



MISSISSIPPI

EXEMPLAR

Units & Lessons

MATHEMATICS

Kindergarten

Grant funded by:



Lesson 4: Gobbling Up Math Strategies

Focus Standard(s): K.OA.2

Additional Standard(s): K.OA.1 (embedded); K.OA.3 and K.OA.4 (prerequisites), K.CC.4a, K.CC.4b

Standards for Mathematical Practice: SMP.1, SMP.4, SMP.6, SMP.7

Resources and Materials:

- Chart Paper
- Glue
- Markers
- Number Cubes 1 – 6
- Paper: Light Green, Dark Green, Red, and White
- *The Very Hungry Caterpillar*, by Eric Carle
- Handout 4.1: Circles Template
- Handout 4.2: Word Problem Diagram
- Handout 4.3: Word Problems

Learning Center Materials:

- Art Paper
- Construction Paper Circles
- Fruit
- Glue
- Markers
- Music
- Paint
- Paint Brushes
- Story Props for *The Very Hungry Caterpillar*
- Student Journals
- Vegetables

Lesson Target(s):

- Students join two different quantities up to 10, using one-to-one correspondence to show understanding of putting together and adding to.
- Students use a diagram to organize and solve addition word problems.

Guiding Question(s):

- How is adding like gaining weight?

Vocabulary

Academic Vocabulary:

- add
- addition
- altogether
- and
- equal
- items
- join
- more
- plus
- put together
- sum
- 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
- Create pictures/symbols to represent words
- Write/discuss using the words
- Act out the words or attach movements to the 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 represent number sentences with their bodies on a life-size 10-frame. Students will distinguish different ways to represent and solve word problems.

Anticipatory Set/Introduction to the Lesson: Sharing Homework

Have students complete a choral reading of the text and use a random method to select students to act out the story using food cuts outs during the second chorale read. Repeat about four times to give other students an opportunity to dramatize the story (SMP.4).

Students will share their 10-frames and illustrations from their homework the previous night. Revisit the text *The Very Hungry Caterpillar*.

Note: Teacher Guidance

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 about 15-20 minutes maximum.** If this time frame is too long for students, the Whole Group activities may be divided into two sessions. **Small Group should last about 15 minutes.** Using the pre-assessment results, the teacher will design the formation of small groups to reflect student capability and to drive the instruction throughout every lesson.
3. **Movement:** The teacher will conduct a movement/physical activity with the students between the anticipatory set and activity 1 to make sure students are not sitting still for too long.

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

- Allow students to move while learning (if needed).
- Have students use a 5-frame (instead of the 10-frame).
- Provide small group instruction, peer tutoring, and one-on-one assistance.

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

- Illustrate additional combinations to get a sum of 10 or within 10.
- Solve word problems using larger numbers.

Activity 1 (Teacher-led small group): Creating Caterpillar Body to Represent Sums of Ten

Note: Prior to the lesson, print **Handout 4.1: Circles Template** on both dark green, light green, and red paper and cutout. The number of circles will vary depending on the number of students in the class.

Group students with no more than 5 students per group. Tell students that they will construct a caterpillar using 10 circles, some light and some dark green. Show students the number cube. Explain that when a student rolls the number cube, the number on top will represent the number of light green circles students will use on their caterpillar and the number of dark green circles will be the number needed to have 10 circles in all (SMP.7).

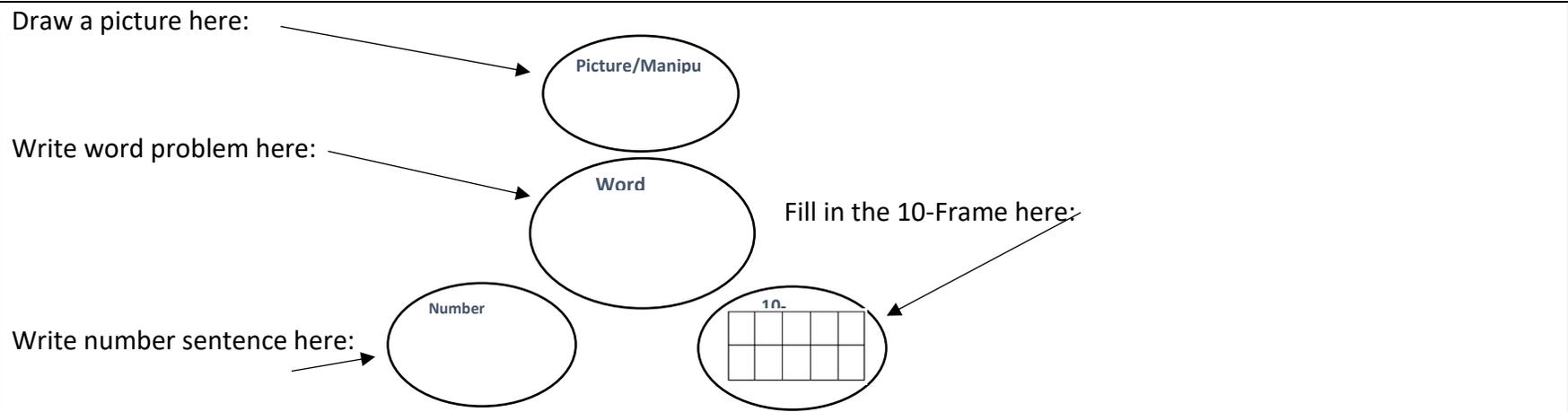
Model by rolling the number cube, counting out the corresponding number of light circles, and counting out the number of dark green circles needed to make 10 circles in all. Model using a 10-frame to help determine the number of dark green circles needed. Glue the circles on a piece of paper with a red circle for the head, to make a caterpillar.

Distribute number cubes, glue, dark green circles, light green circles, and 1 red circle for the head. Have students construct their personalized caterpillars following the model above. Students write the equation that determined the number of dark and light green circles of their caterpillar. Have students complete their caterpillar by adding eyes, antenna and feet. If time permits, they can draw and color the background. Display their pictures in the hallway or the classroom.

Activity 2 (Teacher-led small group): Creating Word Problem Diagrams

On chart paper, draw the Word Problem Diagram pictured on **Handout 4.2: Word Problem Diagram**. Explain that we will use the diagram to help understand and solve word problems. Read each part of the diagram and have students explain what they think each part represents. Allow time for discussion and let students add to each other's explanation. Clarify any misconceptions by presenting this word problem and asking where we would put it on the diagram (SMP.1).

Sammy Snake slithered over 4 rocks on his way to find his supper. He slithered over 3 plants. How many objects did Sammy Snake slither over to find his supper?



Distribute 2 copies of **Handout 4.2: Word Problem Diagram** and a word problem from **Handout 4.3 Word Problems** and tell students to glue the word problem into the center circle of their diagram. Model doing this on a diagram drawn on chart paper as students follow along. Draw a picture in the top circle and complete the ten frame and number sentence portions of the diagram. Give students another word problem and have them complete their own diagram.

Learning Centers

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

- ✓ **Dramatic Play Center/Music/Listening-** Students will make props for the story of the Very Hungry Caterpillar and act out the story. Students will listen to music and pretend to be a butterfly or some other type of insect.
- ✓ **Math Center-** Cut out 5 circles using construction paper of various colors. Count by 5's to 25 writing one number on each circle and then connecting the circles with glue. Students will also count by 10's to 50 and 20's to 100. Students will add an extra circle to make a head for each set of circles to make a caterpillar (SMP.6).
- ✓ **Computer -** Students will play math and reading games. The teacher will choose the website(s).
- ✓ **Reading Center/Writing Center-** Students will read and picture read fiction and non-fiction books. Students will write and illustrate their own stories about addition, subtraction, foods, insects, animals, etc. Students will reference the word wall, available books, charts and pictures in the classroom for assistance with words.

- ✓ **Science Center**- Provide a variety of fruits and vegetable. Throughout the unit, the students will observe the texture of the fruits and the vegetables. Decide which are alike and which are different and record their observations in their journal. Students will also smell the fruits and vegetables. Students will draw the fruit and or vegetable he or she likes best and write a sentence to explain why he or she likes it.
- ✓ **Art Center** – Provide a variety of art materials. Students will paint a picture of their choice or create their own work.

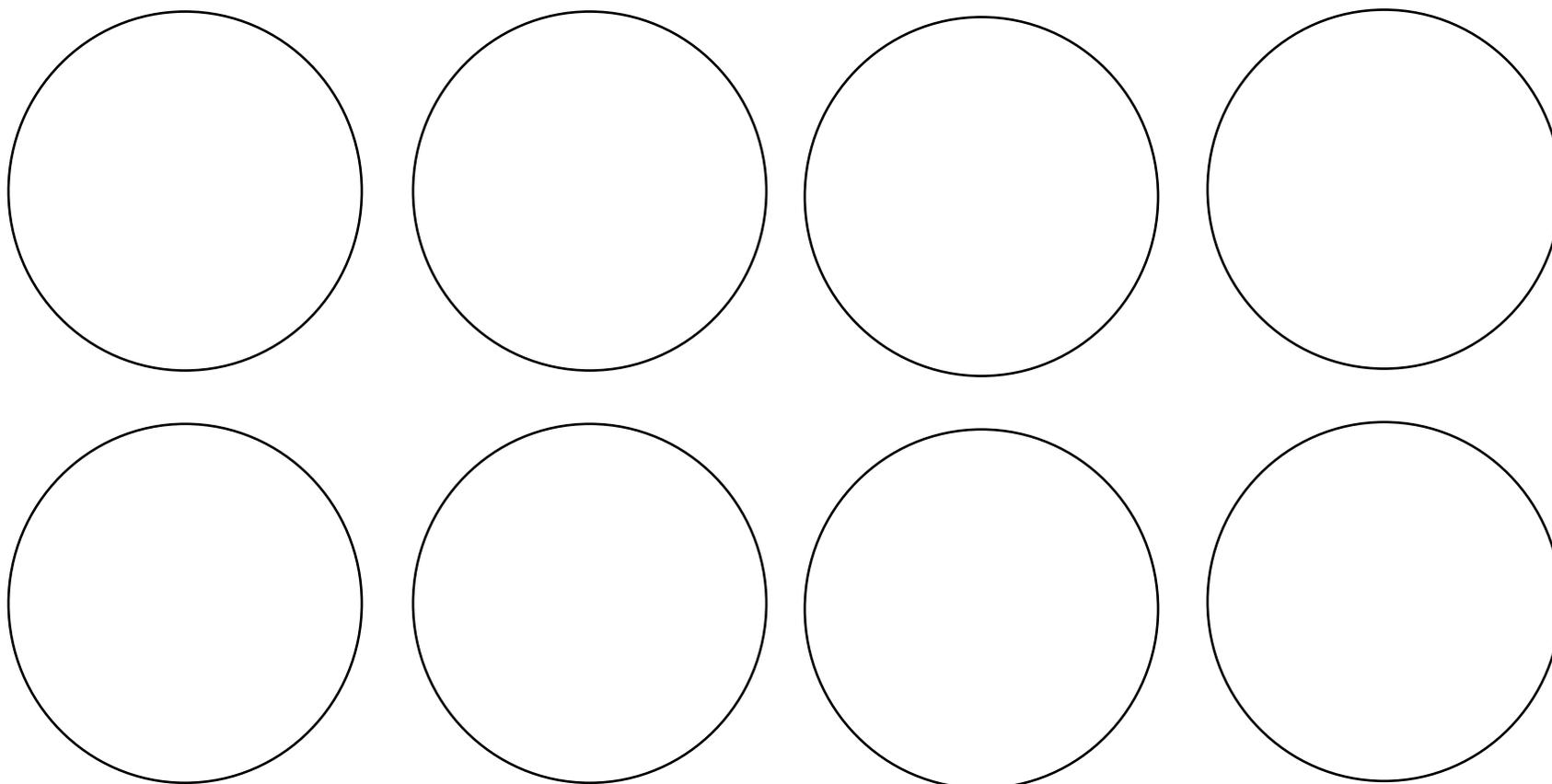
Reflection and Closing:

- ✓ Students present their completed Word Problem Diagram. Teacher uses a master checklist to record mastery.

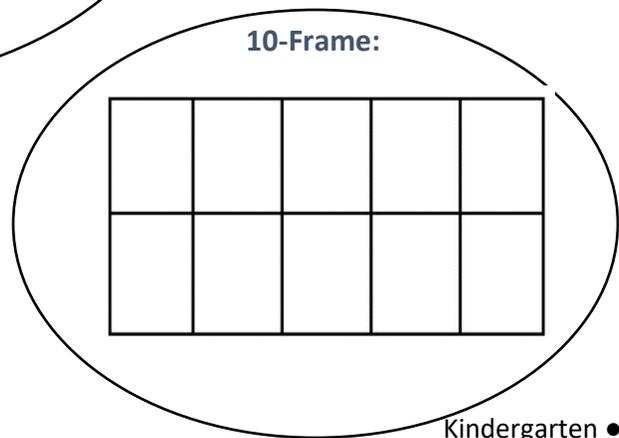
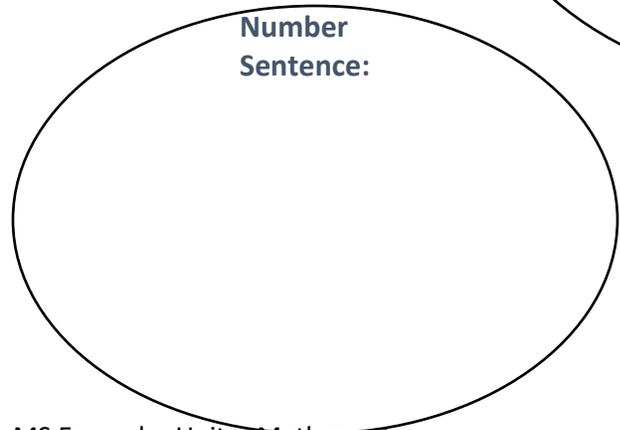
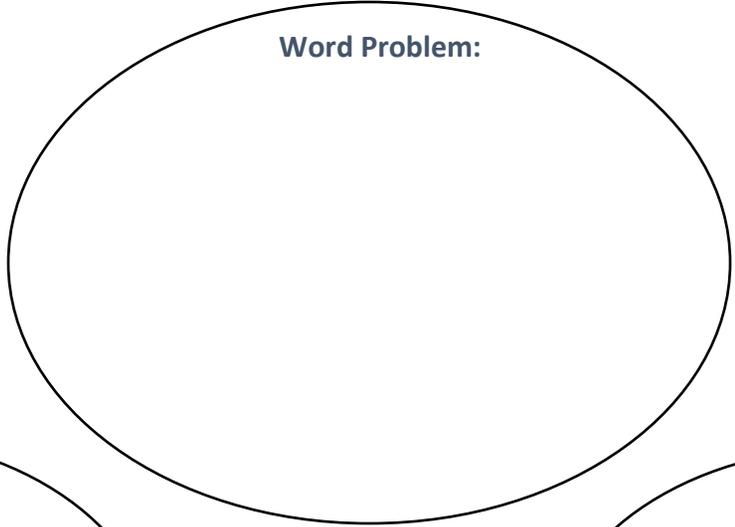
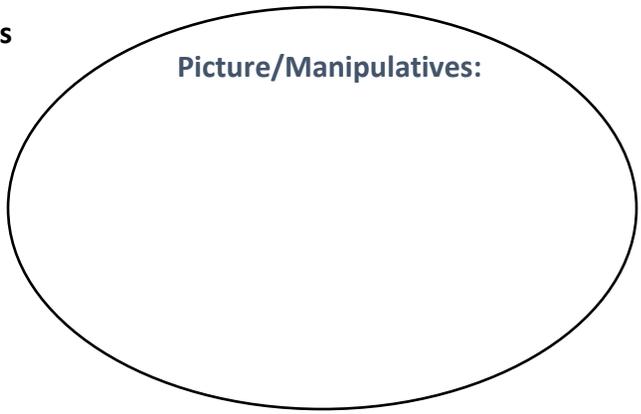
Homework

Students will create and illustrate their own addition word problem. Drawing paper and crayons will be given to students.

Handout 4.1: Circles Template



Handout 4.2: Word Problem Diagrams



Handout 4.3: Word Problems

A blue bird flew 3 miles on Monday and she flew 6 miles on Tuesday. How many miles did she fly in 2 days?	If Rabbit ate 7 carrots for lunch and 3 carrots for supper, how many carrots did Rabbit eat today?	A blue bird flew 3 miles on Monday and she flew 6 miles on Tuesday. How many miles did she fly in 2 days?	If Rabbit ate 7 carrots for lunch and 3 carrots for supper, how many carrots did Rabbit eat today?
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For training or questions regarding this unit,
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