

Summer Math

Educator Packet



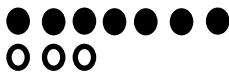
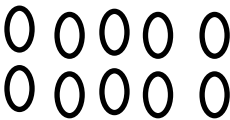
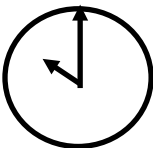
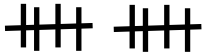
Unit 3



Warm up: Target Number

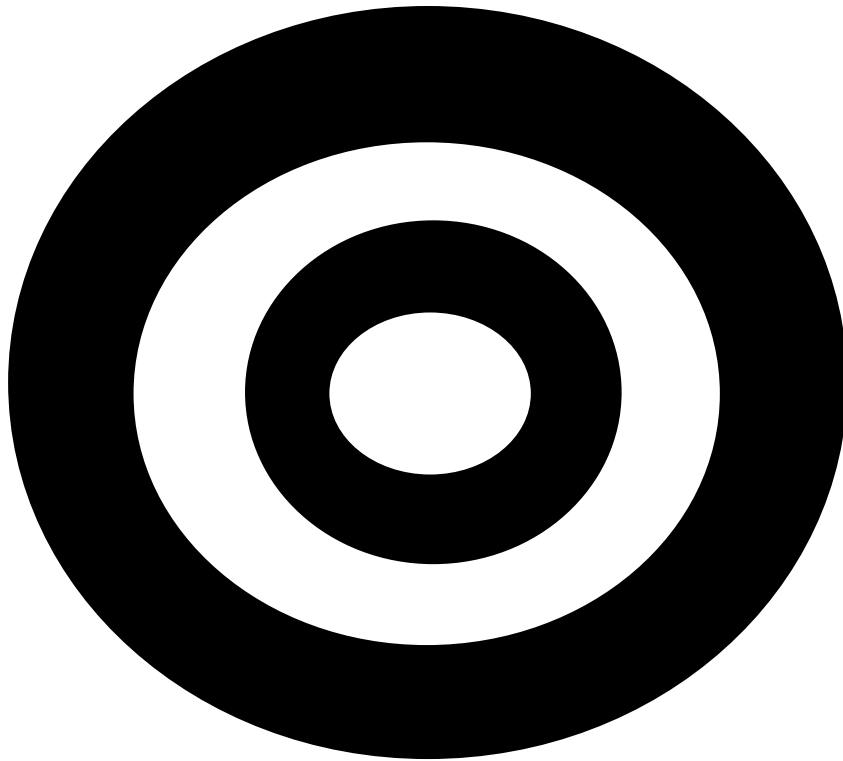
- The task is to represent the target number in different ways in one minute. Do a couple samples with students before starting the timer.
- Set the timer for one minute.
- Educators play along, and write examples to share related to the students' required math fluencies:
- At the end of the minute, students give ONE example at a time, going around the group a couple of times until all DIFFERENT responses are used. Students need to give **different** ways to represent the number. Writing, "7 + 3" is different from writing, "3 + 7". Drawing 7 circles and 3 circles is different from writing, "7 + 3."

Examples of some different ways to represent the number 10:

$7 + 3$	$10 + 0$	$17 - 7$	2×5	$100 / 10$	$20/2$
$3 + 7$	$0 + 10$	ten	5×2	$10/1$	10×1
					
One dozen eggs take away 2		$2 + 2 + 2 + 2 + 2$			$100 - 90$

Required [Math] Fluencies

Kindergarten	Add and subtract within 5	Procedural Fluency: can easily use a process to figure out the answer.
Grade 1	Add and subtract within 10	Procedural Fluency: can easily use a process to figure out the answer.
Grade 2	Single digit sums and differences (automaticity by the end of Grade 2);	Automaticity by the end of Grade 2: Knows the answer without stopping to use a process to figure out the answers.
Grade 2	Add and subtract within 100	Procedural Fluency: can easily use a process to figure out the answer.



Target Number

Suggested Target Numbers: Start with 12 and 15 for everyone for the first two sessions. Afterwards, numbers over 20 are fair for all grade bands except for the DOG ICON, which should just use numbers under 20.

12

15

24

36

60

48

100

45

90

50

75

More K choices: 9

18

6

20

FAMILY FUN GAME Directions

All ages of students play the game together. On their turn, students use the game cards from their own packet to solve math problems at their own level.

Key Points:

- Unit 1 introduces the game and some of the Math Matters skills.
- Units 2 through 5 provide students practice all of the core math skills, except fractions, throughout the summer.

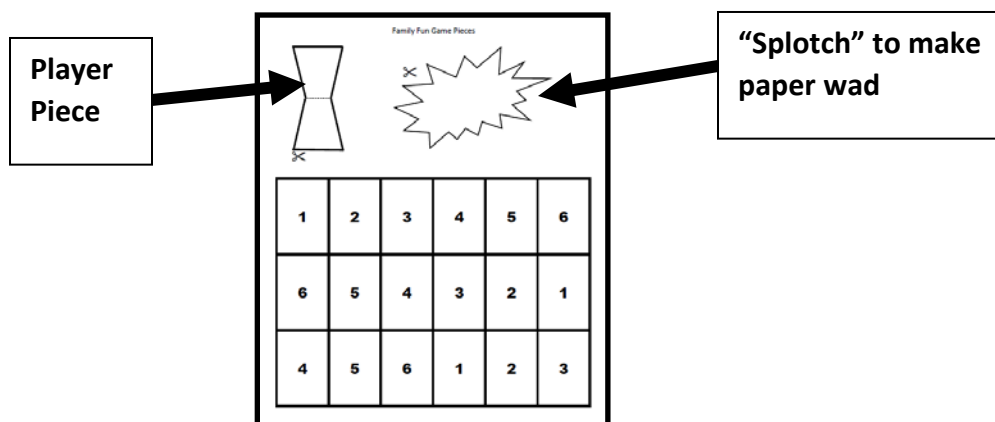
Process:

1. Each Student Packet has its own Family Fun Game Cards, allowing each student to participate together with students who have different skills to practice.
2. Do not cut the cards apart! Starting with Lesson 2, the three cards in each row will practice the same skill.
 - a. Many students will read ahead, solving problems, to find the “easiest” ones while waiting for their next turn.
3. Instead of students drawing a card, students select a problem from their packets. Students can select problems in the order they choose, BUT ask students to solve one problem from each row, before repeating from the row, so they practice each skill.
4. Game Directions are on the game board. Game boards are at the end of each Student Packet, so they are easy to pull off and use.
5. The best way to move around the board is to use dice. The Student Packets have a “Do It Yourself (DIY)” version to toss a small wad of paper onto a board of numbers.

Do It Yourself (DIY) Game Pieces

Player: Cut the outside of the double trapezoid. Fold in half to make the player. If more than one student has the same color, students can write their name on the playing piece.

If you don't have a 6-sided die: Cut around the jagged “splotch” shape and wad the paper into a ball. Toss the ball onto the number board to find number of spaces to move.



BLM Unit 3, Follow-Up Lesson 3 Family Fun Game All Level Answer Key

Problem	Kinder (pink)	1-2 (blue)	3-4 (green)	5-6 (yellow)	7-8 (peach)
A	15 dots Number 15	$7 + 6 = 13$ $6 + 7 = 13$ $13 - 7 = 6$ $13 - 6 = 7$	0.9	2.26	7.5 units
B	5 butterflies Number 5	$5 + 8 = 13$ $8 + 5 = 13$ $13 - 5 = 8$ $13 - 8 = 5$	0.06	1/6	36 units
C	9 stars Number 9	$7 + 9 = 16$ $9 + 7 = 16$ $16 - 9 = 7$ $16 - 7 = 9$	0.4	32,770.77	5 units
D	Count out 8 counters	8, 2 make ten	solve for 169	210.55	25 x 30
E	Count out 15 counters	3, 7 make ten	solve for 143	0.75	10.42 feet
F	Count out 10 counters	5, 5 make ten	solve for 195	0.07	L = 7 inches W = 2.8 inches
G	12 ants	$14 + 5 = 19$ Sue read 19 picture books.	0.45, 0.75	0.05, 5%	\$0.20
H	10 leaves	$13 - 9 = 4$ Eddie picked up 4 fewer rocks.	0.7 0.56	9	\$4
I	3 bugs	Divided into 2 equal or same size pieces.	0.08 0.9	18	\$1.33 or \$1.34
J	2 eggs	4 tens and 5 ones (now count them) 45	4/6 They are equivalent	4 tiles 1 color 1 tile another color	\$10.75 (pennies difference for rounding is acceptable)
K	10 eggs	3 tens and 9 ones (now count them) 39	1/2 5/8 is just a little more than a half; 1/3 is smaller than 1/2	5 tiles 1 color 3 tiles another color	\$26.22 (pennies difference for rounding is acceptable)
L	8 were brown	6 tens and 6 ones (now count them) 66	1/4 They are equivalent	3 tiles 1 color 7 tiles another color	\$14.09 (pennies difference for rounding is acceptable)
M	Penny	5	$8/10 = 0.8$	3:4 and 3/4	1.5 hr or 1 1/2 hours
N	Penny	12	$4/10 = 0.4$	6:1 and 6/1	3 hours
O	Dime	46	$7/10 = 0.7$	3:5 and 3/5	9 hours
P	Blue set On bottom	Ally had 33 cupcakes.	$5 \times 4 = 20$ $4 \times 5 = 20$ $20 \div 5 = 4$ $20 \div 4 = 5$	$x = 3$	$16/1 = x/3$ OR $1/16 = 3/x$
Q	9 (red) ovals on right	12 cupcakes were not eaten.	24	$x = 9$	$12/1 = x/4$ OR $1/12 = 4/3$
R	10 (red) hearts on left	17 cupcakes were left.	5	$x = 9$	$36/1 = x/12$ OR $1/36 = 12/x$

CGI CHARTS:

With a few changes, this chart is in New York State's Next Generations Learning Standards for Pre-K to Grade 2, titled, "Common Addition and Subtraction Situations."

Process:

1. Look for the word problem(s) on the chart with a STAR - ★
2. For Dog Icon packets, start with the "ADD TO - (Result Unknown)" and the "TAKE FROM - (Result Unknown)" word problems from the Unit's CGI Chart.
 - a. If a student struggles, stick with these for the summer so the student becomes secure. Otherwise, you can proceed to the "PUT TOGETHER/TAKE APART - (Total Unknown)" word problems.
3. Have manipulatives and paper for students to choose either medium for solving the problem.
4. Read the problem to students once. **Note:** Each problem has three sets of numbers for you to choose from to fill in the blanks. Use the set that works best for the student(s).
5. **Read the problem again, and then teach students to take notes.**
 - a. Prompt students with questions, and model writing notes. (Kindergarten Students Packets have a mostly blank page called, "Word Problem Work Space," to use for this.)
 - b. What did Deena start with? *5 pennies*. How can we write? *D 5 (or draw 5 circles)*
 - c. What happens next? *She gets 3 more*. How can we write? *+3 (or draw 3 circles)*
 - d. What question do we have to answer? *How many does Deena have now?* How can we write this? *D has ___?*
6. Give students time to solve. (If struggling, prompt with, "What number does the problem start with?" Do you want to draw this or use manipulatives to recreate it?)
7. Ask students to explain their process before asking them for an answer. This allows students time to self-correct and gives the Educator a clue about how the student is thinking.
8. At the end, look at the final answer together, to decide if it solves the problem. How would you say the answer in a sentence? (*"Deena has 8 pennies now."*)

Unit 3 CGI Problems for Daniel's Mystery Egg



Add To	<p><i>(Result Unknown)</i> ★</p> <p>If Daniel had ___ egg(s) and Alex gave him ___ more egg(s), how many eggs would Daniel have then?</p> <p>1, 2 4, 1 2, 3</p>	<p><i>(Change Unknown)</i></p> <p>Daniel has ___ friend(s). How many more friends does Daniel need so that he will have ___ friends?</p> <p>1, 2 3, 4 3, 5</p>	<p><i>(Start Unknown)</i></p> <p>Daniel had some eggs in a box. Then he put ___ more egg(s) in the box. Now Daniel has ___ eggs. How many eggs were in the box to start?</p> <p>1, 3 2, 4 3, 5</p>
	<p><i>(Result Unknown)</i> ★</p> <p>Daniel had ___ egg(s). ___ egg(s) hatched. How many eggs does Daniel have now?</p> <p>1, 1 5, 2 6, 3</p>	<p><i>(Change Unknown)</i></p> <p>Daniel had ___ egg(s). Some eggs hatched. Now Daniel has ___ egg(s). How many eggs hatched?</p> <p>5, 4 6, 4 4, 1</p>	<p><i>(Start Unknown)</i></p> <p>Daniel had some eggs. ___ egg(s) hatched. Now Daniel has ___ egg(s). How many eggs did Daniel have to start?</p> <p>1, 6 2, 3 3, 1</p>
Put Together/ Take Apart	<p><i>(Whole Unknown)</i> ★</p> <p>___ of Daniel's friends are boys and ___ are girls. How many friends does Daniel have?</p> <p>1, 2 2, 3 1, 3</p>		<p><i>(Part Unknown)</i></p> <p>Daniel has ___ friends. ___ are boys and the rest are girls. How many friends are girls?</p> <p>3, 1 5, 2 4, 3</p>
	<p><i>(Difference Unknown)</i></p> <p>Daniel found ___ eggs. Alex found ___ eggs. How many more eggs did Alex find than Daniel?</p> <p>2, 5 5, 6 3, 6</p>	<p><i>(Compare Quantity Unknown)</i></p> <p>Daniel found ___ eggs. Tammy found ___ more egg(s) than Daniel. How many eggs did Tammy find?</p> <p>2, 1 3, 2 4, 3</p>	<p><i>(Referent Unknown)</i></p> <p>Meg found ___ egg(s). That was ___ more egg(s) than Daniel found. How many eggs did Daniel find?</p> <p>2, 1 3, 2 5, 3</p>
Compare			



Juntar	<p><i>(Resultados desconocidos)</i> ★</p> <p>Si Daniel tenía ___ huevo(s) y Alex le dio ___ huevo(s) más, ¿cuántos huevos tendrá?</p> <p>1, 2 4, 1 2, 3</p>	<p><i>(Cambio desconocido)</i></p> <p>Daniel tiene ___ amigo(s). ¿Cuántos amigos más necesita para tener ___ amigos?</p> <p>1, 2 3, 4 3, 5</p>	<p><i>(Inicio desconocido)</i></p> <p>Daniel tenía algunos huevos en una cajita. Entonces metió ___ huevo(s) más en la cajita. Ahora Daniel tiene ___ huevos. ¿Cuántos huevos había en la cajita al empezar?</p> <p>1, 3 2, 4 3, 5</p>
	<p><i>(Resultados desconocidos)</i> ★</p> <p>Daniel tenía ___ huevo(s). ___ huevos dieron polluelos. ¿Cuántos huevos tiene ahora?</p> <p>1, 1 5, 2 6, 3</p>	<p><i>(Cambio desconocido)</i></p> <p>Daniel tenía ___ huevo(s). Algunos de los huevos dieron polluelos. Ahora Daniel tiene ___ huevo(s). ¿Cuántos huevos dieron polluelos?</p> <p>5, 4 6, 4 4, 1</p>	<p><i>(Inicio desconocido)</i></p> <p>Daniel tenía algunos huevo(s). ___ huevos dieron polluelos. Ahora Daniel tiene ___ huevo(s). ¿Cuántos huevos tenía Daniel al empezar?</p> <p>1, 6 2, 3 3, 1</p>
Separar	<p><i>(Entero desconocido)</i> ★</p> <p>___ de los amigos de Daniel son muchachos y ___ son muchachas. ¿Cuántos amigos tiene Daniel?</p> <p>1, 2 2, 3 1, 3</p>		<p><i>(Parte desconocida)</i></p> <p>Daniel tiene ___ amigos. ___ son muchachos y lo demás muchachas. ¿Cuántas amigas tiene?</p> <p>3, 1 5, 2 4, 3</p>
	<p><i>(Diferencia desconocido)</i></p> <p>Daniel encontró ___ huevos. Alex encontró ___ huevos. ¿Cuántos huevos de más encontró Alex que Daniel?</p> <p>2, 5 5, 6 3, 6</p>	<p><i>(Comparar total desconocido)</i></p> <p>Daniel encontró ___ huevos. Tammy encontró ___ huevo(s) más que Daniel. ¿Cuántos huevos encontró Tammy?</p> <p>2, 1 3, 2 4, 3</p>	<p><i>(Referente desconocido)</i></p> <p>Meg encontró ___ huevo(s). Encontró ___ huevos más que Daniel. ¿Cuántos huevos encontró Daniel?</p> <p>2, 1 3, 2 5, 3</p>
Parte-Entero			
Comparar			



Snack Fractions

Children should wash their hands before this activity if using food items.

Snack Fractions

As part of each math day, please include a quick “Snack Fraction” activity. If your district/school does not allow any snacks to be given to students, please alter the activity by providing the paper shape to be divided into fractional parts.

Objective:

Today you are going to share a snack with one other friend. The snack will be shared in two portions. You will be able to tell each other the fractional name of the pieces. You will be able to draw a line on a picture to show the parts that you have.

Show the jerky and ask if anyone knows what the snack is, if they’ve had it before and if so, where. Explain to the students that this is another snack that can be purchased at ballgames and at fairs, and some forms are sold at some convenience stores. Sometimes people make their own jerky. (*As with any of the snack fractions, feel free to change the food item if you feel it will not be popular with your students.*)

Students are going to share the jerky with a friend. What is different about today’s snack from our other snacks? (*They don’t have just one piece to cut.*) Talk to your partner about how you could make sure that you each have fair shares, or equal parts of the snack (*pause for discussion*). Tell me some of your thoughts. (*Listen to their ideas, always asking, “does someone have another way?” Any way to share equally is permissible; however, the easiest is just to divvy out the snacks until both partners have equal amounts.*)

Tell students that today you are not going to demonstrate; they are going to share on their own. Distribute the supplies, and let them share. Circulate the room to make sure they understand what to do since this is fractional parts of a set instead of a whole. Just remind students to share fairly.

QUESTIONS

- How will you share the jerky fairly?
- How many sticks of jerky do each of you have?
- What fractional part do you have?
- How do you know that you each have half of the snack?

Writing:

Share-write the student answers to “How do you know that each portion is half?”

Objectives: Read and discuss.

Math Objectives

- Share a snack in half. (parts of a set)
- Explain why each portion is half.

Language Objectives

- Explain why each portion is half.
- Share-write what is a half.

Vocabulary

- half
- fair shares
- equal pieces
- 1 out of 2 equal pieces

Materials:

TEACHER:

- Chart paper with question: **How do you know that each portion is half?** Put a copy of the record sheet at the top of the chart with the question.

Teacher Demo

- 6 small beef jerky pieces (no demo – just show pieces)

STUDENT ACTIVITY (per partner pair):

- BLM Jerky Fractions
- 6 small beef jerky pieces
- 2 Paper plates
- 2 paper towels