

Summer Math

Educator Packet



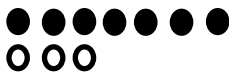
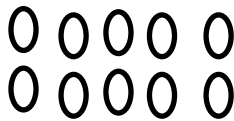
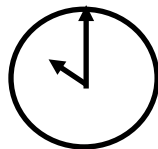
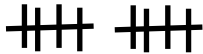
Unit 1



Warm up: Target Number

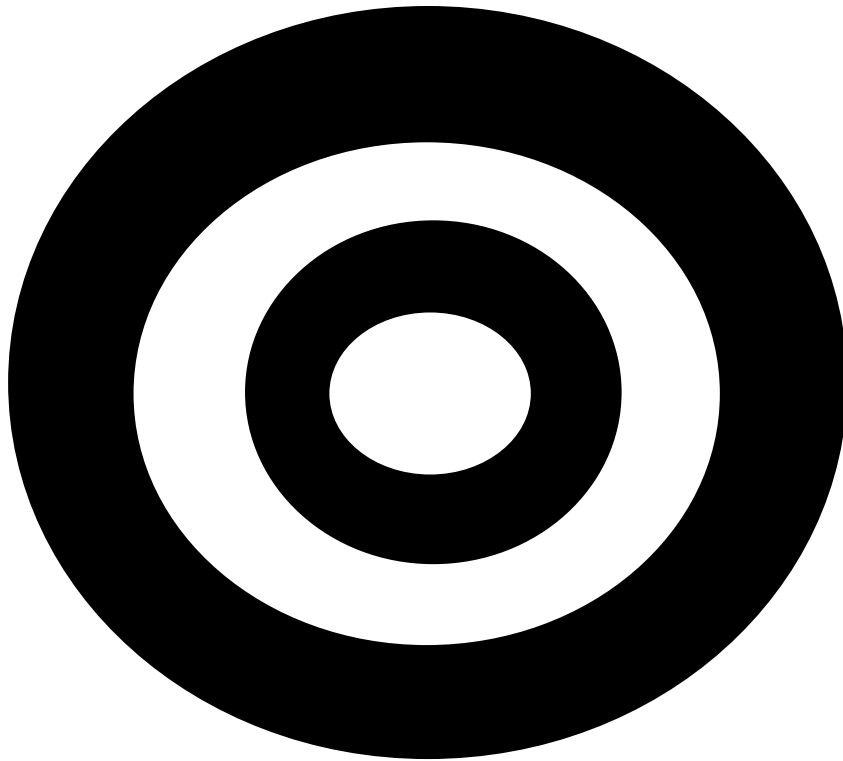
- The task is to represent the target number in different ways in one minute. Do a couple samples with students before starting the timer.
 - Start all groups with the numbers 12 and 15.
 - All target numbers are fair to use with students in grades 1 through 8.
 - Use numbers 20 and under for any “Cat-Icon” students in the group.
- 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

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
Grade 5	Multi digit multiplication	Procedural Fluency
Grade 6	Multi digit division; multi digit decimal operations	Procedural Fluency
Grade 7	Solve two step equations in the form of $px + q = r$ and $p(x + q) = r$	Procedural Fluency
Grade 8	Solve simple 2×2 systems of equations by inspection/substitution	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.

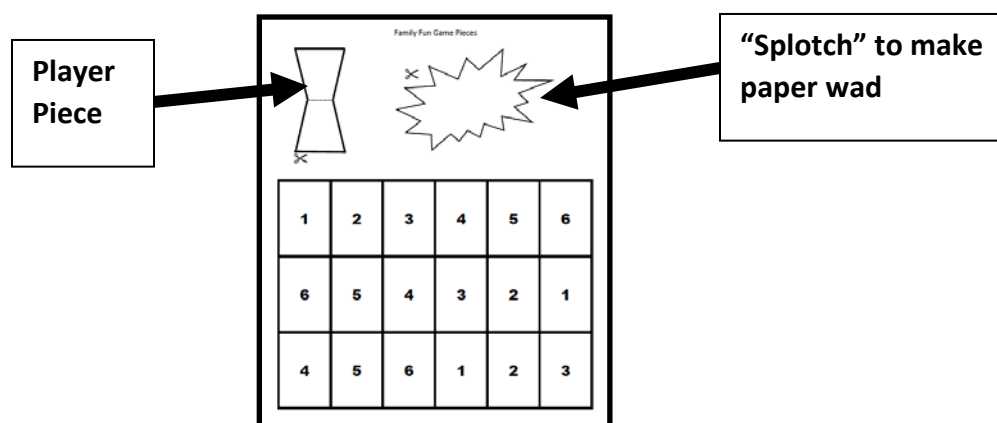
Process:

- 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:

While the New York State's Next Generations Learning Standards for Grade 5 and Grade 6 do not have a chart of sample word problems, the CGI Chart for Grades 5 and 6 give the students practice multiplying with fractions and decimals. Additionally, the CGI process supports students in reading and solving word problems.

Process:

1. ***Pick one word problem.*** Spend time on the process instead of a quick answer.
2. ***Read the problem to students,*** using the choice of differentiated numbers to fill in the blanks.
3. ***Read again and encourage students to take notes on the graphic organizer.*** (modeling, teaching the first time)
4. ***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?)
 - a. Have manipulatives and paper for students to choose either medium for solving the problem.
5. ***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.
6. ***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 *Money Sense with Kids*

	Unknown Product $a \times b = ?$	Group Size Unknown $a \times ? = p$ and $p \div a = ?$	Number of Groups Unknown $? \times b = p$ and $p \div b = ?$
Equal Groups	Anita put ___ away in her Short Term money jar every week for ___ weeks. How much did she have in the jar then? (\$9.50, 5) (\$11.25, 6)	Anita had _____. She wanted to give several charities ___ each. How many charities could she donate to? (\$45.00, \$15.00) (\$70, \$17.50)	Anita had ___ dollars she wanted to divide equally among her ___ money jars. How much should she put in each jar? (\$363, 3) (\$366, 6)
Rate	Margo worked in a bakery. She could knead a loaf of bread every ___ minutes. At that rate, how long would it take her to knead ___ loaves of bread? (10, 5) (7, 8)	Margo worked in a bakery. She could knead ___ loaves of bread in one hour. At that rate, how long did it take them to knead ___ loaf(ves) of bread? (7, 1) (7, 2) (9, 3)	Margo worked in a bakery. She could knead ___ loaves of bread in 40 minutes. At that rate, how many loaves could she knead in ___ minutes? (8, 5) (5, 20) (4, 30)
Price	Eloy bought 7 pounds of white fish for \$2.50 a pound. How much did he pay for the fish?	Eloy paid \$21.77 for fish that cost \$7 a pound. How many pounds of fish did he buy?	Eloy paid a total of \$45 for 15 pounds of shrimp. How much did he pay a pound for the shrimp?
Fractions	Sammy and his 3 friends had each eaten personal sized pizza for lunch. Each had one-sixth of his pizza leftover. If they put their leftovers together, how much pizza would they have?	Sammy wanted to make pizza dough. The recipe called for $\frac{1}{2}$ cup flour per pizza. If Sammy had 5 cups of flour, how many pizzas could he make?	Sammy's recipe for pizza called for $\frac{3}{4}$ cup sausage per pizza. If Sammy could make 8 pizzas, how many cups of sausage did he have?

Unit 1 CGI Problems for *Money Sense with Kids*



	Multiplicación	División de medidas	División partitiva
Agrupamiento/ División	Anita guardó ____ en su alcancía a corto plazo cada semana durante ____ semanas. ¿Cuánto dinero tenía en la alcancía entonces? (\$9.50, 5) (\$11.25, 6)	Anita tenía _____. Anita quería hacer donativos a varias organizaciones benéficas a razón de \$15 cada una. ¿A cuántas organizaciones benéficas pudo donar? (\$45.00, \$15.00) (\$70, \$17.50)	Anita tenía ____ dólares que quería dividir igualmente entre ____ alcancías. ¿Cuánto dinero puede poner en cada alcancía? (\$363, 3) (\$366, 6)
Cociente	Margo trabajaba en una repostería. Podía amasar una barra de pan cada ____ minutos. A tal razón, ¿cuánto tiempo le tomaría amasar ____ barras de pan? (10, 5) (7, 8)	Margo trabajaba en una repostería. Podía amasar ____ barras de pan en una hora. A tal razón, ¿cuánto tiempo le tomaría amasar ____ barra(s) de pan? (7, 1) (7, 2) (9, 3)	Margo trabajaba en una repostería. Podía amasar ____ barras de pan cada 40 minutos. A tal razón, ¿cuántas barras de pan podía amasar en ____ minutos? (8, 5) (5, 20) (4, 30)
Precio	Eloy compró 7 libras de pescado blanco a \$2.50 la libra. ¿Cuánto pagó por el pescado?	Eloy pagó \$21.77 por pescado que cuesta a \$7 la libra. ¿Cuántas libras de pescado compró?	Eloy pagó un total de \$45 por 15 libras de camarones. ¿Cuánto pagó por libra de camarones?
Fracciones	Sammy y sus 3 amigos habían comido pizzas individuales para el almuerzo. A cada uno de ellos le sobró una sexta parte de su pizza. Si juntaran sus sobras, ¿qué cantidad de pizza tendrían?	Sammy quería hacer masa de pizza. La receta llevaba $\frac{1}{2}$ taza de harina por pizza. Si Sammy tenía 5 tazas de harina, ¿cuántas pizzas pudo hacer?	La receta de pizza que Sammy usó llevaba $\frac{3}{4}$ de taza de chorizo por pizza. Si Sammy pudo hacer 8 pizzas, ¿cuántas tazas de chorizo usó?

Materials

- 5 large string cheese
- 4 paper dessert plates
- 4 paper towels
- 4 plastic knives
- 4 pieces wax paper
- 4 pairs of scissors

All items listed above per partner pair

- **BLM** Sting Cheese-Snack Fractions
- **BLM** Sting Cheese-Snack Fractions Teacher Guide

Math Vocabulary

decimal
 decimal point
 tenths
 hundredths
 thousandths
 compare
 order
 equivalent
 percent

Literature Vocabulary

short-term
 long-term
 purchases/expenses
 income
 counterfeit
 symbolize
 contribution

Unit 1, Lesson 3
Snack Fractions

Grades 5-6



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

Math Objectives

- Represent and solve addition and subtraction of fractions with like and unlike denominators referring to the same whole using objects and pictorial models, including area models.
- Add and subtract positive rational numbers fluently.
- Represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models.

Language Objectives

- Discuss how fractions, decimals, ratios, and percents can be used to solve real-world problems.

Snack Fractions

Students should have the skills to answer these in small groups. Have the students work through the BLM before sharing the actual snack.

Tell students that today you will share among four students. Distribute the five pieces of string cheese and other supplies to the groups of four and let them decide how to share the string cheese and how much of the set each person received.

When everyone is finished, distribute the **BLM** String Cheese Fractions. Students work in their groups of four to solve the problem. Use class time to discuss the strategies and solutions once all have finished.

Snack Fraction Journal Writing: BLM String Cheese Fractions

During the Snack Fractions activities for this unit you or your classmates may have noticed a relationship between the number of people the snack is being shared with and how many times the snack is “cut” or divided. Example: 3 donuts are shared between 4 people.



Snack Fraction Journal Writing: BLM String Cheese-Snack Fractions

Explain the relationship between the number of people eating the snack and how many times the snack was divided.

Unit 1 Lesson 3 – Snack Fractions
teacher copy



String Cheese – Snack Fractions **Teacher Guide**



Problem:

Enrique had five pieces of string cheese to share among himself and three of his brothers.

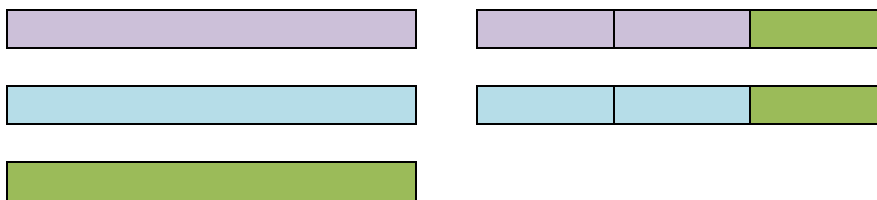
Questions:

1. What fractional portion of the snack did each person receive? $1\frac{1}{4}$

2. How do you write one portion as a decimal? Percent? **1.25 and 125%**

3. What if one person wasn't hungry for the string cheese. What fractional portion of the snack would each person receive then? Draw a picture. $1\frac{2}{3}$ The fraction is **NOT** $1\frac{2}{6}$.

The whole is divided into 3 pieces, therefore those pieces are thirds. Six-thirds are shown in the picture. Six-thirds is equivalent to 2 wholes (2 cheese sticks).



4. How do you write that as a decimal? Percent? **1.66 or 1.67 and 166% or 167%. Although one-third is a repeating decimal, it is a benchmark that all students should become familiar with.**