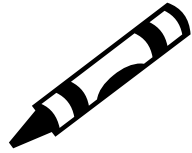
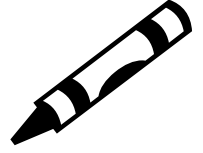


Summer Math

Educator Packet



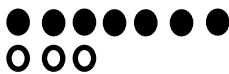
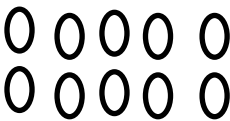
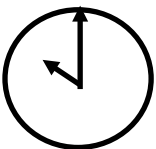
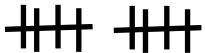
Unit 5



Warm up: Target Number

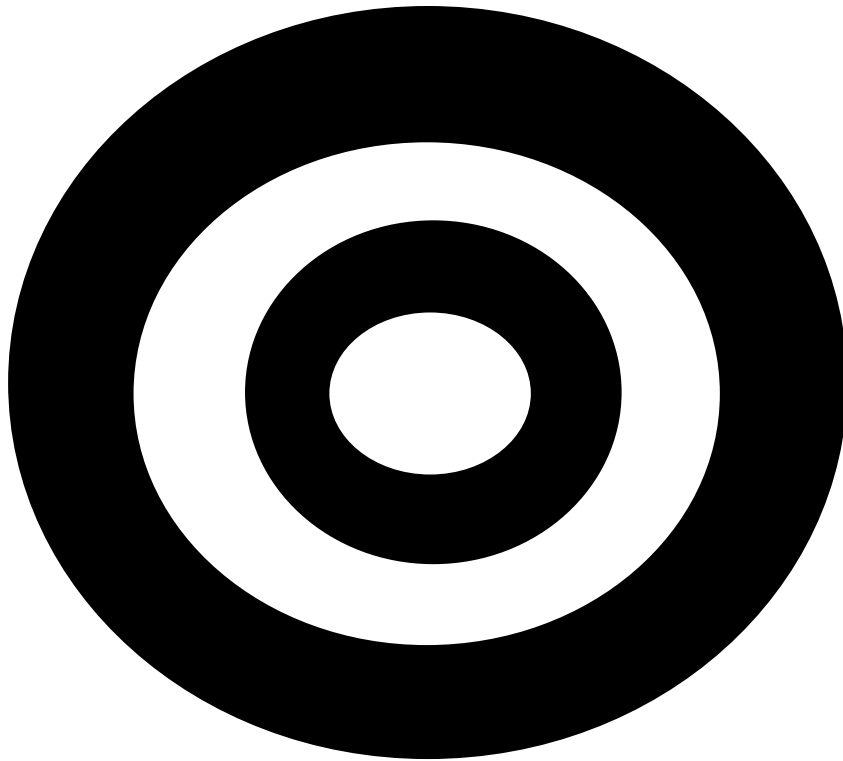
- The task is to represent the target number in different ways in one minute. Do a couple samples with students before starting the timer.
- Set the timer for one minute.
- Educators play along, and write examples to share related to the students' required math fluencies:
- At the end of the minute, 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 (for example, using manipulatives, diagrams)
Grade 1	Add and subtract within 10	Procedural Fluency
Grade 2	Single digit sums and differences (automaticity by the end of Grade 2); Add and subtract within 100	Automaticity by the end of Grade 2: Knows the answer without stopping to use a process to figure out the answers.
Grade 3	Single digit products and quotients (product automaticity by the end of Grade 3)	Automaticity for Products by the end of Grade 3
	Add and subtract within 1,000	Procedural Fluency
Grade 4	Add and subtract within 1,000,000	Procedural Fluency



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 choices:

9

18

6

20

FAMILY FUN GAME Directions

Key Points:

- Starting with Unit 2, the Family Fun Game gives students repeated practice in each of the Math Matters skills. This allows students to practice all of the skills throughout the summer.

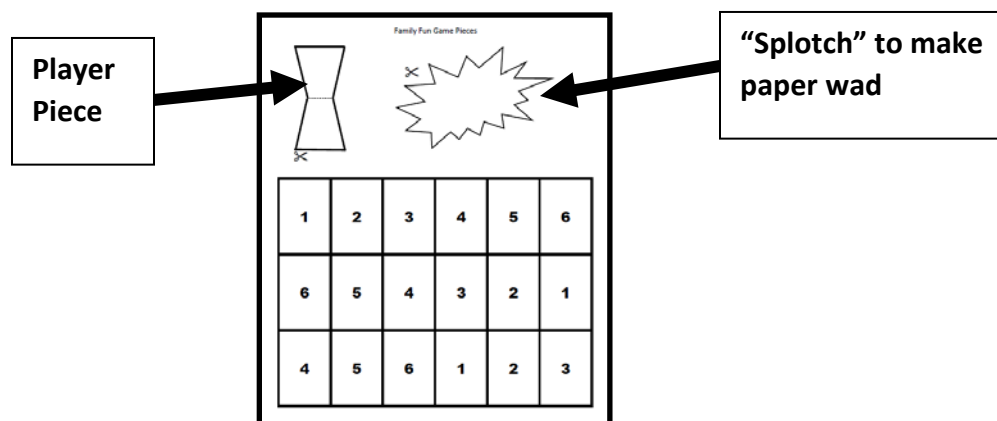
Process:

- Each Student Packet has its own Family Fun Game Cards, allowing each student to participate with students who have different skills to practice.
- Do not cut the cards apart! Starting with Lesson 2, the three cards in each row will practice the same skill.
- Instead of students drawing a card, students select a problem from their grade band sheets. 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.
- 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.
- 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.
- Many students end up reading all of the problems in between turns as they search for the “best” ones to answer.

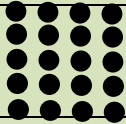
Do It Yourself (DIY) Game Pieces

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 names 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 5, Follow-Up Lesson 3 Family Fun Game All Level Answer Key

Problem Letter	Kinder (pink)	1-2 (blue)	3-4 Iguana Tales Specific information about strategies in 3-4 packets	5-6 (yellow)	7-8 (orange)
A	15 beans counted Number 15	2, 8 make ten	\$79.99	0.5	8
B	9 beans counted Number 9	1, 9 make ten	1/2 (or any equivalence)	$8\frac{1}{8}$	10
C	10 beans counted Number 10	$7 + 9 = 16$ $9 + 7 = 16$ $16 - 9 = 7$ $16 - 7 = 9$	1cpf 2/3, 1 cpf 3/4	\$0.01	0.12 cm
D	2 cicadas	$8 + 7 = 15$ $7 + 8 = 15$ $15 - 7 = 8$ $15 - 8 = 7$		1,111,111,110	87.5 feet OR 87.50 feet OR 87 1/2 feet
E	8 mice	Last week: 12 miles This week: 11 Total: 12+11=33miles	63	54.657 grams salt	$\frac{3 \text{ ft}}{1 \text{ yd}} = \frac{x \text{ ft}}{9 \text{ yd}}$
F	9 leaves	David read 24 books.	7 balloons	11.92% chemical B	$\frac{16 \text{ oz}}{1 \text{ lb}} = \frac{x \text{ oz}}{5 \text{ lb}}$
G	Penny	14	5 pennies	\$27.45 tax	\$.26 OR 26 cents
H	Nickel	17	30 muffins	\$350 tip	\$.40 OR 40 cents
I	Penny	13	0.02	\$90 interest	\$687.50
J	Top bar	one fourth OR One out of 4 equal pieces	0.75	\$230 charged	\$31.25
K	9 dots	Circle divided into 4 equal parts	Finished number line	3 cups cashews	3 hours
L	Bar on left	Lucy ate 4 cookies.	8.99	10% tip	4 hours
M	Must cut or tear card into approximately 2 equal pieces	Bob walked 4 miles.	$1/4 = 0.4$	False. Scale factor not consistent	\$428
N	Halves, or 1 out of 2 equal pieces	7	0.07	True. Scale factor = ($\div 4$) or ($\times \frac{1}{4}$)	\$1030.00
O	Both pieces are the same size	17		120 cotton balls: 1 bag	\$18.34 or \$18.35
P	7 flowers	65		48 babies	\$59.34
Q	4 flowers	80		$\frac{12}{12}$ or 1 whole $\frac{7}{7}$	200
R	0 frogs	85		$\frac{2}{15}$	96

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."

Key Points:

- Allows students to solve the problem in a way they understand, instead of the "right" way.
 - **NY-1.OA.1** – Use addition and subtraction within 20 to solve one-step word problems involving situations of adding to, taking from, putting together, taking apart, and/or comparing, with unknowns in all positions.
 - ...using objects, drawings and equations with a symbol to represent the unknown.
 - **NY-2.OA.1** – Use addition and subtraction within 100 to solve one-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.
 - Mastery of all word problems types on the "Common Addition and Subtraction Situations" Chart by end of Grade 2.

Process:

- **Pick one word problem.**
 - Start easy (top left corner of CGI Chart, then work to the left and down as students show confidence.
 - Or use the STAR (Grade 1) ★ or the TRIANGLE (Grade 2) ▲ for types of word problems on the summer math assessments.
- Read the problem to students, using the choice of differentiated numbers to fill in the blanks.
- Read again and encourage students to take notes on the graphic organizer. (modeling, teaching the first time)
- 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?)
- Have manipulatives and paper for students to choose either medium for solving the problem.
- 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.
- At the end, look at the final answer together, to decide if it solves the problem. How would you say this in a sentence?



<p>Add To</p>	<p><i>(Result Unknown)</i> ★ ▲</p> <p>There were ___ spotted pigs on the truck. The farmer loaded ___ more pigs on the truck. How many pigs are on the truck now?</p> <p>10, 4 6, 7 8, 9</p>	<p><i>(Change Unknown)</i> ▲</p> <p>The children made ___ adobe bricks. How many adobe bricks do they need to make in order to have ___ bricks, enough for a flower box planter?</p> <p>10, 18 7, 15 9, 20</p>	<p><i>(Start Unknown)</i></p> <p>The farmer loaded some pigs on his truck. His farm hand loaded ___ more pigs on the truck. Now there are ___ pigs on the truck. How many pigs were on the truck to start?</p> <p>4, 11 5, 8 6, 9</p>
<p>Take From</p>	<p><i>(Result Unknown)</i> ★</p> <p>There were ___ little gourds drying on the vine. ___ gourds were too dry and fell off. How many gourds are on the vine now?</p> <p>10, 6 13, 6 17, 8</p>	<p><i>(Change Unknown)</i></p> <p>There were ___ pigs on the truck. The farmer unloaded some and now there are ___ pigs on the truck. How many pigs did the farmer unload?</p> <p>20, 10 18, 8 16, 7</p>	<p><i>(Start Unknown)</i></p> <p>There were some little gourds drying on the vine. Maria picked ___ to make into bird houses. Now there are ___ gourds on the vine. How many gourds were on the vine to start?</p> <p>6, 6 7, 7 9, 9</p>
<p>Put Together/ Take Apart</p>	<p><i>(Total Unknown)</i> ★</p> <p>There were ___ crates of oranges and ___ crates of coffee on the cargo truck. How many crates in all?</p> <p>15, 10 13, 12 8, 6</p>		<p><i>(Addend Unknown)</i></p> <p>There were ___ crates of cargo on the truck. ___ crates were oranges and the rest were coffee beans. How many crates were coffee beans?</p> <p>15, 5 14, 8 17, 9</p>
<p>Compare</p>	<p><i>(Difference Unknown)</i> ★ ▲</p> <p>There were ___ crates of oranges and ___ crates of vanilla on the truck. How</p>	<p><i>(Bigger Unknown)</i></p> <p>There were ___ crates of vanilla on the truck. There were ___ more crates of oranges than vanilla. How</p>	<p><i>(Smaller Unknown)</i></p> <p>In the cargo truck there were ___ crates of coffee. That's ___ more crates of coffee than vanilla. How</p>



	<p>many more crates of oranges than vanilla?</p> <p>15, 13 17, 7 21, 18</p>	<p>many crates of oranges were there?</p> <p>10, 4 6, 7 4, 9</p>	<p>many crates of vanilla are there?</p> <p>12, 4 14, 6 21, 12</p>
	Multiplication	Measurement Division	Partitive Division
Grouping and Partitioning	<p>There are ___ corn stalks in a row of corn. There are ___ ears of corn on one stalk. How many ears of corn in all?</p> <p>15, 2 20, 3 25, 4</p>	<p>A truck carrying oranges from Veracruz hauls ___ bags of oranges. If there are ___ bags of oranges in each crate, how many crates are there?</p> <p>100, 10 100, 5 45, 3</p>	<p>The children made ___ adobe bricks. If they stack them in ___ piles, how many bricks will be in each pile?</p> <p>25, 5 30, 5 55, 5</p>



<p style="text-align: center;">Unir</p>	<p><i>(Resultado desconocido)</i> ★ ▲</p> <p>Había ___ cerdos con manchas en el camión. El granjero cargó ___ cerdos más en el camión. ¿Cuántos cerdos hay ahora en el camión?</p> <p style="text-align: center;">10, 4 6, 7 8, 9</p>	<p><i>(Cambio desconocido)</i> ▲</p> <p>Los niños hicieron ___ ladrillos de adobe. ¿Cuántos ladrillos de adobe tienen que hacer para tener ___ ladrillos, suficientes para una jardinera para plantar flores?</p> <p style="text-align: center;">10, 18 7, 15 9, 20</p>	<p><i>(Inicio desconocido)</i></p> <p>El granjero cargó algunos cerdos en su camión. Su bracero cargó ___ cerdos más en el camión. Ahora hay ___ cerdos en el camión. ¿Cuántos cerdos había en el camión al principio?</p> <p style="text-align: center;">4, 11 5, 8 6, 9</p>
<p style="text-align: center;">Separar</p>	<p><i>(Resultado desconocido)</i> ★</p> <p>Había ___ pequeñas calabazas secándose en la mata. ___ calabazas estaban demasiado secas y se cayeron. ¿Ahora cuántas calabazas hay en la mata?</p> <p style="text-align: center;">10, 6 13, 6 17, 8</p>	<p><i>(Cambio desconocido)</i></p> <p>Había ___ cerdos en el camión. El granjero descargó algunos y ahora hay ___ cerdos en el camión. ¿Cuántos cerdos descargó el granjero?</p> <p style="text-align: center;">20, 10 18, 8 16, 7</p>	<p><i>(Inicio desconocido)</i></p> <p>Había unas pequeñas calabazas secándose en la mata. María recogió ___ para fabricar pajareras. Ahora hay ___ calabazas en la mata. ¿Cuántas calabazas había en la mata al principio?</p> <p style="text-align: center;">6, 6 7, 7 9, 9</p>
<p style="text-align: center;">Parte-Parte-Entero</p>	<p><i>(Entero desconocido)</i> ★</p> <p>Había ___ cajones de naranjas y ___ cajones de café en el camión de carga. ¿Cuántos cajones serían en total?</p> <p style="text-align: center;">15, 10 13, 12 8, 6</p>		<p><i>(Parte desconocido)</i></p> <p>Había ___ cajones de carga en el camión. ___ cajones contenían naranjas y el resto contenía granos de café. ¿Cuántos contenían granos de café?</p> <p style="text-align: center;">15, 5 14, 8 17, 9</p>



Comparar	<p><i>(Diferencia desconocido)</i> ★▲</p> <p>Había ___ cajones de naranjas y ___ cajones de vainilla en el camión de carga. ¿Cuántos cajones de naranjas más había comparado con las de vainilla?</p> <p>15, 13 17, 7 21, 18</p>	<p><i>(Cantidad Desconocida)</i></p> <p>Había ___ cajones de vainilla en el camión. Había ___ cajones más de naranja que de vainilla. ¿Cuántos cajones de naranjas había?</p> <p>10, 4 6, 7 4, 9</p>	<p><i>(Referente Desconocido)</i></p> <p>En el camión de carga había ___ cajones de café. Eso es ___ cajones más de café que de vainilla. ¿Cuántos cajones de vainilla hay?</p> <p>12, 4 14, 6 21, 12</p>
	Multiplicación	División de medidas	División partitiva
Formación de grupos y Partición	<p>Hay ___ plantas de maíz en una hilera de maíz. Hay ___ mazorcas en una planta. ¿Cuántas son las mazorcas en total?</p> <p>15, 2 20, 3 25, 4</p>	<p>Un camión que transporta naranjas desde Veracruz transporta ___ bolsas de naranjas. Si hay ___ bolsas de naranja en cada cajón, ¿cuántos cajones hay?</p> <p>100, 10 100, 5 45, 3</p>	<p>Los niños hicieron ___ ladrillos de adobe. Si los ordenan en ___ pilas, ¿cuántos ladrillos habrá en cada pila?</p> <p>25, 5 30, 5 55, 5</p>

Math Objectives

- Use concrete models to represent and name fractional parts of a whole (fourths, eighths).
- Use concrete models to represent and name fractional parts of a set of objects (fourths, eighths).
- Use appropriate language to describe part of a set, such as 3 out of 4 crayons are red.

Language Objectives

- Explain why each portion is a fourth/eighth.
- Share-write what is a fourth or eighth.
- Use appropriate language to describe part of a set, such as 3 out of 4 crayons are red.

Vocabulary

fourths
eighths
fair shares
equal pieces

Materials

- **BLM** Crackers and Nutella Fractions – 1 per student

Per partners

- 4 whole graham cracker sheets
- 2 T Nutella
- 2 paper plates
- 2 paper towels
- 2 plastic knives
- Chart paper with question:
How do you know each person would have (one-fourth or one-eighth) of the snack?

Unit 5, Lesson 21st – 2nd**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.

We are going to share our snack together in halves. How many people will be sharing the snack if we share in halves? (2) How do you know? Halves are two equal pieces of a whole or set.

(Distribute the snack materials)

- What do you see that you are going to share today? (4 graham crackers and 2 T Nutella)
- Talk to your partner about how you will share that fairly between you.

(Give them time to talk about how they will share it. In the meantime, draw several sets of four rectangles to represent the crackers and two circles to represent the Nutella. When students have discussed in partners, have them explain their plans to the class. Use their descriptions to divide the drawings on the board to show their plans. As a class, decide if the plan will divide the snack into two equal parts, or halves. Ask if anyone shared a different way. When all plans have been discussed and verified, students should share their snack.)

Today, our record sheet doesn't really have much to do with our actual snack. Let's look at the record sheet. *(Read the top portion to the students. Ask the questions below. Let them divide the circle into the fourths, and write the fractional part each would receive. Then read the second portion. Ask the questions below, and let the students divide that circle into eighths and write the fractional part each would receive.)*

QUESTIONS:

- How many people will be dividing this cup of Nutella?
- How do you know?
- What fractional part of the Nutella will each person receive?
- What does one (fourth / eighth) mean?

Snack Fraction Writing: BLM Crackers and Nutella Fractions

How do you know each person would have one (fourth, then eighths) of the snack?

Objectives: Review what you learned and how you learned it.