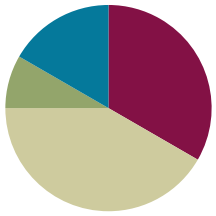
Lesson 7

Objective: Represent *put together* situations with number bonds. Count on from one embedded number or part to totals of 8 and 9, and generate all expressions for each total.

Suggested Lesson Structure

Fluency Practice	(20 minutes)
Application Problem	(5 minutes)
Concept Development	(25 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



Fluency Practice (20 minutes)

- Sparkle: The Say Ten Way **1.NBT.2** (7 minutes)
- Shake Those Disks: 8 **1.OA.6** (8 minutes)
- Number Bond Dash: 8 **1.OA.6** (5 minutes)

Sparkle: The Say Ten Way (7 minutes)

Note: Providing students with ongoing practice with counting throughout the year builds and maintains their counting skills. This activity also prepares students for work in later modules as they explore place value and the importance of 10.

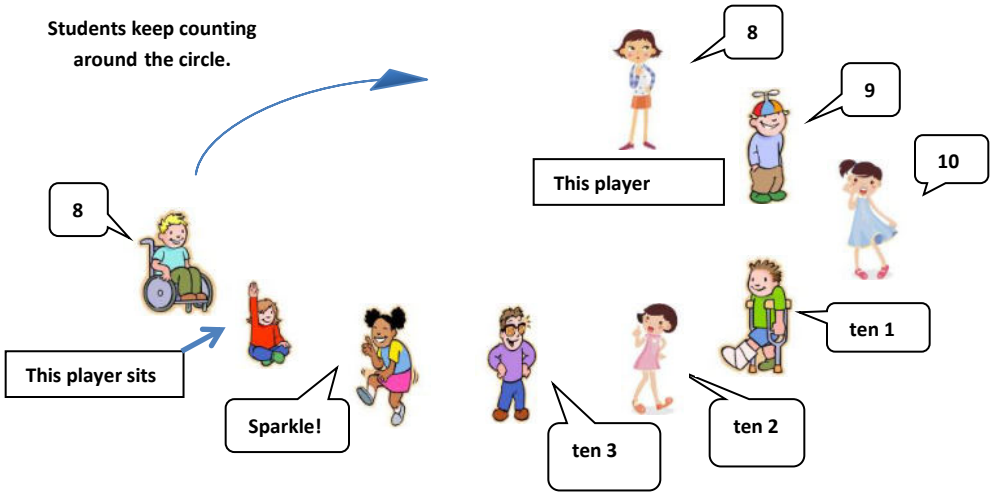
Ask students to stand in a circle. Introduce the counting pattern, start number, and end number.

T: Today, we will count the Say Ten Way from 8 to 13. (Adjust the number range to fit the size of the class, if needed.)

Before the game, practice the counting sequence as a group and say, "Sparkle!" after the ending number is said aloud.

T: Let's practice. 8, 9, 10, ten 1, ten 2, ten 3, Sparkle!

Begin the game. Students count around the circle, each student saying one number in the counting sequence. After the ending number is said (ten 3), the next student says, "Sparkle!" and the following player sits. Begin again with the start number, and continue counting in the same direction around the circle until only one player is standing. (See image on the next page.)



Shake Those Disks: 8 (8 minutes)

Materials: (S) Per set of partners: 8 disks (e.g., counters, two-color beans, or pennies), personal white board with shake those disks 8 board (Fluency Template 1)

Note: This activity addresses the core fluency objective for Grade 1 of adding and subtracting within 10.

Assign students partners. Give each set of partners 6 disks. Instruct them to take turns as the Shaker and the Recorder. The Shaker shakes the disks and tosses them on the table. The Recorder then records the roll on the Shake Those Disks graph. (For example, if the Shaker rolls 6 red and 2 white, the Recorder puts an X on the graph above the 4 and 2 number bond.)

Number Bond Dash: 8 (5 minutes)

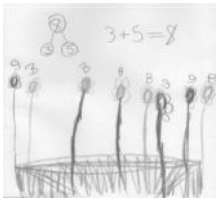
Materials: (T) Stopwatch or timer (S) Number bond dash 8 (Fluency Template 2), marker to correct work

Note: By using the same system repeatedly, students can focus on the mathematics alone. This activity also addresses the core fluency objective for Grade 1 of adding and subtracting within 10.

Follow procedure for Number Bond Dash in the Lesson 5 Fluency Practice.

Application Problem (5 minutes)

Jenny has 8 flowers in a vase. The flowers come in two different colors. Draw a picture to show what the vase of flowers might look like. Write a number sentence and a number bond to match your picture.



Note: This problem is designed as a bridge from the previous lesson's focus on decompositions of 8, and provides a logical lead-up to the current lesson's Concept Development as students decompose 9 in various ways.

NOTES ON MULTIPLE MEANS OF ENGAGEMENT:

Connect learning to areas of interest. Students who enjoy writing can be given the challenge to write their own Application Problem for 9. Practicing their writing skills during math is a great cross-curricular activity. The problem could be used for learning with the whole class during the week.

Concept Development (25 minutes)

Materials: (T) 9 books picture card (Template 1), 5-group cards (Lesson 5 Template 1), chart to record decompositions of 9 (S) Bag of 10 linking cubes: 5 of each of 2 colors, personal white board, number bond and expression (Template 2)

T: (Distribute 5-group cards and a bag of linking cubes to each student. Show the picture card with 9 books.) How many books do you see here?
S: 9.
T: Turn to your partner and share the different ways you see 9 books. (Circulate as students share.)
S: (Share ideas.)
T: I heard so many students say they saw some books on the top shelf and some on the…
S: Bottom shelf!
T: Using linking cubes that are the same color, show how many books there are on the top shelf, and put them together like a stick. Then, place it into the part box of your number bond.
S: (Place a stick of 5 in the part box.)
T: How many books are on the top shelf?
S: 5.
T: Use the other color to show how many books are on the bottom shelf in the other part box of your number bond. But this time, just put them in a pile, not a stick.
S: (Place 4 individual cubes in the other part box.)
T: How many books are on the bottom shelf?
S: 4.
T: What is a counting strategy to figure out how many books there are in all?
MP.7 S: Count on.
T: Start with the stick of 5, and let's count on. Watch me first. (Model.) Your turn!
S: Fiiiiiiive, 6, 7, 8, 9.

T: How many books are there in all?
S: 9.
T: What 2 parts made 9?
MP.7
S: 5 and 4.
T: Put 9 other cubes into the space for the total to make our number bond true.
S: (Place 9 cubes in total.)
T: Do the two parts together show the same number as the total?
S: Yes.
T: That means our number bond is true! Write in the parts in your expression boxes.
S: (Write 5 + 4.)
T: Now, change the order.
S: (Write 4 + 5.)

Repeat this process with one more way to make 9 using the picture.

Although the picture card can stay up, the next part of the Concept Development focuses on finding the remaining decompositions of 9 using numerals rather than pictures. As the class comes up with all the decompositions of 9 throughout the rest of the Concept Development, continue recording them on the chart using the number bonds and expressions.

NOTES ON MULTIPLE MEANS OF ENGAGEMENT:

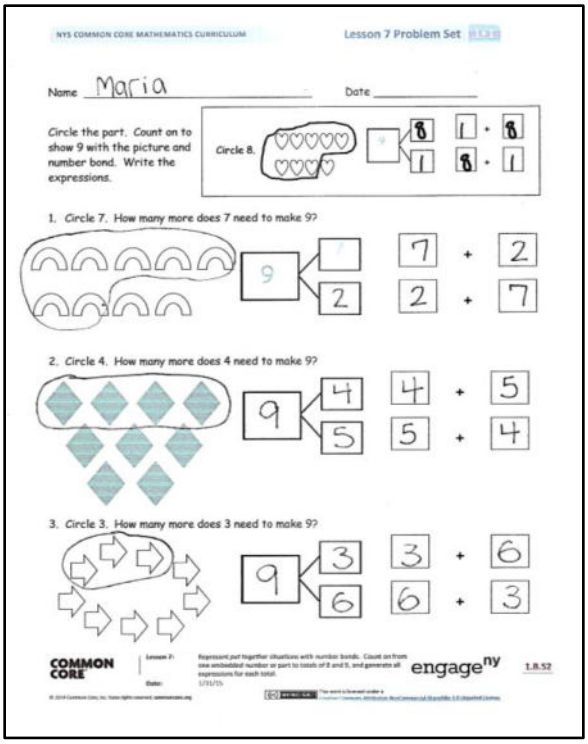
Allow students to move forward in small steps and use the 5-group cards to show the partners of 9 if they need more support to transfer the decompositions from above into the number bonds. For those students who are ready for a challenge, give them ways to expand today's lesson to other decompositions they have practiced.

T: Let's see if we can find the rest of the ways to make 9. When I show you a number, you make a stick of that number using the same color, and then place it on the number bond. Thumbs up if you know what to do.
S: (Show thumbs up.)
T: (Show the numeral 6 using the 5-group card.)
S: (Make sticks of 6 and place them into the part box.)
T: Let's find the other part that goes with 6 to make 9. Use another color to count on until you make 9.
S: Siiiiiiix, 7, 8, 9. (Place 3 individual cubes into the other part box.)
T: How many more does 6 need to get to 9?
S: 3.
T: Great! Fill in your expression boxes.

Repeat this process to make all other decompositions of 9. Continue to give students the first number each time. When appropriate, have students work independently or with a partner to count on and find the other part.

Problem Set (10 minutes)

Students should do their personal best to complete the Problem Set within the allotted 10 minutes. For some classes, it may be appropriate to modify the assignment by specifying which problems they work on first. Some problems do not specify a method for solving. Students solve these problems using the RDW approach used for Application Problems.


NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 7 Problem Set

Name Maria Date

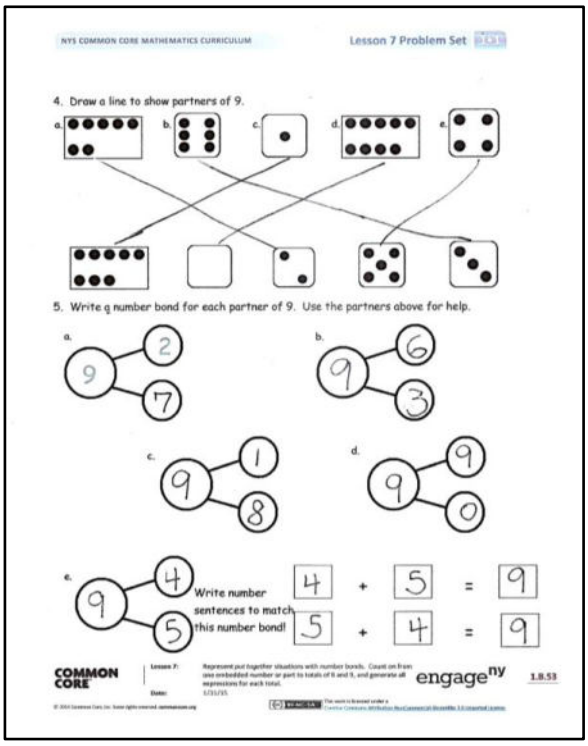
Circle the part. Count on to show 9 with the picture and number bond. Write the expressions.

Circle 8.

1. Circle 7. How many more does 7 need to make 9?

2. Circle 4. How many more does 4 need to make 9?

3. Circle 3. How many more does 3 need to make 9?


NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 7 Problem Set

4. Draw a line to show partners of 9.

5. Write a number bond for each partner of 9. Use the partners above for help.

Write number sentences to match this number bond!

Student Debrief (10 minutes)

Lesson Objective: Represent *put together* situations with number bonds. Count on from one embedded number or part to totals of 8 and 9, and generate all expressions for each total.

The Student Debrief is intended to invite reflection and active processing of the total lesson experience.

Invite students to review their solutions for the Problem Set. They should check work by comparing answers with a partner before going over answers as a class. Look for misconceptions or misunderstandings that can be addressed in the Debrief. Guide students in a conversation to debrief the Problem Set and process the lesson.

Any combination of the questions may be used below to lead the discussion.

- Look at the first page of the Problem Set. Are there two problems that are related? How are they related?
- Talk with a partner about the number bond you made for Problem 5(b). How are your number bonds different? How are they the same?
- Let's compare the charts we made for 7, 8, and 9. (Point to the number bond for 5 and 2, 5 and 3, and 5 and 4.) How are these different? Explain why they are different.

- Look at the charts we made for 6, 7, 8, and 9. In what ways is the chart for 9 different? (This chart is not organized in any particular order.) Why might we want to rewrite this chart in an order, beginning with the biggest part first? (If students present compelling reasons and wish to have an organized chart, rewrite the chart to represent a predetermined order.)
- Turn to your partner and discuss what we did and what we learned during today's lesson. What did you get better at doing today?

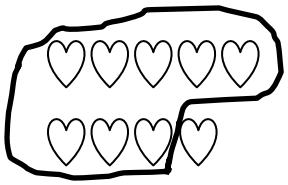
Exit Ticket (3 minutes)

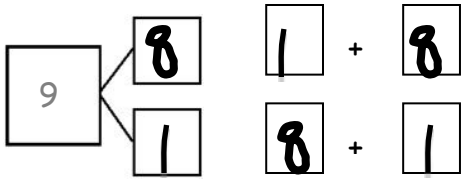
After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help with assessing students' understanding of the concepts that were presented in today's lesson and planning more effectively for future lessons. The questions may be read aloud to the students.

Name _____ Date _____

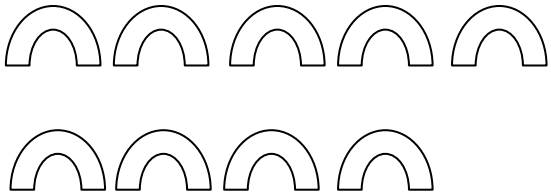
Circle the part. Count on to show 9 with the picture and number bond. Write the expressions.

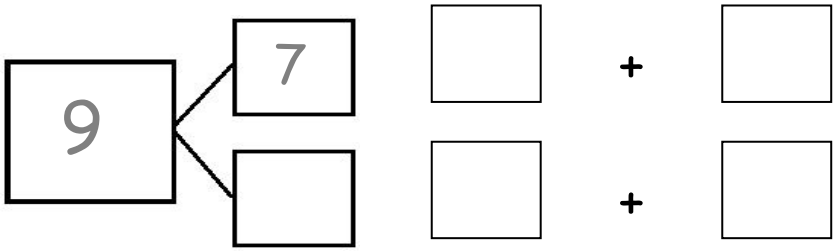
Circle 8.



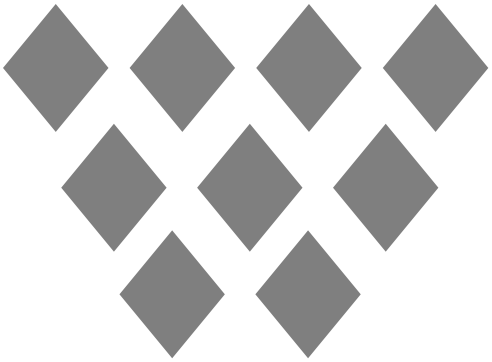


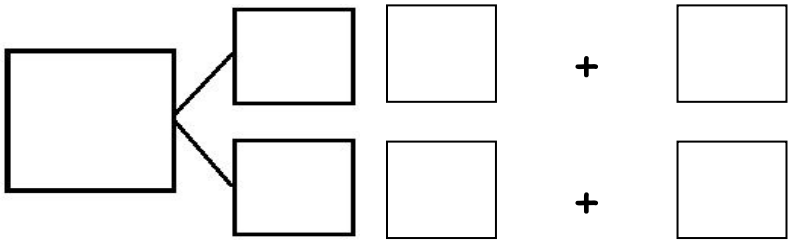
1. Circle 7. How many more does 7 need to make 9?



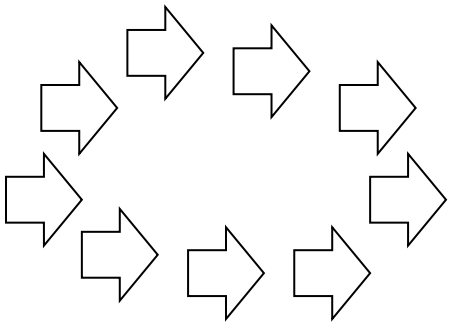


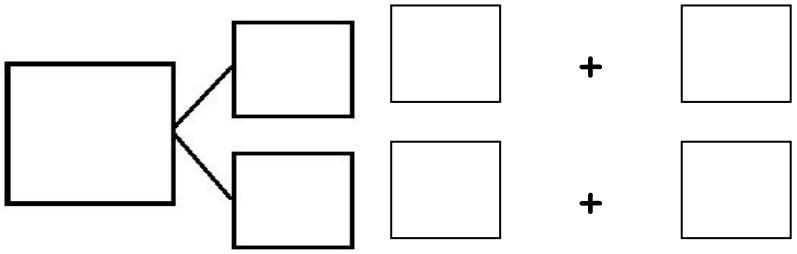
2. Circle 4. How many more does 4 need to make 9?



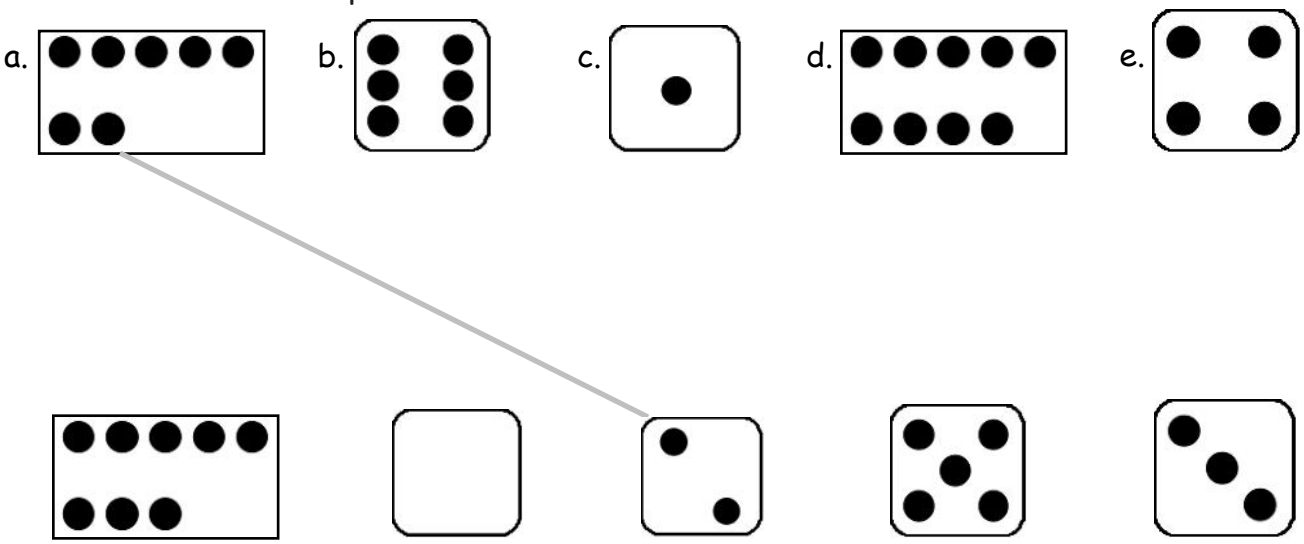


3. Circle 3. How many more does 3 need to make 9?



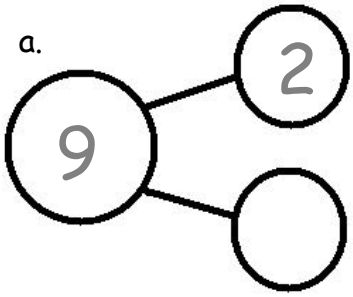


4. Draw a line to show partners of 9.

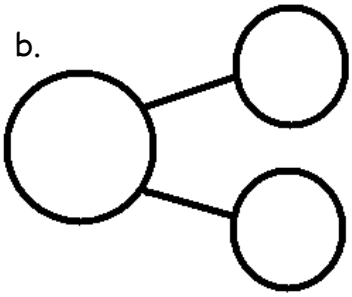


5. Write a number bond for each partner of 9. Use the partners above for help.

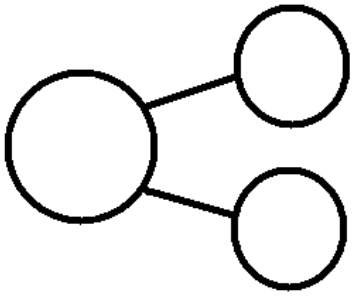
a.



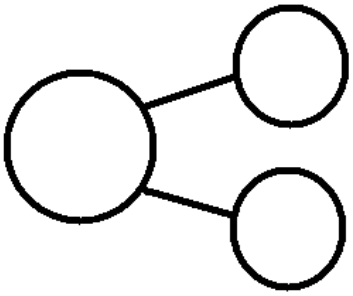
b.



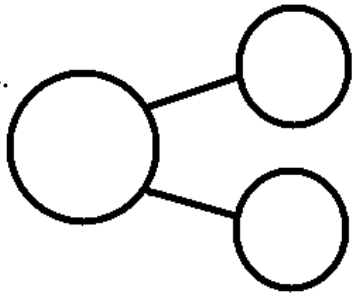
c.



d.



e.



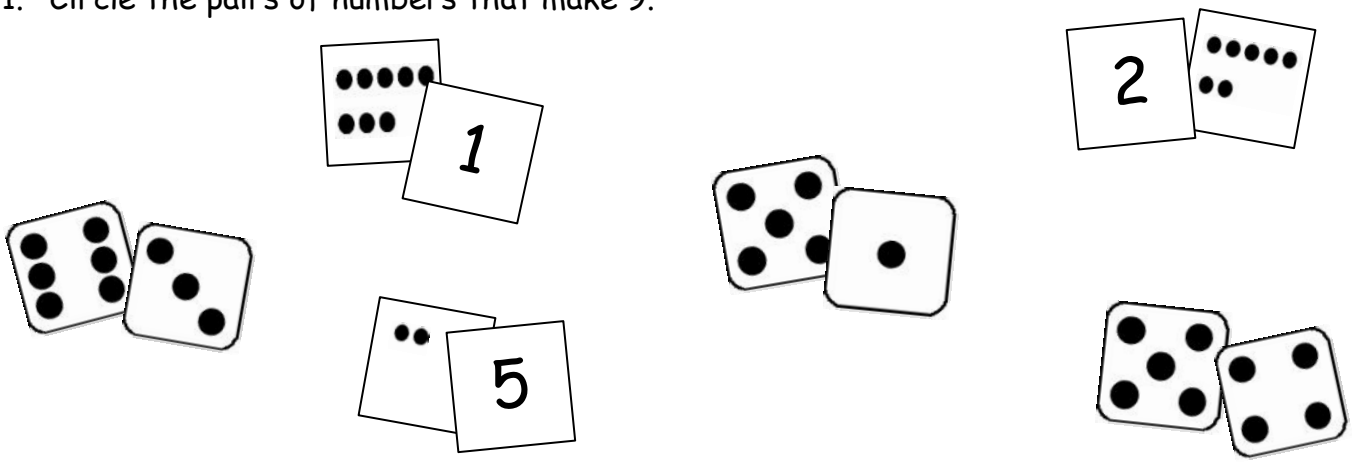
Write number sentences to match this number bond!

$\square + \square = \square$

$\square + \square = \square$

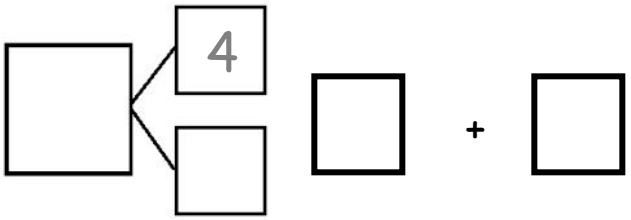
Name _____ Date _____

1. Circle the pairs of numbers that make 9.

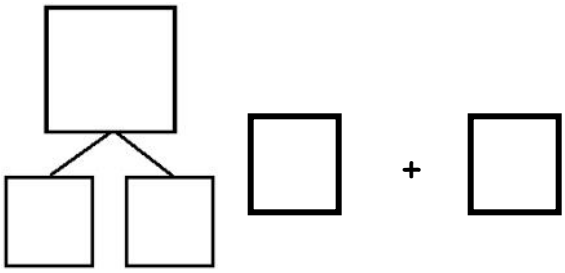


2. Complete the number bonds to show 2 different ways to make 9.

a.



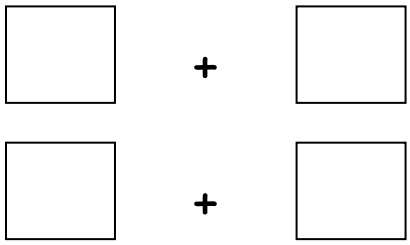
b.

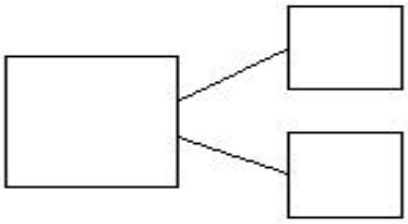


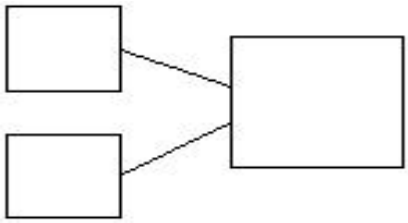
Name _____ Date _____

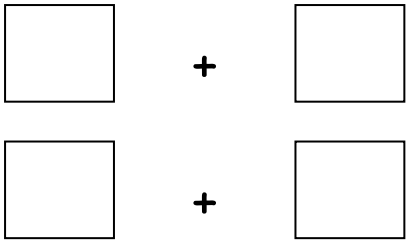
Ways to Make 9

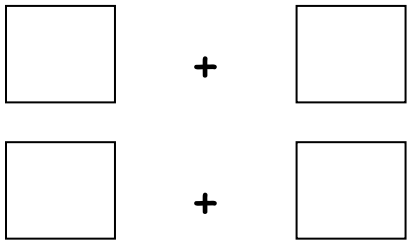
Use the bookshelf picture to help you write the expressions and number bonds to show all of the different ways to make 9.

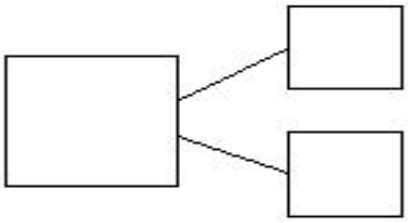


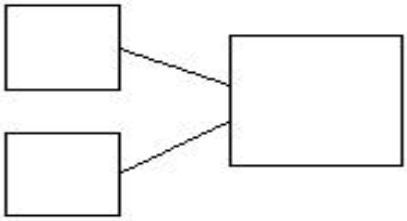


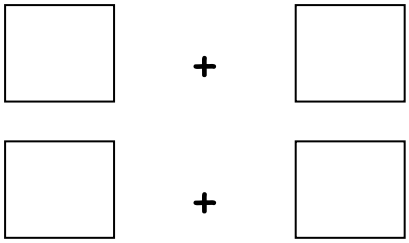


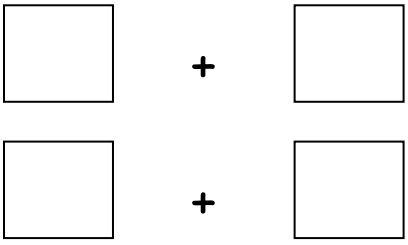


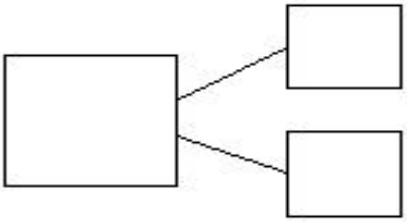












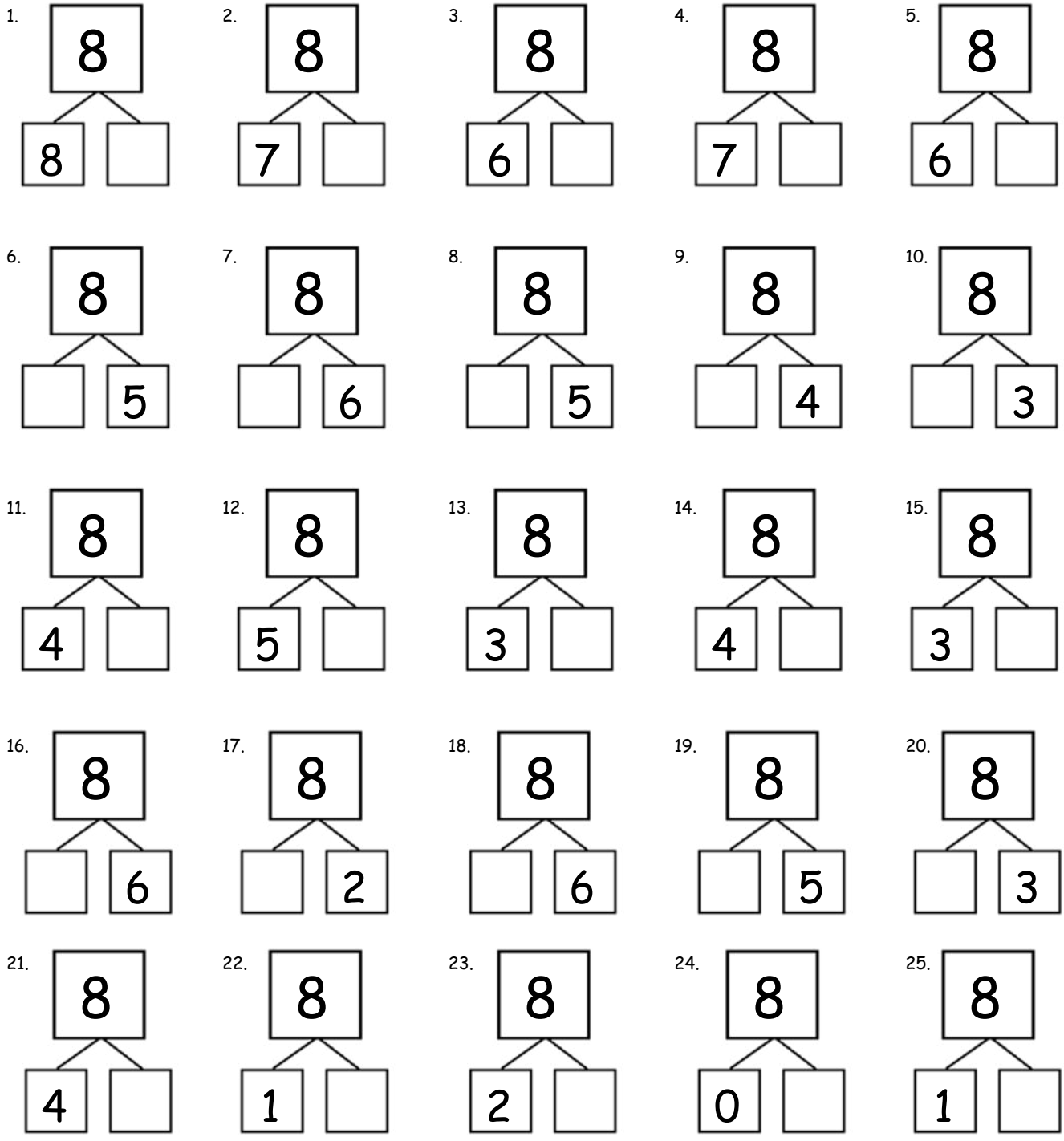
Shake Those Disks!—8

8 0 8	8 1 7	8 2 6	8 3 5	8 4 4

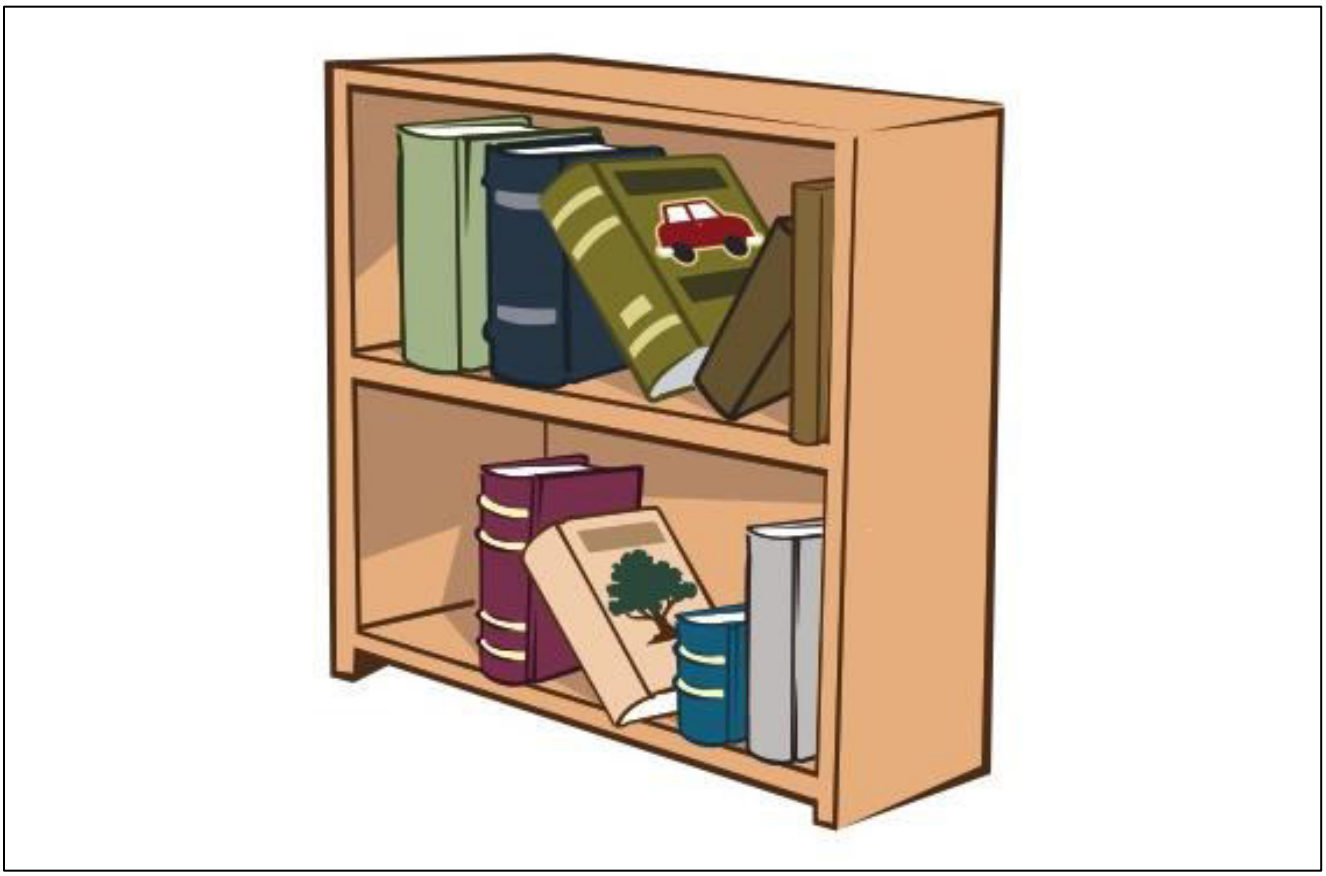
shake those disks 8

Name _____ Date _____

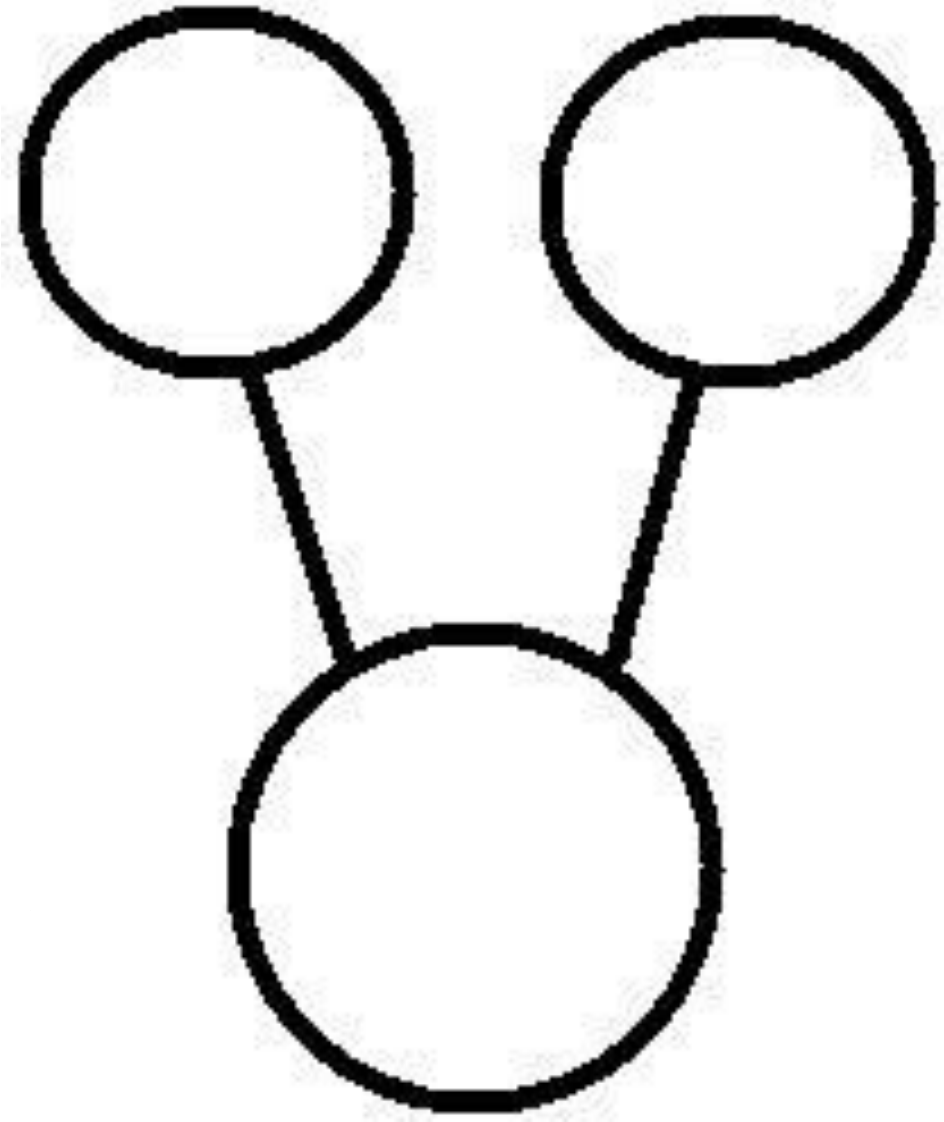
Do as many as you can in 90 seconds. Write the number of bonds you finished here: _____

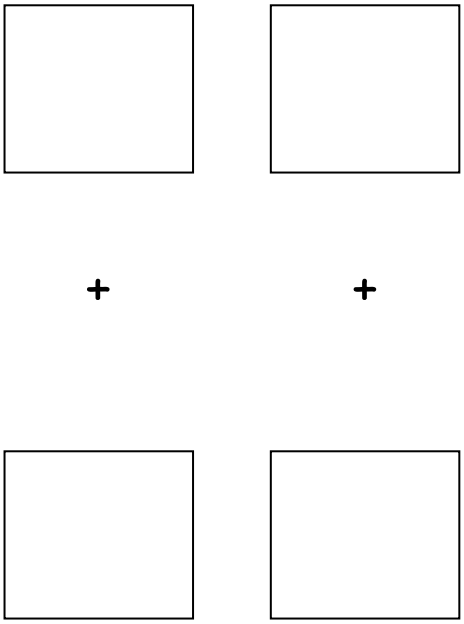


number bond dash 8



9 books picture card





number bond and expression