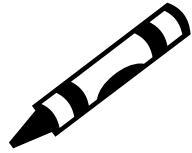
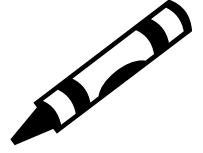
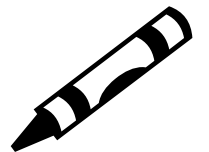


Summer Math

Educator Packet



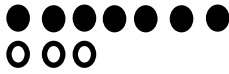
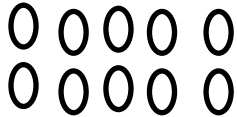
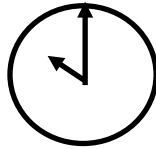
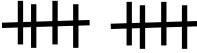
Unit 1



Warm up: Target Number

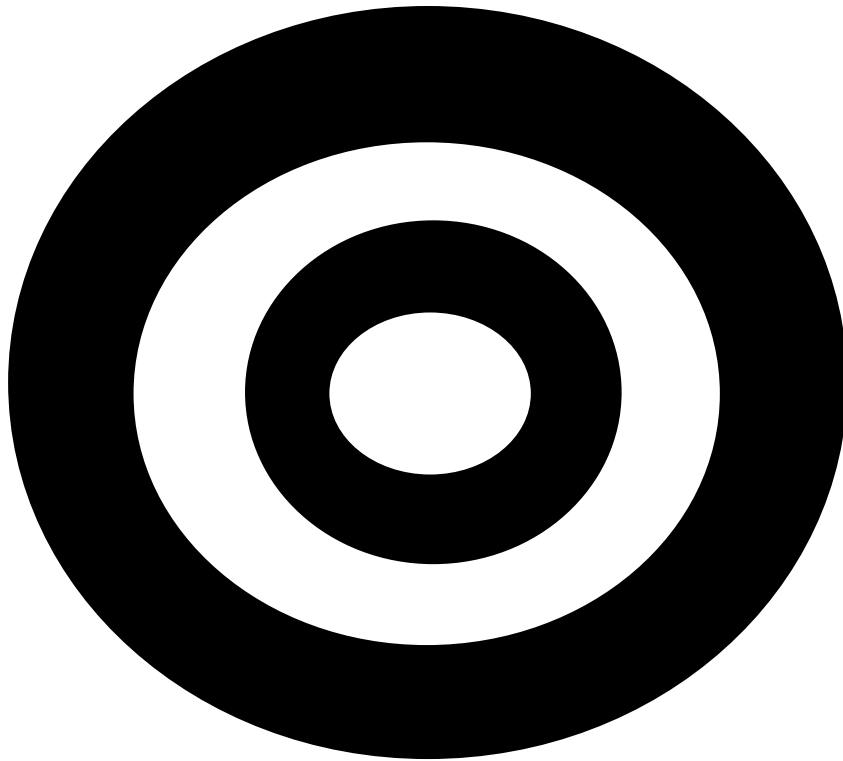
- The task is to represent the target number in different ways in one minute. Do a couple samples with students before starting the timer.
- Set the timer for one minute.
- Educators play along, and write examples to share related to the students' required math fluencies:
- At the end of the minute, 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.

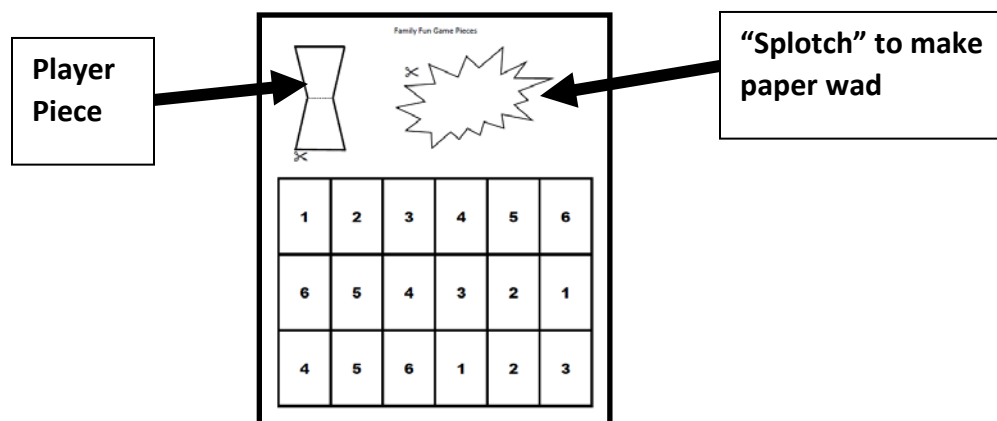
Process:

- 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 1 Family Fun Game Answer Key - All Levels

Problem Letter	Kinder (pink)	1-2 (blue)	3-4 (green)	5-6 (yellow)	7-8 (peach)
A	5¢ (cents)	\$32	0.15	2.35	18 boys : 22 girls
B	6¢ (cents)	\$42	0.2	1.2 or 1.20	11 girls : 20 total
C	7¢ (cents)	\$55	0.42	0.42	12 boys : 27 total
D	8¢ (cents)	\$78	0.05	13%	16 red : 27 total
E	9¢ (cents)	\$62	1/4	1%	9 cups
F	10¢ (cents)	\$82	2/8	34%	1 1/3 cups
G	6¢ (cents)	\$28	1/3	25% and 1/4	18 cups
H	7¢ (cents)	\$12	2/6	50% and 1/2	10 cups
I	8¢ (cents)	\$8	10	75% and 3/4	7.5 ounces
J	10¢ (cents)	\$10	3	1/4 ^{2.35}	\$36
K	13¢ (cents)	\$32	9	3/8	25 shirts
L	15¢ (cents)	\$25	1	3/5	16 shirts
M	11¢ (cents)	\$15	6	3/8	20 blocks
N	12¢ (cents)	\$21	3	2/5	7.2 minutes
O	9¢ (cents)	\$45	15	3/6 or 1/2	Martin runs faster. Martin runs 12 blks/6 min and Alicia runs 10 blks/6 min
P	14¢ (cents)	\$37	8	8.2	5 gallons
Q	13¢ (cents)	\$3	9	9.01	425 miles
R	16¢ (cents)	\$19	28	151.2	\$5.00

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?

Unit 1 CGI Problems for *Tightwad Tod*



<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Add To</p>	<p><i>(Result Unknown)</i> ★ ▲</p> <p>Tod had ___ pennies. His brother gave him ___ pennies. How many pennies does Tod have now?</p> <p>(5, 4) (15, 3) (20, 4)</p>	<p><i>(Change Unknown)</i> ▲</p> <p>Tod had ___. How many more dollars does Tod need to save in order to have ___ for a new toy?</p> <p>(\$3, \$8) (\$5, \$10) (\$10, 13)</p>	<p><i>(Start Unknown)</i></p> <p>Tod had some money to spend. His brother gave him ___. Now Tod has ___ to spend. How much money did Tod have to start?</p> <p>(\$3, \$10) (\$5, \$15) (\$12, \$15)</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Take From</p>	<p><i>(Results Unknown)</i> ★</p> <p>Tod had _____ dollars. He spent ___ dollars for a present. How many dollars does he have now?</p> <p>(10, 5) (15, 5) (100, 25)</p>	<p><i>(Change Unknown)</i></p> <p>Tod had \$____. He spent some of it at the mall and now he has \$____. How much money did he spend at the mall?</p> <p>(10, 6) (15, 9) (100, 25)</p>	<p><i>(Start Unknown)</i></p> <p>Tod had some money. He spent \$____ at the mall. Now he has \$____. How much money did Tod have to start?</p> <p>(4, 6) (18, 9) (20, 5)</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Put Together/ Take Apart</p>	<p><i>(Total Unknown)</i> ★</p> <p>Tod went shopping. He spent \$___ on snacks and \$___ on toys. How much money did he spend all together?</p> <p>(5, 20) (10, 30) (50, 50)</p>		<p><i>(Addend Unknown)</i></p> <p>Tod had ___ coins in his piggy bank. ___ were pennies and the rest were dimes. How many were dimes?</p> <p>(20, 5) (50, 10) (100, 60)</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Compare</p>	<p><i>(Difference Unknown)</i> ★ ▲</p> <p>Tod had _____ dollars. His brother, Ernest, had _____ dollars. How many more dollars did Tod have than Ernest?</p> <p>(10, 5) (20, 10) (25, 10)</p>	<p><i>(Bigger Unknown)</i></p> <p>Tod had _____ dollars. His brother, Ernest, had _____ dollars more than Tod had. How many dollars did Ernest have?</p> <p>(10, 5) (20, 10) (25, 10)</p>	<p><i>(Smaller Unknown)</i></p> <p>Ernest spent ___ dollars. That's ___ dollars more than Tod spent. How many dollars did Tod spend?</p> <p>(5, 3) (10, 5) (25, 20)</p>



Unir	<p><i>(Resultados desconocidos)</i> ★▲</p> <p>Tod tenía ___ centavos. Su hermano le dio ___ centavos. ¿Cuántos tiene ahora?</p> <p>(5, 4) (15, 3) (20, 4)</p>	<p><i>(Cambio desconocido)</i> ▲</p> <p>Tod tenía ____. ¿Cuántos necesita para tener ___ para poder comprar un nuevo juguete?</p> <p>(\$3, \$8) (\$5, \$10) (\$10, 13\$)</p>	<p><i>(Inicio desconocido)</i></p> <p>Tod tenía dinero para gastar. Su hermano le dio ____. Ahora Tod tiene ___ para gastar. ¿Cuánto dinero tenía al empezar?</p> <p>(\$3, \$10) (\$5, \$15) (\$12, \$15)</p>
	Separar	<p><i>(Resultados desconocidos)</i> ★</p> <p>Tod tenía ___ dólares. Compró un regalo de ___ dólares. ¿Cuántos dólares le quedan?</p> <p>(10, 5) (15, 5) (100, 25)</p>	<p><i>(Cambio desconocido)</i></p> <p>Tod tenía \$___. Gastó algo en el centro comercial y ahora le quedan \$___. ¿Cuánto dinero se gastó en el centro comercial?</p> <p>(10, 6) (15, 9) (100, 25)</p>
Parte - Todo		<p><i>(Todo desconocido)</i> ★</p> <p>Tod fue de compras. Gastó \$___ en meriendas y \$___ comprando juguetes. ¿Cuánto dinero gastó en total?</p> <p>(5, 20) (10, 30) (50, 50)</p>	
	Comparar	<p><i>(Diferencia desconocida)</i> ★▲</p> <p>Tod tenía ___ dólares. Su hermano, Ernesto, tenía ___ dólares. ¿Cuántos dólares de más tenía Tod?</p> <p>(10, 5) (20, 10) (25, 10)</p>	<p><i>(Cantidad a comparar desconocida)</i></p> <p>Tod tenía ___ dólares. Su hermano, Ernesto, tenía ___ dólares más que Tod. ¿Cuántos dólares tenía Ernesto?</p> <p>(10, 5) (20, 10) (25, 10)</p>

Math Objectives

- Separate a whole into two equal parts and use appropriate language to describe the parts such as one out of two equal parts.
- Partition objects into two equal parts and name the parts halves.
- Represent the fraction half numerically.

Language Objectives

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

Vocabulary

half
fair shares
equal pieces
one out of two equal pieces

Materials:

STUDENT ACTIVITY (per partner pair):

- BLM String Cheese Snack Fractions
- BLM String Cheese to Share
- 1 string cheese per pair.
- 1 plastic knife
- 2 paper dessert plates
- 2 paper towels
- 1 scissors per student
- 1 ruler and marker per student
- 1 glue stick per student
- Chart paper with three questions:
 1. How do you know that each portion is half?
 2. How do you describe this fraction?
 3. How do you represent this fraction in numbers?

Put a copy of the record sheet string cheese snack fraction cut apart at the top of the chart with the question

Unit 1, Lesson 3

1st – 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.

Objective:

Today you are going to share a snack with one other friend. 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. And you will be able to write the number representation of the fraction.

TODAY:

Divide the students into partners, giving each student first the BLMs String Cheese Snack Fractions and the paper representation of string cheese (*either the BLM String Cheese to share or cream-colored strips of paper cut to size of string cheese*).

Ask each student to share the paper string cheese as if s/he were cutting in fair shares for one other person. Let students share their cuts. Did they all share the same (*could be horizontal, vertical*)? Prove that the parts are halves by laying the pieces on top of one another – these are congruent halves, same size, same shape. Show students how to write the fraction numerically, making sure you use a horizontal line and NOT a diagonal fraction line. Tell students that the bottom number, or denominator, tells you how many pieces the whole is cut into, and the upper number, or numerator, tells you how many pieces in your portion – one out of two equal pieces. Students then complete the record sheet as before, but adding the numerical representation of half.

Now distribute the actual snacks, having the students share string cheese between them. If the partners had divided the paper differently, they will have to decide how to share the real snack.

Snack Fraction Writing: Chart Paper

Have the students answer the three chart questions. A student may scribe, or you may scribe for them. Leave the chart in the room for reference.

Objectives: Read the objectives. How did we accomplish these in our snack fraction lesson?