

Grade 1	Lesson: 4-10 Problem Solving: Draw a Picture and Write a Number Sentence	Reference to English
Math Standard(s): 1.OA.1 & 1.OA.6 Domain: Operations and Algebraic Thinking		
Content Objective(s):		Language Objective(s):
Students will draw pictures to solve addition story problems. <i>I can draw pictures to solve addition story problems.</i>	Students will say the numbers while adding two addends to make a sum. <i>I can say the numbers 1-12 while drawing pictures to solve addition problems.</i>	
Essential Understanding: Information in a problem can often be shown using a diagram and used to understand and solve the problem. Some problems can be solved by writing and completing a number sentence.	Academic Vocabulary for Word Wall: Listen: addition, plus, equals, sum Read: addition Write: Speak: addition, plus, equals, doubles Sentence Frame: ___ + ___ = ___	
Materials: • Whiteboards and dry erase markers • Guided Practice page 154-155 • Problem Solving page 156	Additional Lesson Vocabulary: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	
Lesson: Problem Solving: Draw a Picture and Write a Number Sentence		Instructional Time: 35 minutes
<p>Opening: (2 minutes)</p> <p>T: "You have seen pictures in your math book that go along with the problems you have to solve. Many times the pictures help you to decide what you have to do. Today you will learn how to draw pictures to help you solve problems."</p> <p>•Write the following on the board: adding with 0, 1, 2; doubles; near doubles; facts with 5 on a ten-frame; and making 10 on a ten-frame.</p> <p>T: "I have the addition problem 4 + 4."</p> <p>•Write the problem 4 + 4 on the whiteboard.</p> <p>T: "Which of the addition strategies would I use to solve this problem? Tell your neighbor."</p> <p>S: will say "doubles"</p> <p>T: "Which strategy would you use?"</p> <p>S: will say, "doubles."</p> <p>T: "I have the addition problem 7 + 3."</p> <p>•Write the problem 7 + 3 on the whiteboard.</p> <p>T: "Which of the addition strategies would I use to solve this problem?"</p> <p>S: will say "making 10 on a ten-frame."</p> <p>T: "Correct, making ten. Here is a ten-frame (have one on the whiteboard) I will put 7 counters in the ten-frame and then add 3 like this."</p> <p>T: "I have the addition problem 5 + 1."</p> <p>•Write the problem 5 + 1 on the whiteboard.</p> <p>T: "Which of the addition strategies would I use to solve this problem? Tell your neighbor."</p> <p>S: will say "adding with 0, 1, 2."</p> <p>T: "You can add with 0,1,2."</p> <p>T: "I have the addition problem 3 + 4."</p> <p>•Write the problem 3 + 4 on the whiteboard.</p> <p>T: "Which of the addition strategies would I use to solve this problem?"</p> <p>S: will say "near doubles."</p> <p>T: "Yes, near doubles. Let's do it together. 3 + 4, I know, 4 + 4 = 8, take away 1 equals 7."</p> <p>Introduction to New Material (Direct Instruction): (6 minutes)</p> <p>•Distribute the counters, whiteboards, and dry erase markers to the students.</p> <p>T: "6 fish swim by. 3 more join them. How many fish are there in all? How can you draw a picture to solve the problem?"</p> <p>•Write this problem on the board and read it aloud.</p> <p>T: "What do I have to show first?"</p> <p>S: will say "the 6 fish that swim by."</p> <p>T: "I will draw these 6 fish on the board. I want you to draw them on your whiteboard. Your picture should be simple, not detailed, so you can draw it quickly."</p> <p>•The teacher will draw 6 fish on the whiteboard.</p>		

•The students will draw 6 fish on their whiteboards.

T: "Then what should I do? Tell your neighbor."

S: will say "draw 3 more fish."

T: "Next, we draw 3 more fish."

•The teacher will draw 3 more fish on the whiteboard.

•The students will draw 3 more fish on their whiteboards.

T: "How can I use this picture to help me solve the problem?"

S: will say "you can count the fish to find out how many fish in all."

T: "How many fish are there in all? Show me with our fingers."

S: will show 9 with their fingers.

T: "Can I write a number sentence to match this picture?"

S: will say "yes."

T: "What is the addition sentence that matches this picture?"

S: will say " $6 + 3 = 9$."

T: "Good, write it on your whiteboard."

•The teacher will write the number sentence on the whiteboard.

•The students will record the number sentence on their whiteboards.

Guided Practice: (15 minutes)

Use the modeling cycle:

Teacher Does:

T: "For this activity I am going to solve another story about fish. 8 fish swim by. 2 more join them. How many fish are there in all?"

•Write this problem on the board and read it aloud.

T: "I am going to draw a picture to solve this problem. What do I have to show first?"

S: will say "the 8 fish that swim by."

T: "I will draw these 8 fish on the board. I want you to draw them on your whiteboard. Remember to draw a quick, simple picture."

•The teacher will draw 8 fish on the whiteboard.

•The students will draw 8 fish on their whiteboards.

T: "Then what should I do?"

S: will say "draw 2 more fish."

•The teacher will draw 2 more fish on the whiteboard.

•The students will draw 2 more fish on their whiteboards.

T: "How can I use this picture to help me solve the problem?"

S: will say "you can count the fish to find out how many fish in all."

T: "How many fish are there in all?"

S: will say "10."

T: "Can I write a number sentence to match this picture?"

S: will say "yes."

T: "What is the addition sentence that matches this picture?"

S: will say " $8 + 2 = 10$."

•The teacher will write the number sentence on the whiteboard.

•The students will record the number sentence on their whiteboards.

Students Do with Teacher:

T: "I need a student to help me."

•Pick a student to come up and demonstrate the activity with the teacher.

T: "For this activity we are going to tell another story about fish. I will tell you a story and then you can use a picture to solve the problem."

S: will say "ok."

T: "4 fish swim by. 2 more join them. How many fish are there in all? How can you draw a picture to solve the problem?"

•Write this problem on the board and read it aloud.

T: "What do you need to show first?"

S: will say "the 4 fish that swim by."

T: "Draw the 4 fish on your whiteboard."

•The students will draw 4 fish on the whiteboard.

T: "Then what should you do?"

S: will say "draw 2 more fish."

- The student volunteer will draw 2 more fish on the whiteboard.

T: "How many fish do you have in all?"

S: will say "6."

T: "What is the addition sentence that matches your picture?"

S: will say " $4 + 2 = 6$."

T: "Write the number sentence on the whiteboard."

- The students will record the number sentence on the whiteboard.

T: "Great job! Thanks for helping me."

2 Students Do:

- The teacher will write the following on the whiteboard: $\underline{\quad} + \underline{\quad} = \underline{\quad}$ and $\underline{\quad} - \underline{\quad} = \underline{\quad}$.

- Have the students draw a large rectangle on their whiteboard. Then have them draw a vertical line down the center of the rectangle. So, there are now two parts to the rectangle.

T: "I need 2 students to help me. Raise your hand if you want to help me with this activity."

- Teacher will choose 2 students.

T: "You two are going to demonstrate this activity for us today. Student #1 will make-up a story about fish. The story shouldn't have more than 12 in it. Student #2 will draw a picture to match the fish story. Student #2 will then write an addition sentence that matches the story."

- Student #1 will make-up a story about fish.
- Student #2 will draw a picture to match the fish story.
- Student #2 will also write an addition sentence that matches the story.

T: "Thank you for helping. You two may go back to your seats."

All Students Do:

T: "Now you all know how to do the activity. I am going to separate you into groups of two. When I say your name I want you to find a place to sit with your partner. You will have 5 minutes to do this activity with your partner. Make sure you are switching roles, so that you each have an opportunity to make-up fish stories. When I clap my hands I want your attention on me."

- Teacher will walk around the classroom as the students do the activity and make sure they are on task.

T: (Clap to get their attention.) "You have 10 seconds to put your supplies away and sit at the carpet. 10,9,8,7,6,5,4,3,2,1. Good, you all made it."

Independent Practice: (10 minutes)

T: "Now it is your turn to do it on your own. Each of you will be given this worksheet. Let's do the first problem together."

- Pass out guided practice page 154-155.

T: "What do you need to show first?"

S: will say "the 3 birds Maria saw."

T: "Draw the 3 birds in the box."

- The students will draw 3 birds in the box.

T: "Then what should you do?"

S: will say "draw 8 more birds."

- The student will draw 8 more birds in the box.

T: "How many birds do you have in all?"

S: will say "11."

T: "What is the addition sentence that matches your picture?"

S: will say " $3 + 8 = 11$."

T: "Trace the number sentence on the paper."

- The students trace the number sentence $3 + 8 = 11$.

T: "Now it is your turn to do problems #2, 3, 4, and 5. You will have 4 minutes, when I clap my hands come back to the carpet."

- Students will get to work finishing pages 154-155. While the students are working independently the teacher will walk around the room asking students to answer questions and check for any misconceptions.
- Teacher claps hands and students return to the carpet. Do problems 9, 10, 11, and 12 on the problem solving page together.

Closing: (2 minutes)

- Collect the papers and bring the class together on the floor.

T: "Let's look at question #5 on page 155."

T: "What do you need to show first?"

S: will say "the 6 ducks in a row."

T: "Draw the 6 ducks in the box."

- The students will draw 6 ducks in the box.

T: "Then what should you do?"

S: will say "draw 6 more ducks."

- The student will draw 6 more ducks in the box.

T: "How many ducks do you have in all?"

S: will say "12."

T: "What is the addition sentence that matches your picture?"

S: will say " $6 + 6 = 12$."

T: "Trace the number sentence on the paper."

- The students trace the number sentence $6 + 6 = 12$.

T: "Great job today!"

Assessment:

Guided Practice