+</b>	<b>O</b>	<b>+</b>	<b>O</b>	<b>+</b>	<b>O</b>	<b>+</b>	<b>O</b>	<b>+</b>	<b>O</b>	<b>+</b>	<b>O</b>	<b>+</b>	<b>O</b>	<b>+</b>	<b>O</b>	<b>+</b>	<b>O</b>	<b>+</b>	Performance Task Rubric Score
	S cannot count number of items eaten in a day		S cannot use a five frame		S can tell how many needed to make five		S can model a number in a five frame		S can model both addends and find the sum		S can model one number in the five frame but not both		S can model both numbers, know sum will always be 5		S can match number pairs to a five frame 0-2/5 times		S can match number pairs to a five frame 3-4/5 times		S can match number pairs to a five frame 5/5 times		
	S cannot count the food but cannot combine quantities		S can combine food eaten on different days.		S cannot model a number in a five frame		S cannot find the sum		S cannot model a number in a five frame		S cannot use the part-part-whole model		S cannot to use the add on strategy		S can add on with an addend of 1		S can add using math symbols and manipulatives		S can add using symbols and manipulatives w/ prompts		
Students:																					

Handout 1.3: *The Very Hungry Caterpillar* Story Props



## Lesson 2: Putting Together

**Focus Standards:** PK.OA.1, PK.OA.2

**Additional Standards:** PK.CC.2, PK.CC.3, PK.CC.4

**Lesson Activity Materials:**

- Food counters
- Magnets
- *The Very Hungry Caterpillar* by Eric Carle
- White board/ interactive white board
- Handout 2.1: Food Cut Outs
- Handout 2.2 Five Frame
- Handout 1.2: Daily Mastery Tracker

**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 1.3: *The Very Hungry Caterpillar* Story Props

**Lesson Target:**

- Students will understand addition as putting together and adding to.



**Guiding Questions:**

- When would adding help you?
- When might you need to put groups of things together?

## 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	
<p><b>Understanding Lesson Purpose and Student Outcomes:</b> Students will understand addition as putting together and adding to.</p> <p><b>Anticipatory Set/Introduction to the Lesson: Putting Together</b> Refer to the Picture Graph from Lesson 1 to retell the story.</p> <p>T: Who remembers what the caterpillar ate Monday? Tuesday? Wednesday? Thursday? Friday? T: How many _____ did he eat Monday? Tuesday? Wednesday? Thursday? Friday?</p> <p>Provide each student with one fruit/food cut out from <b>Handout 2.1: Food Cut Outs</b>. Retell the story and prompt students to hold up the cut out and stand in line to show what the caterpillar ate next. Have students count aloud with the teacher. Show the numeral that represents the number of items counted.</p> <p><b>Note:</b> (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.</p>	

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

- Students use felt board to retell the story with individual assistance from teacher or peer.

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

- Students work in pairs to retell the story.

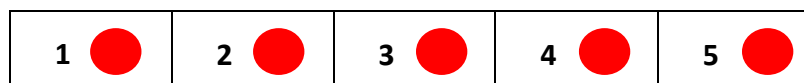
**Activity 1: Introducing the 5 Frame (Teacher-Led Small Group)**

**Note:** Insert movement/physical activity for the students between the Anticipatory Set and Activity 1.

Give students **Handout 2.2: Five Frame** and 5 counters. Allow students time to explore the tool. Ask students to share what they notice about the tool, e.g., color, shapes, number of boxes. Introduce the five frame.

T: How can a five frame help me?

Offer wait time. Tell students that we can use a five frame to help us count. Explain that one counter is put in each square. Fill up the row, starting on the left, the same way you read. Display a five frame and model counting each box and placing one counter in each box. Ask students to count each box with you. Starting with the first box, write numerals 1-5 as shown below. Have students place one counter in each box of the five frame while saying each number aloud. Continue adding counters and naming each box of the five frame.



T: How many counters are on the five frame?

S: 5 counters

Tell the students to remove the counters and repeat the process using a different number. Continue until you have completed numbers 0-5.

**Activity 2: Working with the Five Frame (Teacher-led Small Group)**

Ask the students to place four counters on the five frame, starting in the first space.

T: How many boxes are empty?

S: 1 box

T: How many more can we add to the five frame to make five?

S: 1 more counter

T: Clear your frames. Show me 3 on the five frame. How many boxes are empty?

S: 2 boxes

T: How many more can we add to the five frame to make five?

S: 2 more counters

### Formative Assessment

- ✓ Use **Handout 1.2: Daily Mastery Tracker** to record observations of students' understandings and abilities for each day. For Day 2, record a 0 if the student is unable to use a five frame to count, a + if the student is able to model a number in the five frame but cannot use it to tell how many more make five, and a ✓ if the student is able to accurately model an number in the five frame and tell how many more are needed to make five.

### 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 1.3: *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 (Whole Group):**

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

- When would adding help you?
- When might you need to put groups of things together?
- Why do you take groups of things apart?

Review learning, by explaining the five frame and describing/explaining what it looks like and how it is used to help with adding on.

Read a story problem.

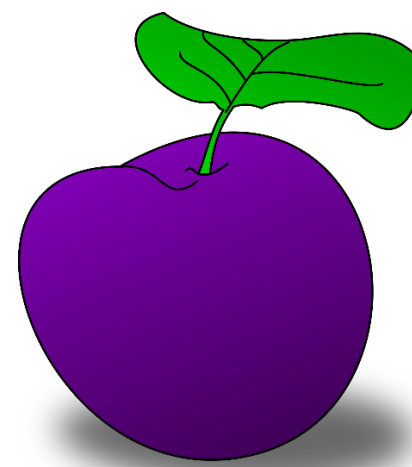
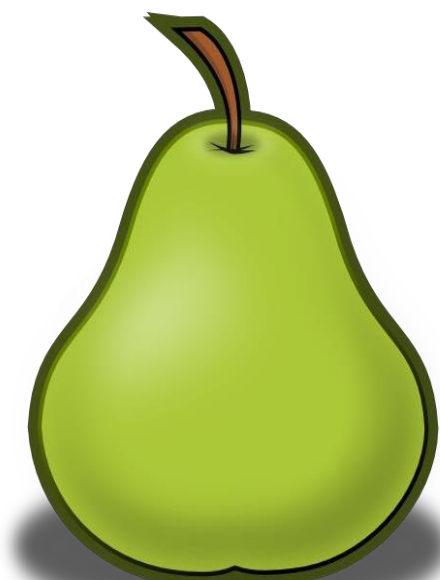
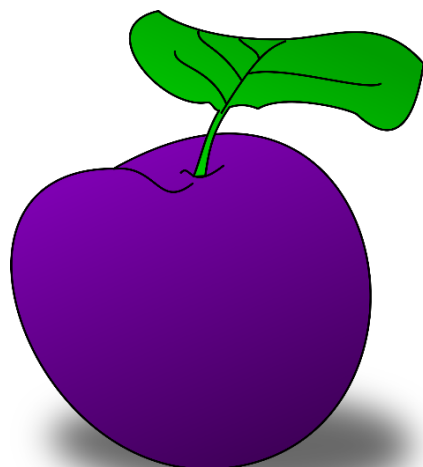
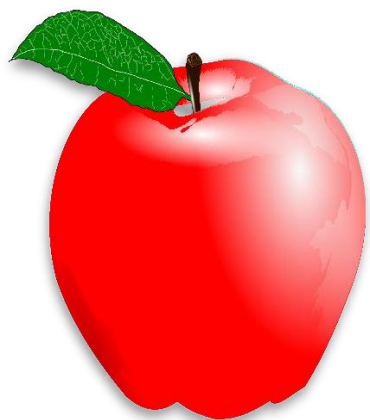
- ✓ Have students use their five frame and counters to demonstrate the problem and share responses with the class. Record responses.

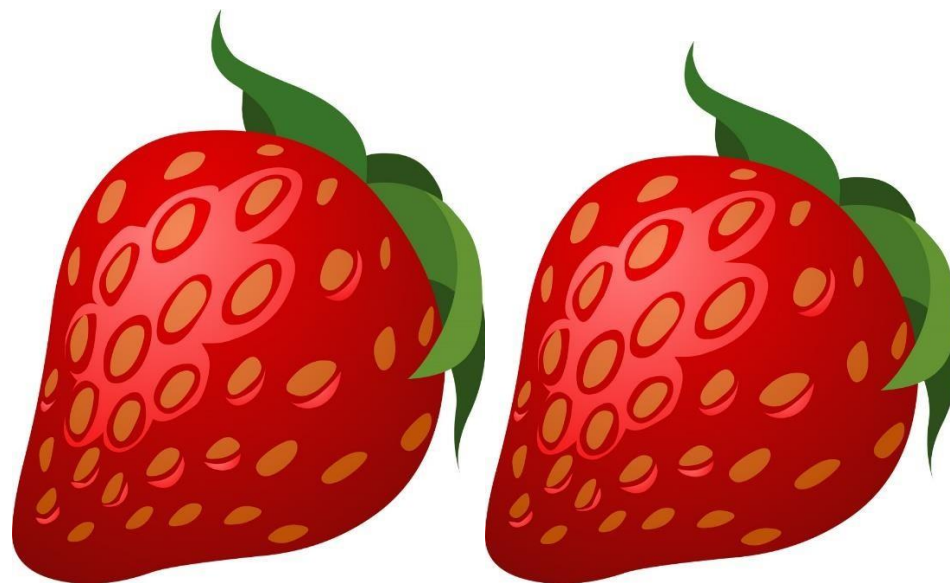
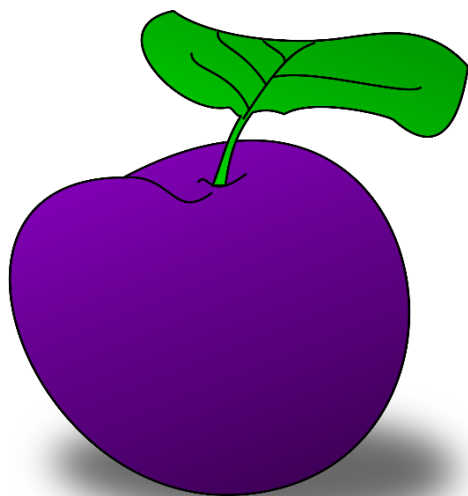
**Example:** T: I have 2 pieces of gum. How many more are needed to make five?

## Homework

Homework is not developmentally appropriate for pre-kindergarten.

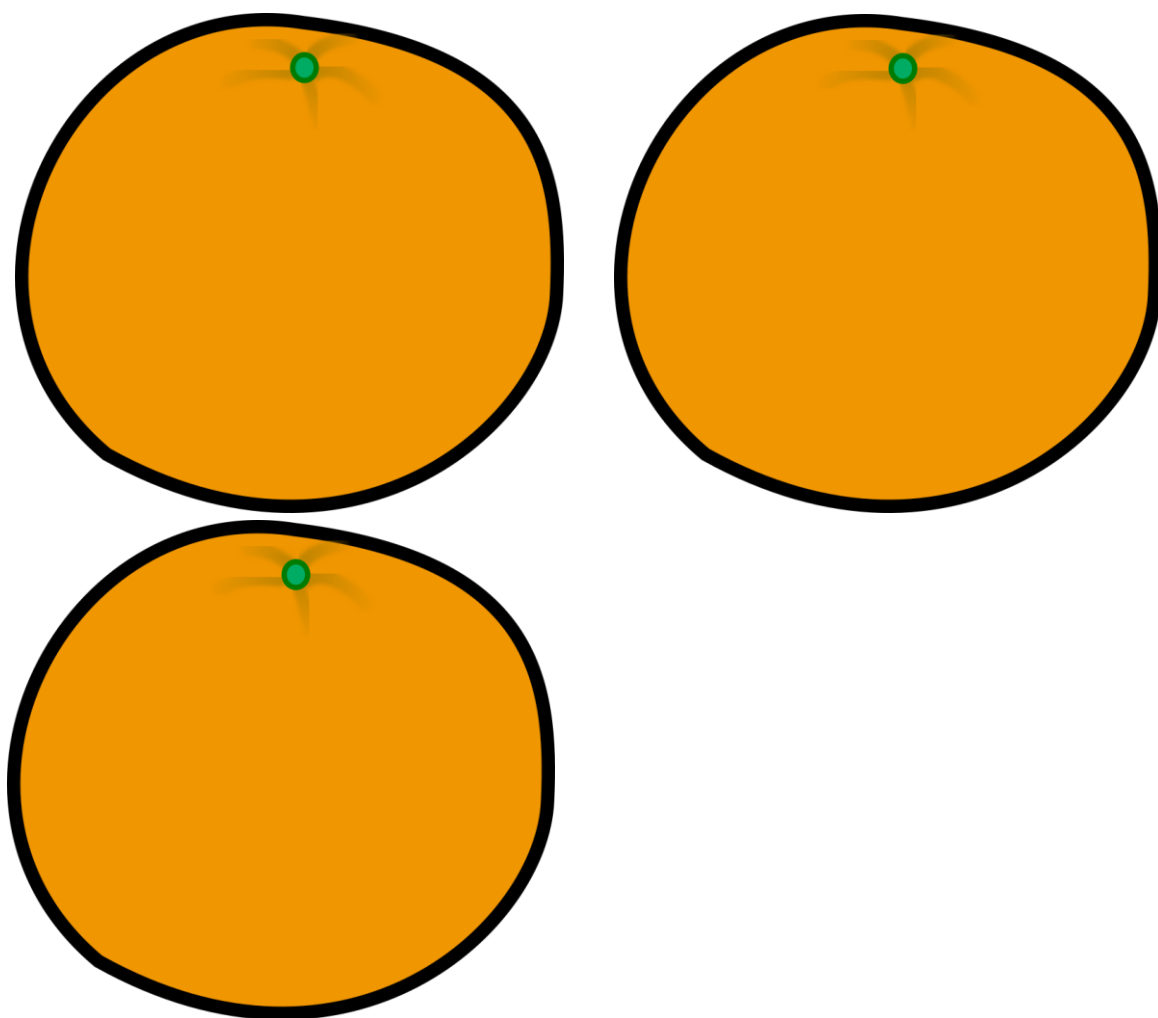
## Handout 2.1: Food Cut Outs

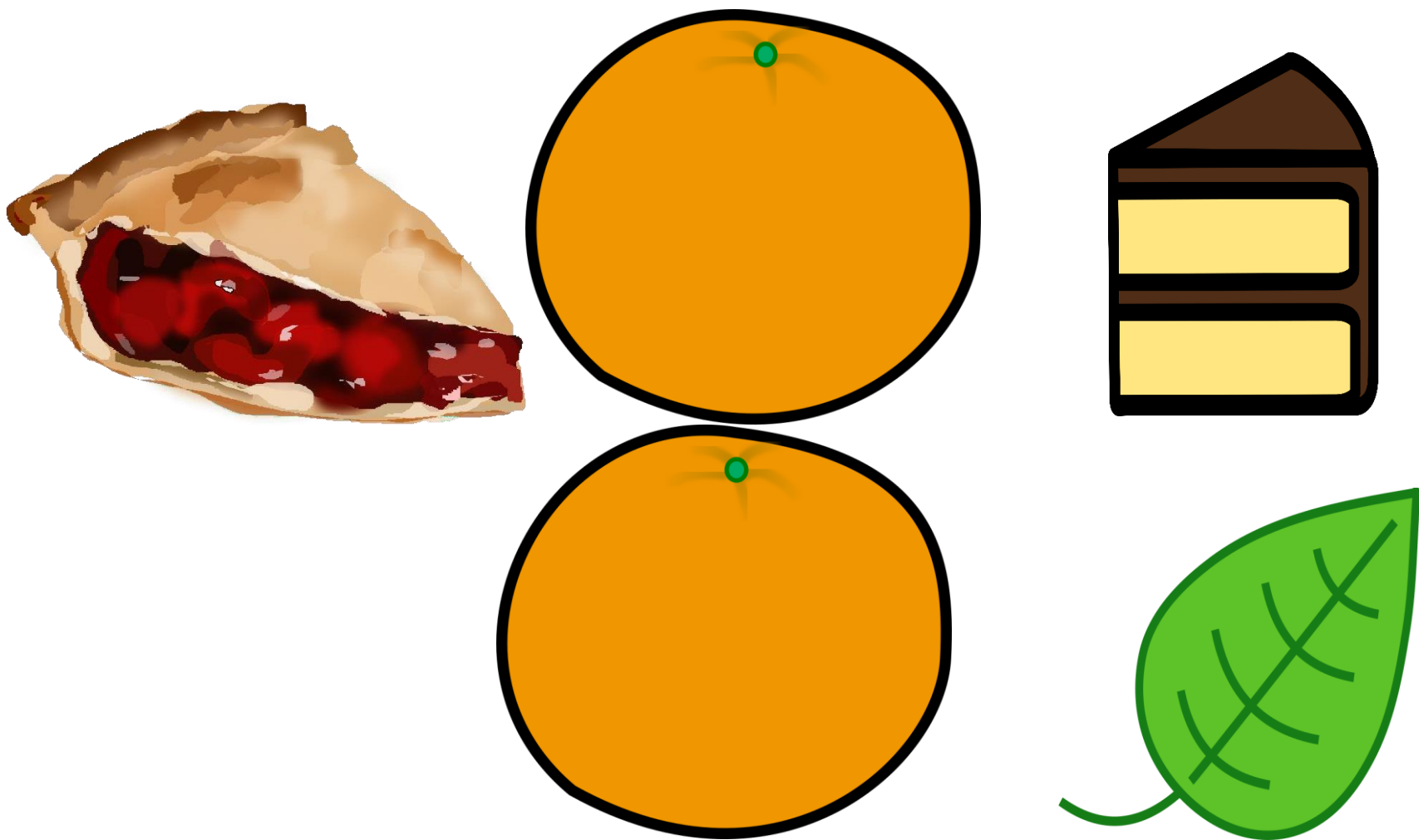


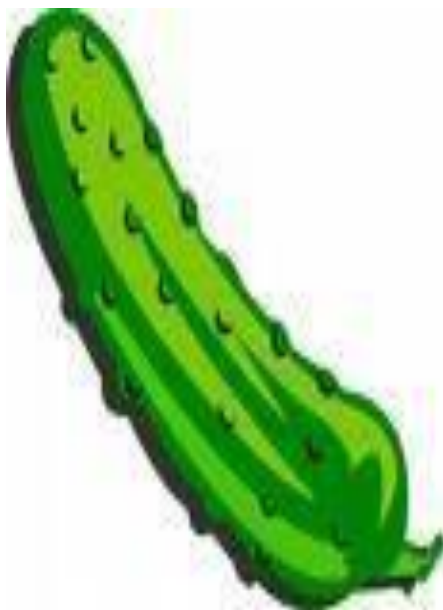
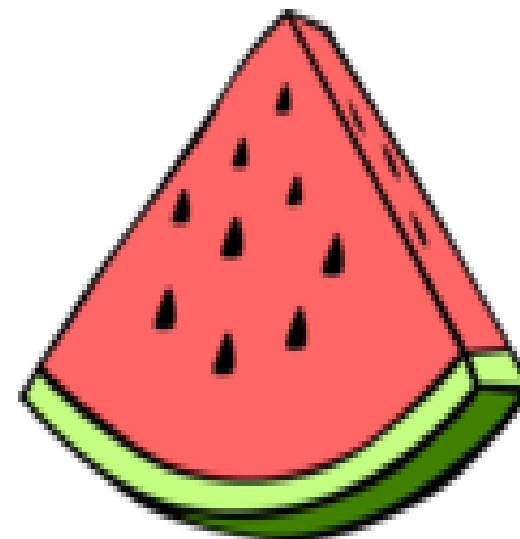
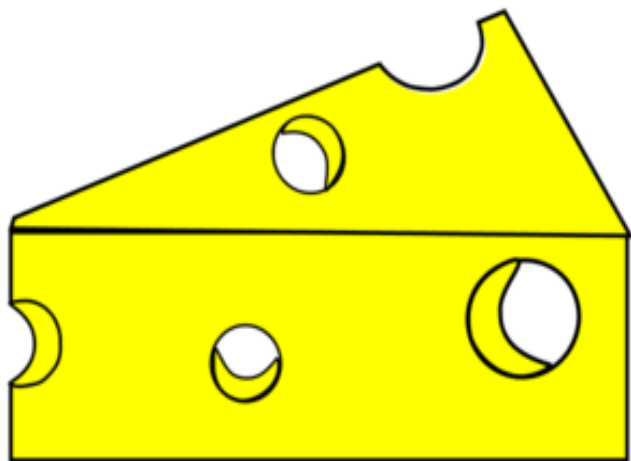














## Handout 2.2: Five Frame

# Five Frame

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## Lesson 3: More Counting

**Focus Standards:** PK.OA.1, PK.OA.2

**Additional Standards:** PK.RL.1, PK.CC.2, PK.CC.3, PK.CC.3a, PK.CC.3b, PK.CC.4, PK.CC.4a

**Lesson Activity Materials:**

- Basket
- Food Counters
- Life-size five frame made on the floor with tape
- *The Very Hungry Caterpillar* by Eric Carle
- White board/interactive white board to display five frame
- Handout 2.1: Food Cut Outs
- Handout 2.2 Five Frame
- Handout 1.2: Daily Mastery Tracker

**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 1.3: *The Very Hungry Caterpillar* Story Props

**Lesson Targets:**

- Students will use number names, zero to five, to represent objects.
- Students will understand the relationship between numbers and the quantities that combine to make them.

**Guiding Questions:**

- How can I add on more using a five frame?
- How can I find how many more make five?

## 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	
<p><b>Understanding Lesson Purpose and Student Outcomes:</b> Students will use the five frame to demonstrate several combinations of objects.</p> <p><b>Anticipatory Set/Introduction to the Lesson: Experimenting with Adding with Five Frames (Whole Group)</b></p> <p>Review the numbers 0-5 using number cards. Hold up a five frame and ask students to tell you what it is and why we use it. If needed, remind students the five frame will help them count amounts of five. Distribute five frames and counters to students and display a large five frame on whiteboard. Ask the students to use their counters to show the following number of objects.</p> <p>T: Show me 3.</p> <p>T: Show me 5.</p> <p>T: Show me 1.</p> <p>T: Show me 0.</p> <p>T: Show me 4.</p> <p>T: Show me 2.</p> <p>Verify each of these amounts using the five frame on the whiteboard for students.</p> <p><b>Note:</b> (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.</p>	



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

- Use a laminated five frame with the numerals 1-5 already written on it from left to right (one number per box).
- Work one-on-one with teacher or a peer to count
- Provide a model for students to view.

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

- Complete problems with more challenging number combinations.

**Activity 1: Experimenting with Adding with 5-Frames (Whole Group)**

**Note:** Insert movement/physical activity for the students between the Anticipatory Set and Activity 1.

Display a life-size five frame on the floor. As a class, count the number of boxes in the five frame. Put a manipulative in each box to model each day from *The Very Hungry Caterpillar*.

**Note:** Randomly select students to help solve the addition problem, referencing the picture graph in the previous lesson.

Have students work in pairs to represent addition problems with use of manipulatives, counters, five frames, and pictorial representations. Give one food cut out from **Handout 2.2: Food Cut Outs** to each student.

Read the following sentences and have students will step into the five frame to illustrate the sentences. Refer to the text *The Very Hungry Caterpillar* for assistance as needed.

T: The caterpillar ate 1 apple Monday.

T: The caterpillar ate 2 pears Tuesday.

T: The caterpillar ate 3 plums Wednesday.

T: The caterpillar ate 4 strawberries Thursday.

T: The caterpillar ate 5 oranges Friday.

T: The caterpillar ate 1 nice green leaf Sunday.

Ask the students what the caterpillar ate Monday.

Possible responses include:

- ... an apple
- ... some apples
- ... one
- ... a pear

**Note:** Be prepared to correct wrong responses by referring the students to the story and the picture graph, which shows how many of each food item the caterpillar ate.

Use a five frame to demonstrate placing an apple cut out or counter in the first box.

Ask the students to count the number of empty boxes. Then facilitate the following discussion.

T: How many pieces of fruit is needed to make five.

S: 4 pieces

T: On which day did the caterpillar eat 4 pieces of fruit?

S: Thursday

T: What did the caterpillar eat Thursday?

S: 4 strawberries

Display the addition problem on the five frame using the sentences the students dictated in the previous lesson.

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

Have students step into the five frame on the floor to illustrate the addition problem. Continue with different reading problems.

### **Formative Assessment**

- ✓ Use **Handout 1.2: Daily Mastery Tracker** to record observations of students' understandings and abilities for each day. For Day 2, record a 0 if the student is unable to model a number in the five frame, a + if the student is able to model one or two numbers in the five frame but cannot tell the total of two addends, and a ✓ if the student is able to accurately model two numbers in the five frame and tell how many there are in all.

### 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 1.3: *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:

Display the following student dictated responses:

- The caterpillar ate 1 apple Monday.
- The caterpillar ate 2 pears Tuesday.
- The caterpillar ate 3 plums Wednesday.
- The caterpillar ate 4 strawberries Thursday.
- The caterpillar ate 5 oranges Friday.

Instruct students to choose combinations of two fruits that will make 5. Possible student responses include:

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

Circulate and ask students to justify their combinations on the five frame.

**Note:** While 5 and 0 do combine to make 5, the directions asked students to combine two fruits. Encourage students who present this solution to find a different combination.

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

- How can I add more using a five frame?
- How can I find how many more make five?

### Homework

Not developmentally appropriate for pre-kindergarten.

## Lesson 4: I Want More!

**Focus Standards:** PK.OA.1, PK.OA.2

**Additional Standards:** PK.RL.1, PK.CC.2, PK.CC.3, PK.CC.4

**Lesson Activity Materials:**

- Crayons
- Cups
- Double-sided Counters
- Fruit Counters
- Music
- Paper plates cut in half
- String/yarn
- *The Very Hungry Caterpillar* by Eric Carle
- White board/interactive white board
- Handout 2.1: Food Cut Outs
- Handout 2.2 Five Frame
- Handout 4.1: Shake and Spill
- Handout 1.2: Daily Mastery Tracker

**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 1.3: *The Very Hungry Caterpillar* Story Props

**Lesson Target:**

- Students will understand the relationship between numbers and the quantities that combine to make them.

**Guiding Questions:**

- How can I show a number, using different combinations of the same objects?
- How can five frames help me add two parts together?

## 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 solve number combinations within 5, using a five frame. Students will use counters to create number combinations within five on the five frame.

#### Anticipatory Set/Introduction to the Lesson: “I Want More!” Five Frame Dance

**Note:** Prior to lesson, create paper plate necklaces for each student. Necklaces are made of paper plate halves and string. Punch two holes at the top of the plate half and run string through to make a necklace. Write numbers 0-5 (one number on each necklace) on 1/2 of necklaces and draw 5-frames on the other half of necklaces that match the numbered plates. Ex: “1” would match with the frame shown below. Depending on the number of students in the class, you may have a number more than once. Make sure that there is a five frame match for every number.



Give each student a necklace. Play an age-appropriate song 20 seconds. Allow students to dance and find a partner that matches them. Exchange necklaces and dance again to find a new partner.

**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:**

- Students may work in pairs, small groups, or individually with the teacher to complete the activity.
- Teacher may offer a necklace with the answer on the back to help students find their match.

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

- Students can use a ten frame for counting and write numerals to represent the number combinations.

**Activity 1: Five Frame Flash (Teacher-led Small Group)**

Tell students that we are continuing our math lessons from *The Very Hungry Caterpillar*. Reread the story with the children. Review the vocabulary from the story as you read. Give each student a five frame and counters.

Review using a five frame by reading the following addition problem:

T: The caterpillar ate 2 pears. The caterpillar ate 3 plums. How many pieces of fruit did the caterpillar eat?

Tell the students to count the pieces of fruit the caterpillar ate on the five frame making sure that the student touches each fruit piece as he/she counts.

Continue to review with the following problems:

T: The caterpillar ate 1 apple. The caterpillar ate 2 pears. How many pieces of fruit did the caterpillar eat?

T: The caterpillar ate 0 bananas. The caterpillar ate 5 oranges. How many pieces of fruit did the caterpillar eat?

T: The caterpillar ate 3 plums. The caterpillar ate 1 apple. How many pieces of fruit did the caterpillar eat?



T: The caterpillar ate 4 strawberries. The caterpillar ate 0 bananas. How many pieces of fruit did the caterpillar eat?

### Activity 2: Shake and Spill (Teacher-led Small Group)

Pair students. Put 5 double-sided counters in cups for each pair.

Have one student shake and spill the counters onto the table. Place the counters in the five frame. Have both students count how many of each color is showing and record by drawing in the five frame on **Handout 4.1: Shake and Spill**. Allow the other student to shake and spill the counters, repeating the process.

### Formative Assessment

- ✓ Use **Handout 1.2: Daily Mastery Tracker** to record observations of students' understandings and abilities for each day. For Day 1, record a 0 if the student is unable to model a number in the five frame, a + if the student is able to model one number in the five frame but cannot model both, and a ✓ if the student is able to accurately model both numbers in the five frame and understand that there will always be five frames filled in.

### 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 1.3: 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:**

Review combinations of numbers and objects using a five frame on the board. Have students share explanations of combining amounts to make five using the Shake and Spill activity.

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

- How can I show a number, using different combinations of the same objects?
- How can five frames help me add two parts together?

## Homework

Homework is not developmentally appropriate for pre-kindergarten.

Handout 4.1: Shake and Spill

# Shake and Spill

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## Lesson 5: Making More with Five Frames

**Focus Standards:** PK.OA.1, PK.OA.2

**Additional Standards:** 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/interactive white board
- Handout 2.1: Five Frames
- Handout 5.1: Concentration
- Illuminations Five Frame Activity: <https://illuminations.nctm.org/Activity.aspx?id=3564>
- Handout 1.2: Daily Mastery Tracker

**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 1.3: *The Very Hungry Caterpillar* Story Props

**Lesson Target:**

- Students will understand the relationship between numbers and the quantities that combine to make them.

**Guiding Questions:**

- 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:

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

**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 five 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 five 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

### Formative Assessment

- ✓ Use **Handout 1.2: Daily Mastery Tracker** to record observations of students' understandings and abilities for each day. For Day 1, record a 0 if the student is able to match number pairs to a five frame 0-2/5 times, a + if the student is able to match number pairs to a five frame 3-4/5 times, and a ✓ if the student is able to accurately match number pairs to a five frame 5/5 times.

### 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.

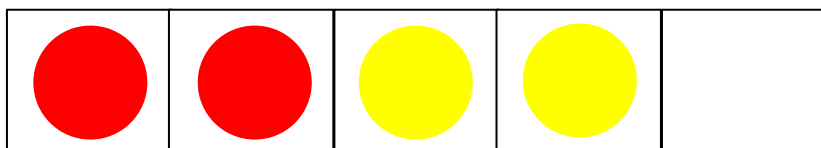
- ✓ **Writing Center** – Ask students to write and/or draw about their favorite foods. Have students reference the Word Wall, available books, charts and pictures in the classroom.
- ✓ **Dramatic Play Center** - Distribute **Handout 1.3: The Very Hungry Caterpillar Story Props** for students to make 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.

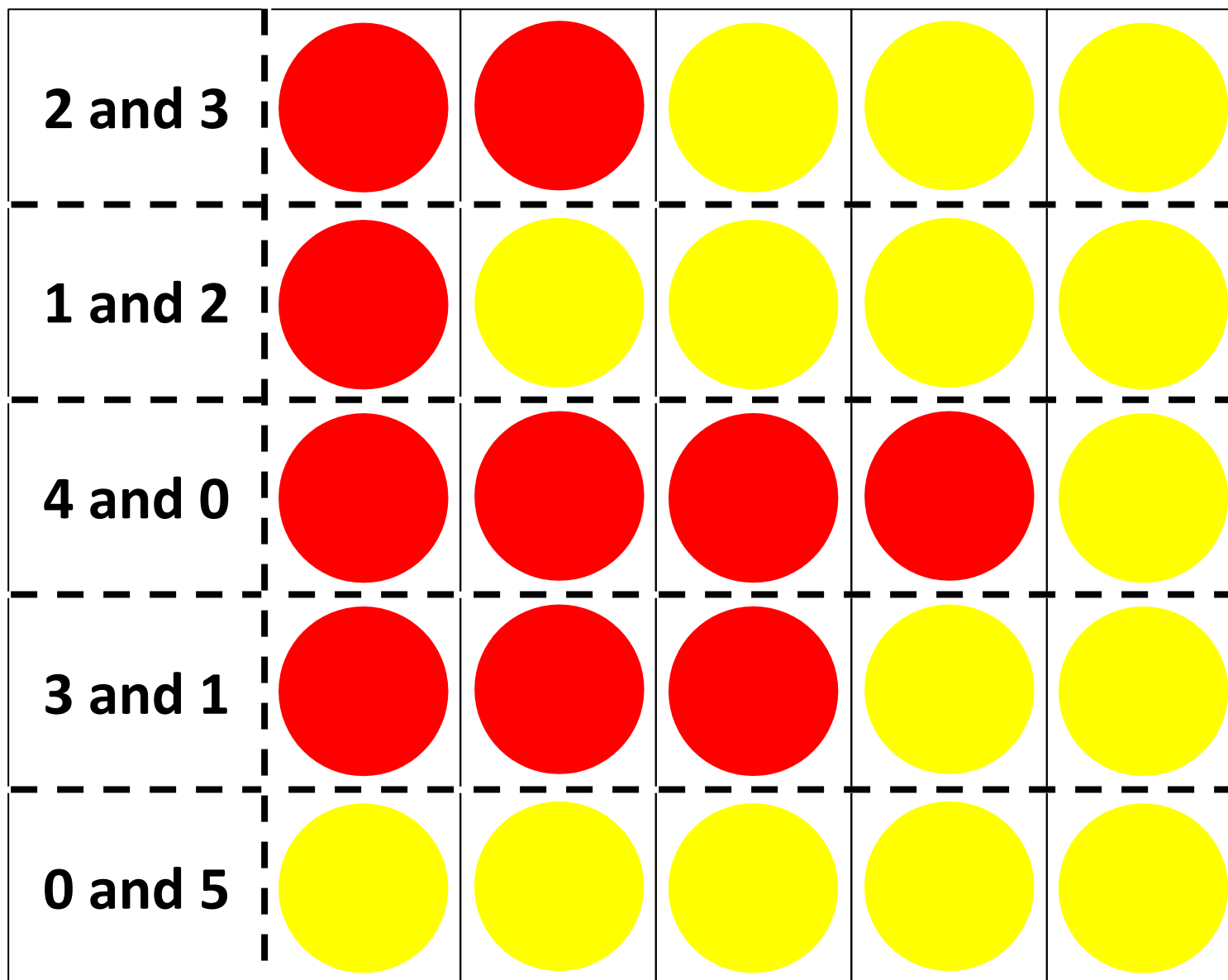
Reflect on how well the students answered the following essential questions by examining evidence of student learning.

- How can I show a number, using different combinations of the same objects?
- How can a five frame help me to show more?

### Homework

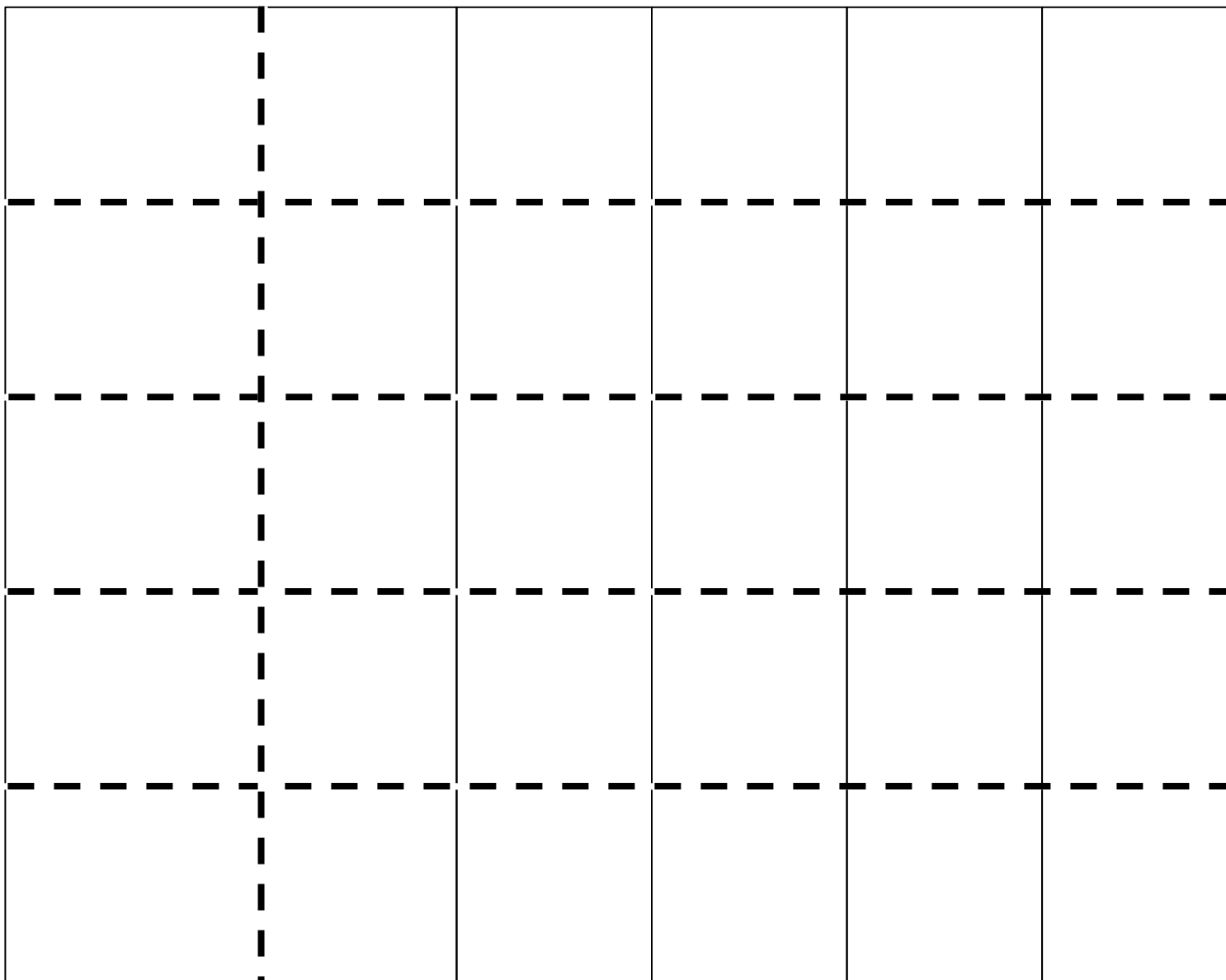
Homework is not developmentally appropriate for pre-kindergarten.

## Handout 5.1: Concentration





Create your own:



## Lesson 6: Putting Together and Taking Apart

**Focus Standards:** PK.OA.1, PK.OA.2

**Additional Standards:** PK.RL.1, PK.CC.2, PK.CC.3, PK.CC.4

**Lesson Activity Materials:**

- Cups
- Food Counters
- Hula Hoops
- Magnets
- *The Very Hungry Caterpillar* by Eric Carle
- White board/interactive white board
- Handout 2.1: Food Cut Outs
- Handout 6.1: Combination Mat
- *The Very Hungry Caterpillar* Animated Reading: <https://www.youtube.com/watch?v=RqMM793Kpys>
- Handout 1.2: Daily Mastery Tracker

**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 1.3: *The Very Hungry Caterpillar* Story Props

**Lesson Target:**

- Students will understand the relationship between numbers and the parts that combine to make it.

**Guiding Question:**

- How can I show a number, using different combinations of the same objects?

## 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	
<p><b>Understanding Lesson Purpose and Student Outcomes:</b> Students will understand the relationship between numbers and the quantities that combine to make them.</p> <p><b>Anticipatory Set/Introduction to the Lesson: Retell Story (Whole Group)</b>            Watch <a href="#">The Very Hungry Caterpillar Animated Reading</a>.</p> <p>Group the students. Have the students retell the story by using food counters to sequentially order what the caterpillar ate.</p> <p><b>Note:</b> (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.</p> <div data-bbox="321 1024 1780 1318" style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p><b>For students who are EL, have disabilities, or perform well below grade level:</b></p> <ul style="list-style-type: none"> <li>• Students use the anchor chart from Lesson 5 to sequentially order the food.</li> <li>• Use hula hoops and fruit cut outs to work with groups of 2 or 3 to make combinations.</li> </ul> <p><b>Extensions for students with high interest or working above grade level:</b></p> <ul style="list-style-type: none"> <li>• Students record numerals to show number combinations.</li> </ul> </div>	

**Activity 1: Putting Together and Taking Apart (Teacher-led Small Group)**

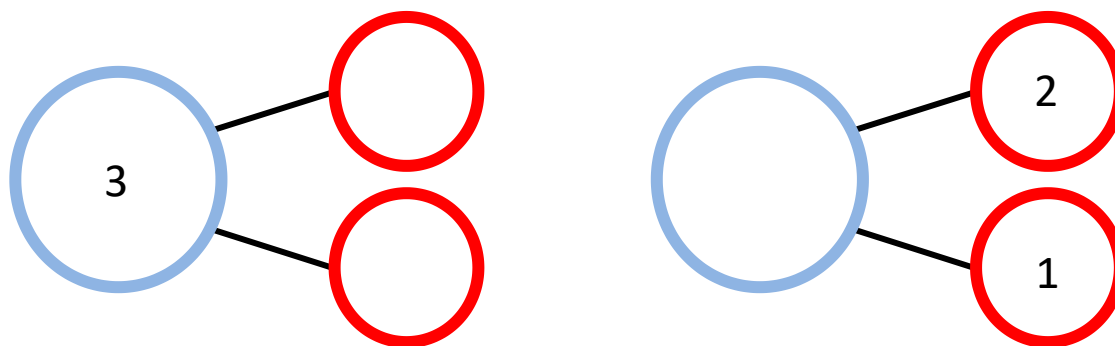
Place 3 hula hoops on the floor. Give each student a fruit cut out.

T: The caterpillar ate 3 plums on Wednesday. How can we show 3?

Select students to act as plums and stand in the whole number circle (the biggest circle). Point while students count the number of students in the circle.

Pose the following or similar questions:

T: What would happen if these two plums moved to this little circle? And if this plum moved to the other little circle?



Ask students to count the number of plums in each circle. Then, move the students back to the big circle and recount.

T: Help me find other combinations to create the same number.

Repeat with different students (fruits) and a different whole number. Use other combinations, e.g. 2 pears and 2 strawberries.

Distribute **Handout 6.1: Combination Mat** and 5 counters. Orally and visually, give the students a number (0 – 5) to decompose. Have students begin by placing counters in the big circle. Create the same visual on the board using magnets for counters.

Allow students to explore and come up with their own combinations while teacher observes, guides and supports. Continue asking for another way until all combinations have been recorded.

**Formative Assessment**

- ✓ Use **Handout 1.2: Daily Mastery Tracker** to record observations of students' understandings and abilities for each day. For Day 1, record a 0 if the student is unable to use the part-part-whole model, a + compose but not decompose numbers less than or equal to five, and a ✓ if the student is able to compose and decompose numbers less than or equal to 5.



### 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 1.3: *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:

During snack time, students will create a number combination to put together and/or take apart using a Combination Mat and real-world objects such as goldfish, crackers, cookies, etc. Students may share their work with the class. Teacher and students will review the skills of the day and discuss.

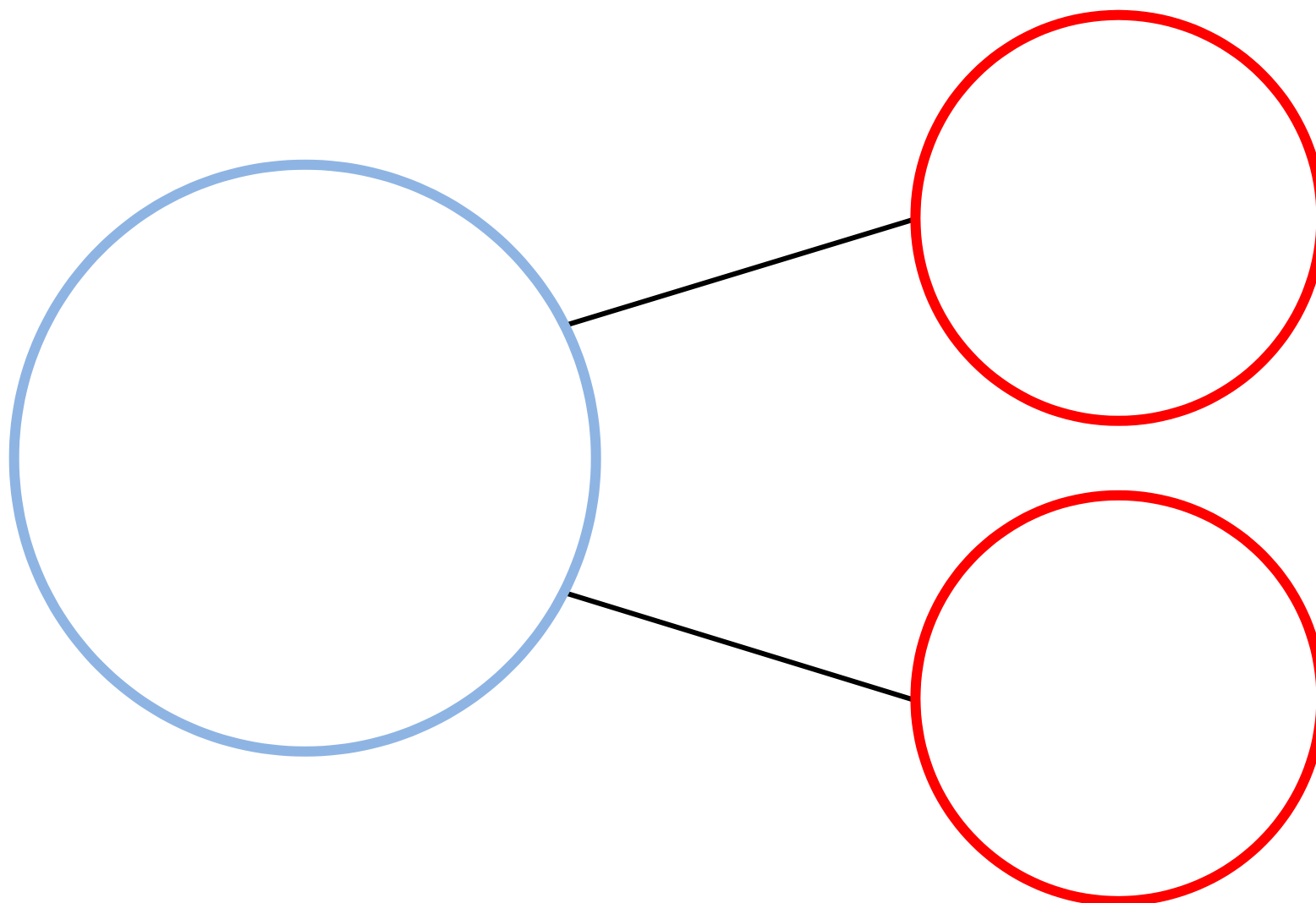
Reflect on how well the students answered the following essential questions by examining evidence of student learning.

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

### Homework

Homework is not developmentally appropriate for pre-kindergarten.

Handout 6.1: Combination Mat



## Lesson 7: Hungry Snake

**Focus Standards:** PK.OA.1, PK.OA.2

**Additional Standards:** PK.RL.1, PK.CC.2, PK.CC.3, PK.CC.4

**Lesson Activity Materials:**

- Manipulatives (pencils, erasers, crayons, play money, play or real food items)
- *Mouse Count* by Ellen Stohl Walsh
- Handout 1.2: Daily Mastery Tracker

**Learning Center Materials**

- Markers
- Play-Doh and baking trays/cookie sheets
- Popsicle sticks and glue sticks
- Sequencing puzzles
- Various art supplies (for props)
- Mouse Count Animated Story: [https://www.youtube.com/watch?v=xtoB\\_x1O5YI](https://www.youtube.com/watch?v=xtoB_x1O5YI)

**Lesson Target:**

- Students will understand addition as putting together and adding to and that addition can be represented in many ways.

**Guiding Question:**

- How can I add on to make more?


## Vocabulary

**Academic Vocabulary:**

- Add
- Equal
- Total

**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

<p><b>Note:</b> Expose students to various ways to mathematically express these terms. For example, when discussing the word <b>equal</b>, include phrases such as <b>the same, match, or even</b> (as in tied).</p>	<input type="checkbox"/> Create pictures/symbols to represent words <input type="checkbox"/> Write/discuss using the words
<p><b>Direct Instruction Text Vocabulary:</b></p> <ul style="list-style-type: none"> <li>• Enough</li> <li>• Empty</li> <li>• Greedy</li> <li>• Hungry</li> <li>• Jar</li> <li>• Mice</li> <li>• Snake</li> </ul> <p><b>Note:</b> Consider which of these words would fall into Tier 2 for your students when introducing vocabulary.</p>	<p><b>Instructional Strategies for Direct Instruction Text Vocabulary:</b></p> <input type="checkbox"/> Introduce words with student-friendly definition and pictures <input type="checkbox"/> Model how to use the words in discussion <input type="checkbox"/> Write/discuss the meaning of word in multiple contexts <input type="checkbox"/> Provide pictures/props to represent words <input type="checkbox"/> Act out the words or attach movements to the words
<b>Symbol</b> <span style="float: right;"><b>Type of Text and Interpretation of Symbol</b></span>	
	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)
<b>Instructional Plan</b>	
<p><b>Understanding Lesson Purpose and Student Outcomes:</b> Students will understand the relationship between adding and subtracting using developmentally appropriate materials.</p> <p><b>Anticipatory Set/Introduction to the Lesson: <i>Mouse Count</i> Read Aloud (Whole Group)</b></p> <p>Read aloud <i>Mouse Count</i> by Ellen Stohl Walsh. Ask questions about the story (characters, sequence of events, vocabulary and moral of the story). With the students, count aloud forward 0 – 10 and backward 10- 0 as the pages in the book indicate.</p>	

T: What happened in the jar as the mice were being put in by the snake?

T: What happened in the jar as the mice were getting away?

**Note:** Remind students of vocabulary words (adding to, more). This story and lesson will provide a foundation for introducing subtraction in the future.

Reread the story as the students join in to count aloud  $0 - 10$  (adding to) and  $10 - 0$  (taking away).

**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:**

- Continue to use combinations of 0-5 for practicing addition.

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

- The teacher and students will compose more addition stories and students will take turns explaining and presenting answers.

**Activity 1: Adding On (Teacher-led Small Group)**

**Note:** Insert movement/physical activity for the students between the Anticipatory Set and Activity 1.

Ask students to help solve addition stories. Review the term *add* with students. Model what it means to add. Use as many combinations of numbers as you can for student practice. Read the following and model using real-world objects.

T: Safir has 5 (five) pencils. Pat gives him 0 (zero) pencils. How many pencils does Safir have now?

T: Ted has 2 (two) erasers. His friend gives him 1 (one) more eraser. How many erasers does Ted have?

T: Mom eats 2 (two) cookies for lunch and 3 (three) cookies for dinner. How many cookies did Mom eat?

T: Jules has 3 dollars. Her dad gives her 1 dollar. How much money does Jules have now?

**Formative Assessment**

- ✓ Use **Handout 1.2: Daily Mastery Tracker** to record observations of students' understandings and abilities for each day. For Day 1, record a 0 if the student is unable to use the add on strategy, a + if the student is able to add on with an addend of 1,

and a ✓ if the student is able to accurately add on with addends 0-4.

### 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 animals. Have students reference the Word Wall, available books, charts and pictures in the classroom.
- ✓ **Dramatic Play Center** - Have students create their own props for *Mouse Count* out of various art materials and act out the story.
- ✓ **Math Center** - Using Play-Doh, have students make snakes and mice, count them, and make the number for the amount.
- ✓ **Computer/Listening Center** – Provide technology for students to listen to *Mouse Count* on CD, DVD, or online with [Mouse Count 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 mice, snakes, counting, adding, and subtracting to read, pretend read, and view.
- ✓ **Manipulative/Block Center** - Students will work with sequencing puzzles and counting puzzles.

### Reflection and Closing:

Have students retell the story *Mouse Count* to a partner. Partner #1 will reenact putting 5 mice into the jar by the snake as both partners count 0-5. Partner #2 will reenact the mice getting out of the jar as both partners count 5-0.

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

- How do I show (addition) adding on?
- In what parts of our story did we see adding?

## Homework

Homework is not developmentally appropriate for pre-kindergarten.

## Lesson 8: Smart Little Mice

**Focus Standards:** PK.OA.1, PK.OA.2

**Additional Standards:** PK.RL.1, PK.CC.2, PK.CC.3, PK.CC.4

**Lesson Activity Materials:**

- 10 Black, white, and gray (or available) pompom balls
- *Mouse Count* by Ellen Stohl Walsh
- Play-Doh snake
- Small plastic jar or bowl
- White board/interactive white board
- Handout 1.2: Daily Mastery Tracker

**Learning Center Materials**


- Markers
- Play-Doh and baking trays/cookie sheets
- Popsicle sticks and glue sticks
- Sequencing puzzles
- Various art supplies (for props)
- Mouse Count Animated Story: [https://www.youtube.com/watch?v=xtoB\\_x1O5YI](https://www.youtube.com/watch?v=xtoB_x1O5YI)

**Lesson Target:**

- Students will understand addition as putting together and adding to and that addition can be represented in many ways.

**Guiding Questions:**

- How can I show a number using different combinations of the same objects?
- How can I use number combinations to make more (add)?
- How can I represent addition using symbols?

Vocabulary	
<p><b>Academic Vocabulary:</b></p> <ul style="list-style-type: none"> <li>• Add</li> <li>• Equal</li> <li>• Total</li> </ul> <p><b>Note:</b> Expose students to various ways to mathematically express these terms. For example, when discussing the word <b>equal</b>, include phrases such as <b>the same</b>, <b>match</b>, or <b>even</b> (as in tied).</p>	<p><b>Instructional Strategies for Academic Vocabulary:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Introduce words with student-friendly definitions and pictures</li> <li><input type="checkbox"/> Model how to use the words in discussion</li> <li><input type="checkbox"/> Discuss the meaning of word in a mathematical context</li> <li><input type="checkbox"/> Create pictures/symbols to represent words</li> <li><input type="checkbox"/> Write/discuss using the words</li> </ul>
<p><b>Direct Instruction Text Vocabulary:</b></p> <ul style="list-style-type: none"> <li>• Enough</li> <li>• Empty</li> <li>• Greedy</li> <li>• Hungry</li> <li>• Jar</li> <li>• Mice</li> <li>• Snake</li> </ul> <p><b>Note:</b> Consider which of these words would fall into Tier 2 for your students when introducing vocabulary.</p>	<p><b>Instructional Strategies for Direct Instruction Text Vocabulary:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Introduce words with student-friendly definition and pictures</li> <li><input type="checkbox"/> Model how to use the words in discussion</li> <li><input type="checkbox"/> Write/discuss the meaning of word in multiple contexts</li> <li><input type="checkbox"/> Provide pictures/props to represent words</li> <li><input type="checkbox"/> Act out the words or attach movements to the words</li> </ul>
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 understand the strategy of counting on by modeling addition of one using developmentally appropriate materials.

### **Anticipatory Set/Introduction to the Lesson: Adding On Mice (Whole Group)**

Ask students to read along while rereading *Mouse Count*. Guide students to count on when each mouse is added to the jar. Introduce the plus sign (+) and the equal sign (=) to help students become familiar with the symbols for mathematical equations. Model the addition on chart paper or a dry erase board by showing  $\bullet\bullet + \bullet = \bullet\bullet\bullet$ .

**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:**

- Students will continue to count using 0-5 mice until skills is mastered.
- Students will work with a partner to count and add on (0-5).

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

- Students may pantomime the taking away part of the story by counting "out" the mice as they subtract (count back) 10-0.
- Students may add or subtract (0-10) as they are able.

### **Activity 1: Adding On Mice (Teacher-led Small Group)**

**Note:** Insert movement/physical activity for the students between the Anticipatory Set and Activity 1.

Demonstrate adding mice into the jar using pompoms (mice), a jar and a Play-Doh snake. Starting with 0, pause after each "mouse" is placed in the jar to question students:

T: How many mice are in the jar now?

S: Respond with the correct amount and unit.

For example: There are 2 mice in the jar. Add 1 more and ask, “how many mice are in the jar altogether?” Students will respond, “3 mice”. Reinforce that 2 mice + 1 more mouse = 3 mice. As the amounts increase, students may need to pour out the mice to be able to count with precision.

Continue the lesson and observe, allowing students opportunities to be the snake and count mice into the jar and ask peers, “How many mice altogether?”

### Formative Assessment

- ✓ Use **Handout 1.2: Daily Mastery Tracker** to record observations of students’ understandings and abilities for each day. For Day 1, record a 0 if the student is unable add using manipulatives with math symbols (+ and =), a + if the student is able to add with manipulatives and math symbols when prompted with the meanings of the symbols, and a ✓ if the student is able to add manipulatives with symbols.

### 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 animals. Have students reference the Word Wall, available books, charts and pictures in the classroom.
- ✓ **Dramatic Play Center** - Have students create their own props for *Mouse Count* out of various art materials and act out the story.
- ✓ **Math Center** - Using Play-Doh, have students make snakes and mice, count them, and make the number for the amount.
- ✓ **Computer/Listening Center** – Provide technology for students to listen to *Mouse Count* on CD, DVD, or online with [Mouse Count 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 mice, snakes, counting, adding, and subtracting to read, pretend read, and view.
- ✓ **Manipulative/Block Center** - Students will work with sequencing puzzles and counting puzzles.

**Reflection and Closing:**

During snack time, have students demonstrate adding on by placing 5 goldfish, 5 pretzels, or 5 other small snacks into a paper cup. Encourage students to verbally add on.

For example: 1 goldfish + 1 goldfish = 2 goldfish; 2 goldfish + 1 goldfish = 3 goldfish Observe and listen as students count and add snacks into the cup.

Reflect on how well the students mastered adding as it relates to the real world.

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

- How can I show a number, using different combinations of the same objects?
- How can I use number combinations to make more (add)?

**Homework**

Homework is not developmentally appropriate for pre-kindergarten.

## Lesson 9: Run Mice, Run!

**Focus Standards:** PK.OA.1, PK.OA.2

**Additional Standards:** PK.RL.1, PK.CC.2, PK.CC.3, PK.CC.4

**Lesson Activity Materials:**

- Clothespins with numbers 0-10 on them (duplicate numbers as needed)
- Jar
- *Mouse Count* by Ellen Stohl Walsh
- Play-Doh snake
- Pompoms for mice
- White board/interactive white board
- Handout 1.2: Daily Mastery Tracker

**Learning Center Materials:**


- Markers
- Play-Doh and baking trays/cookie sheets
- Popsicle sticks and glue sticks
- Sequencing puzzles
- Various art supplies (for props)
- Mouse Count Animated Story: [https://www.youtube.com/watch?v=xtoB\\_x1O5YI](https://www.youtube.com/watch?v=xtoB_x1O5YI)

**Lesson Target:**

- Students will understand addition as putting together and adding to and that addition can be represented in many ways.

**Guiding Questions:**

- How can I show an amount using different combinations of the same objects?
- How can I add on to make more?
- How can I represent addition with symbols?

Vocabulary	
<p><b>Academic Vocabulary:</b></p> <ul style="list-style-type: none"> <li>• Add</li> <li>• Equal</li> <li>• Total</li> </ul> <p><b>Note:</b> Expose students to various ways to mathematically express these terms. For example, when discussing the word <b>equal</b>, include phrases such as <b>the same</b>, <b>match</b>, or <b>even</b> (as in tied).</p>	<p><b>Instructional Strategies for Academic Vocabulary:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Introduce words with student-friendly definitions and pictures</li> <li><input type="checkbox"/> Model how to use the words in discussion</li> <li><input type="checkbox"/> Discuss the meaning of word in a mathematical context</li> <li><input type="checkbox"/> Create pictures/symbols to represent words</li> <li><input type="checkbox"/> Write/discuss using the words</li> </ul>
<p><b>Direct Instruction Text Vocabulary:</b></p> <ul style="list-style-type: none"> <li>• Enough</li> <li>• Empty</li> <li>• Greedy</li> <li>• Hungry</li> <li>• Jar</li> <li>• Mice</li> <li>• Snake</li> </ul> <p><b>Note:</b> Consider which of these words would fall into Tier 2 for your students when introducing vocabulary.</p>	<p><b>Instructional Strategies for Direct Instruction Text Vocabulary:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Introduce words with student-friendly definition and pictures</li> <li><input type="checkbox"/> Model how to use the words in discussion</li> <li><input type="checkbox"/> Write/discuss the meaning of word in multiple contexts</li> <li><input type="checkbox"/> Provide pictures/props to represent words</li> <li><input type="checkbox"/> Act out the words or attach movements to the words</li> </ul>
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 understand the relationship between adding and subtracting using developmentally appropriate materials.

### **Anticipatory Set/Introduction to the Lesson: Think-Pair-Share (Whole Group)**

**Note:** Before the activity begins, distribute a clothespin to each student with a number or representation of 1-10 written on it. As partners, students will retell the story, *Mouse Count*. Have students use story elements and unit vocabulary as the story is retold. Guide the activity by encouraging students to:

- **Think** about the story by yourself with no talking.
- **Pair** by finding your Mouse Match number partner. Use clothespin to find a person with the same number or model of the number.
- **Share** with your partner your favorite part of the story.
- Allow 2-3 partners to share with the whole group.

Review the equal sign (=) and its meaning for the values on either side.

**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:**

- Students are placed with peers to receive support.
- Students continue to practice adding on 0-5 mice until students can master the skill.

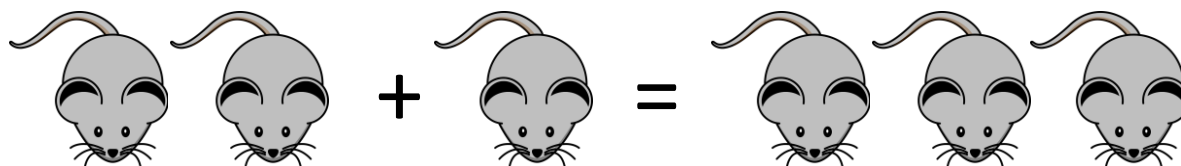
#### **Extensions for students with high interest or working above grade level:**

- Students may add and subtract mice from the jar using 10 mice.
- Students can write the numerals to represent how many.
- Students are given scenarios using larger numbers (0-10).

**Activity 1: Addition Equations with Mice (Teacher-led Small Group)**

**Note:** Insert movement/physical activity for the students between the Anticipatory Set and Activity 1.

Model adding mice the way the snake did using pompoms (mice) on a small dry erase board (to write the addition and equal signs).



Have students take turns modeling the addition with the pompoms and symbols. Students who understand the concept may create addition expressions with the pompoms and symbols for teammates to solve. Students who are struggling to use the symbols may benefit from more practice with the part-part-whole model until they are ready to use the symbols.

**Formative Assessment**

- ✓ Use **Handout 1.2: Daily Mastery Tracker** to record observations of students' understandings and abilities for each day. For Day 1, record a 0 if the student is unable add using manipulatives with math symbols (+ and =), a + if the student is able to add with manipulatives and math symbols when prompted with the meanings of the symbols, and a ✓ if the student is able to add manipulatives with symbols.

**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 animals. Have students reference the Word Wall, available books, charts and pictures in the classroom.
- ✓ **Dramatic Play Center** - Have students create their own props for *Mouse Count* out of various art materials and act out the story.
- ✓ **Math Center** - Using playdough, have students make snakes and mice, count them, and make the number for the amount.
- ✓ **Computer/Listening Center** – Provide technology for students to listen to *Mouse Count* on CD, DVD, or online with [Mouse Count 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 mice, snakes, counting, adding, and subtracting to read, pretend read, and view.

- ✓ **Manipulative/Block Center** - Students will work with sequencing puzzles and counting puzzles.

**Reflection and Closing (Whole Group):**

Allow students to act out adding on and taking away using props in the classroom. Ask students to explain the addition or subtraction process. Use names of students in the classroom to substitute for names in the reading problems below. After each

answer is given reinforce the answer by stating the problem in an equation format using the words and/or symbols plus, minus, add, subtract, and equal.

- Juan has 3 pencils. Nadia gives him 2 more. How many pencils does Juan have now?
- Lisa brought 2 bags of chips to school for snack. Lisa gave 1 bag to Kim. How many bags does Lisa have left?
- Connor, Morgan, Jase and Elijah are wearing blue shirts. Jayda comes to school late and she's wearing a blue shirt too. How many students are wearing blue shirts?

Create more addition scenarios as time permits. This activity can be continued during transition times (lining up, lunch time, snack time, dismissal, etc.)

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

- How can I add on to make more?

## Homework

Homework is not developmentally appropriate for pre-kindergarten.



## Lesson 10: The Food Finale

**Focus Standards:** PK.OA.1, PK.OA.2

**Additional Standards:** PK.RL.1, PK.CC.2, PK.CC.3, PK.CC.4

**Lesson Activity Materials:**

- Combination Mats
- Various Manipulatives
- Five frames
- Food counters
- Capri suns
- 3 bags of Gold Fish
- Mini cupcakes
- Skittles
- Paper
- Pencils
- Crayons
- Handout 10.1: Summative Assessment Questions
- Handout 10.2: Pre-Kindergarten Word Problem Rubric for Summative Assessment
- Handout 10.3: Pre-Kindergarten Teacher Notes for Summative Assessment

**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
- Sequencing puzzles
- Various art supplies (for props)
- 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 1.3: *The Very Hungry Caterpillar* Story Props
- Mouse Count Animated Story: [https://www.youtube.com/watch?v=xtoB\\_x1O5YI](https://www.youtube.com/watch?v=xtoB_x1O5YI)

**Lesson Target:**

- Students will understand addition as putting together and adding to and that addition can be represented in many ways.

**Guiding Questions:**

- How can I show a number, using different combinations of the same objects?
- How can I add on to make more?
- How can I represent addition using symbols?

## Vocabulary

**Academic Vocabulary:**

- Add
- Equal
- Total

**Note:** Expose students to various ways to mathematically express these terms. For example, when discussing the word **equal**, include phrases such as **the same**, **match**, or **even** (as in tied).

**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:**


- Enough
- Empty
- Greedy
- Hungry
- Jar

**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
- Act out the words or attach movements to the words

- Mice
- Snake

**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 express understanding of adding and subtracting within 5 using acquired strategies.

**Anticipatory Set/Introduction to the Lesson: That’s a Wrap!**  
Explain that students will be assessed individually. All centers will be open for free choice today.

**Activity 1: The Food Finale**  
Set up the scenarios found on **Handout 10.1: Summative Assessment Questions** using manipulatives, food counters, actual food items, five frames, and hula hoops to solve addition problems within 5. Use **Handout 10.2: Pre-Kindergarten Word Problem Rubric for Summative Assessment** and **Handout 10.3: Pre-Kindergarten Teacher Notes for Summative Assessment** to document student understanding.

**Learning Centers**  
Free Choice Centers - Students can visit any center of their choosing on today.

**Reflection and Closing:**  
Have students share with their peers 3 things they learned about adding and subtracting and 2 things they liked about the unit, “Hungry for Math!”

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

- How can I show a number, using different combinations of the same objects?
- How can I add on to make more?
- How can I represent addition using symbols?

### Homework

Homework is not developmentally appropriate for pre-kindergarten.

**Handout 10.1: Summative Assessment Questions**

Prepare/set up the items listed in the reading problems prior to the assessment.

**1. Juice boxes**

- My teacher has 4 juice boxes. Cayden brings her 1 more. How many juice boxes does my teacher have now?

**2. Pretzels**

- Jeremy had 3 pretzels. Melody shared 2 of her pretzels with him. How many pretzels does Jeremy have now?

**3. Cupcakes**

- I have 1 cupcake. My teacher gives me 1 more. How many cupcakes do I have?

**4. Skittles**

- Leita has 5 Skittles. Mason gave her 0 more Skittles. How many Skittles does Leita have now?

## Handout 10.2: Pre-Kindergarten Word Problem Rubric for Summative Assessment

Name \_\_\_\_\_

4	Exemplifying Mastery	Student chooses the correct number of manipulatives in the number sets can tell “how many” are in the number combination by adding, and uses the correct strategy
3	Approaching Mastery	Student chooses the correct number of manipulatives in the number sets but cannot tell “how many” are in the number combination by adding. Correctly shows one of the following: Correct number combination OR One correct strategy
2	Developing Mastery	Student counts one correct number of manipulatives in the number sets and attempts to solve the number combination by adding.
1	Not Representing Mastery	Student counts an incorrect number of manipulatives in the number sets and cannot add to solve the number combination.
0	No Understanding	No response

## Handout 10.3: Pre-Kindergarten Teacher Notes for Summative Assessment

Name \_\_\_\_\_

<b>Scenario 1: Juice Boxes</b>	Student counted four juice boxes correctly.  <input type="checkbox"/> Yes <input type="checkbox"/> No	Student counted one juice box correctly.  <input type="checkbox"/> Yes <input type="checkbox"/> No	Student attempts to add or combine manipulatives.  <input type="checkbox"/> Yes <input type="checkbox"/> No	Student chooses a strategy for addition.  <input type="checkbox"/> Yes <input type="checkbox"/> No	Student chooses a strategy for addition and finds the correct sum.  <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Scenario 2: Pretzels</b>	Student counted three pretzels correctly.  <input type="checkbox"/> Yes <input type="checkbox"/> No	Student counted two pretzels correctly.  <input type="checkbox"/> Yes <input type="checkbox"/> No	Student attempts to add or combine manipulatives.  <input type="checkbox"/> Yes <input type="checkbox"/> No	Student chooses a strategy for addition.  <input type="checkbox"/> Yes <input type="checkbox"/> No	Student chooses a strategy for addition and finds the correct sum.  <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Scenario 3: Cupcakes</b>	Student counted one cupcake correctly.  <input type="checkbox"/> Yes <input type="checkbox"/> No	Student counted one cupcake correctly.  <input type="checkbox"/> Yes <input type="checkbox"/> No	Student attempts to add or combine manipulatives.  <input type="checkbox"/> Yes <input type="checkbox"/> No	Student chooses a strategy for addition.  <input type="checkbox"/> Yes <input type="checkbox"/> No	Student chooses a strategy for addition and finds the correct sum.  <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Scenario 4: Skittles</b>	Student counted five Skittles correctly.  <input type="checkbox"/> Yes <input type="checkbox"/> No	Student understood zero Skittles correctly.  <input type="checkbox"/> Yes <input type="checkbox"/> No	Student attempts to add or combine manipulatives.  <input type="checkbox"/> Yes <input type="checkbox"/> No	Student chooses a strategy for addition.  <input type="checkbox"/> Yes <input type="checkbox"/> No	Student chooses a strategy for addition and finds the correct sum.  <input type="checkbox"/> Yes <input type="checkbox"/> No

For training or questions regarding this unit,  
please contact:

[exemplarunit@mdek12.org](mailto:exemplarunit@mdek12.org)