Summer Math Calendar
Entering Fourth Grade
Public Schools of Brookline

Get ready to discover math all around you this summer!
Just as students benefit from reading throughout the summer, they also benefit from engaging in regular and meaningful math activities. The Math Specialists of Brookline have created this summer math calendar to provide your child and your family with a variety of math activities to explore this summer.

Inside, you will find creative mathematics activities to try at home. The goal is for your child to have fun thinking and working collaboratively to communicate mathematical ideas. The activities reflect a range of difficulty with the intent that your child can choose the activities that are at a "just right" level. While working on these activities, ask your child **how** they found a solution or **why** they chose a particular strategy. We encourage you to approach them with curiosity and creativity.

This packet consists of 2 calendar pages (July and August) and an alternate summer math calendar that allows you to fill in your own activities. Each month's activities are organized into 28 "math boxes." You can choose which activities you and your child would like to complete on whichever day you want. We encourage your child to complete 20 boxes per month, coloring in each box as it is done. We recommend that you integrate an average of 15-20 minutes of math activities into your child's day, by completing these activities and reviewing basic facts. Return the signed calendars to your child's new teacher in September.

We hope that you enjoy the activities, extend them, create new ones, and **have fun!**

Public Schools of Brookline
K-8 Mathematics Department

Suggested Resources

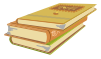
Ways to Practice Math Facts (using dice, index cards, deck of cards):

- Choose addition, subtraction or multiplication math activities on websites (see list)
- Addition, subtraction, multiplication flashcards—identify a few facts to work on each time
- Addition, subtraction or multiplication triangle flashcards
- Roll 2 dice and add, subtract or multiply
- Flip 2 cards and add, subtract or multiply
- Practice skip counting by 3s, 4s, 6s, 7s, 8s, or 9s

Games:

Pairs of 100*	Product Game*	
Close to 1000*	What's the Difference?	**Directions included*

Additional Games:
Othello, Blink, 1-2-3 OY!, Monopoly;



Books:

Amanda Bean's Amazing Dream	Cindy Neuschwander
Fraction Fun	David Adler
The Best of Times	Greg Tang
A Remainder of One	Elinor Pinczes
40 Fabulous Math Mysteries Kids Can't Resist	Marcia Miller
The Lion's Share	Matthew McElligott

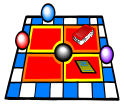
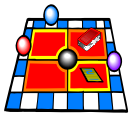
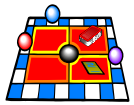
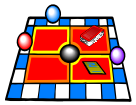
Websites:
http://illuminations.nctm.org (Concentration, Bobbie Bear)
http://figurethis.nctm.org
https://www.youcubed.org/resource/youcubed-at-home/
http://nlvm.usu.edu
http://www.tinyurl.com/gamesinv3
http://bedtimemath.org/category/daily-math/
https://talkingmathwithkids.com/_blog/
https://www.gamesforyoungminds.com/blog?category=Free%20Games

Public Schools of Brookline

July

Entering Fourth Grade Math Calendar

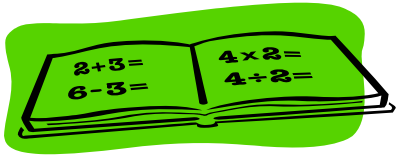
4th

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Practice your math facts. 	How many quarters can you have if you have $3.25? How many nickels?	Record the temperature for 5 days. What is the difference between the warmest and coolest days?	Play the Product Game. (see directions) 	Use the chart to determine the cost of 1, 8, 11, and 20 pencils *# of pencils* / *cost* 3 / 18¢ 5 / 30¢ 9 / 54¢	Read a math book. 	Play Pairs of 100. (see directions)
List all the factors of 36. List all the factors of 48.	Play a math game. 	25 x 2 25 x 6 25 x 3 25 x 7 25 x 4 25 x 8 25 x 5 25 x 9 25 x 10	Find a shoebox. Measure the perimeter of the top of the box. If a stamp is 1 x 1 inches, how many are needed to make a border around the top?	Practice your math facts. 	Play Bobbie Bear. http://illuminations.nctm.org 	List the ways you can divide 24 buttons into equal groups. What is $^1/_3$ of 24?
Read a math book. 	If Mia painted 400 finger nails, how many people did she see? If the vet examined 26 dogs, how many paws did she see?	Practice your math facts. 	Draw a number line from 0 to 5. Label the following fractions: ¼, ½, ¾, 1½, 4¾	Play Close to 1000. (see directions) 	134 + 10 144 + 100 244 + 20 264 + 200 384 - 30 464 - 10 What's your strategy?	Play the Product Game. (see directions) 
Play a math game. 	325 + ___ = 375 500 = 475 + ___ ___ + 550 = 600 275 + ___ = 350 300 — ___ = 225 220 + ___ = 350 440 = 125 + ___	What number am I? I am less than 25 x 10 and greater than 22 x 10. I am a multiple of 5. I am odd. The sum of my digits is 10.	Play What's the Difference: (see directions) 	Pick a two-digit number, multiply it by 10 and subtract the original number. Is this number divisible by 9? Why? Try it 4 more times.	Practice your math facts. 	How many eggs are in ½ a dozen? $^1/_3$ of a dozen? ¼ of a dozen? $^1/_6$ of a dozen? $^1/_{12}$ of a dozen?

Did you know?
The largest umbrella ever created was able to shade 200 people from the hot sun. How many people could 7 of these umbrellas shade?

Child's Name:_____

Parent's Signature: _____



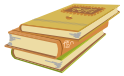
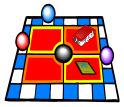
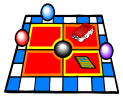
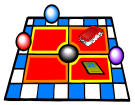
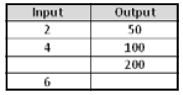
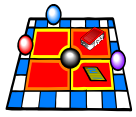
Created by the K-8 Math Department, Public Schools of Brookline, Revised Spring 2021

Public Schools of Brookline

August

Entering Fourth Grade Math Calendar

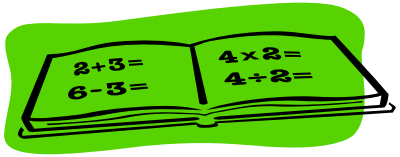
4th

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Grab 10 coins and record the total value. Grab 10 new coins and record this value. What is the difference?	Practice your math facts. 	Write down 10 fractions that are equivalent to ½. Write down 10 fractions that are equivalent to ¼.	Play the Product Game. (see directions) 	30 people are eating lunch together and want to share sandwiches. If each person eats $^1/_6$ of a sandwich, how many sandwiches should be ordered?	Read a math book. 	Play Bobbie Bear: http://illuminations.nctm.org Choose: Customize How many outfits can you make with 4 shirts and 3 pants?
Find 4 ways to divide 100 into equal groups.	Play a math game. 	I am thinking of an even number. It is greater than 7 x 6 and less than 6 x 10. It has a factor of 7. What number am I?	Practice your math facts. 	How many hours did you sleep last night? Bedtime: _____ Woke Up: _____ Hours: ____ Min.: _____	Play Pairs of 100. (see directions) 	60 ÷ 5 = ____ 55 ÷ 5 = ____ 50÷ 5 = ____ 45÷ 5 = _____ 35÷ 5 = _____ 30÷ 5 =_____ 25÷ 5 = _____ 20÷ 5 = _____
Draw rectangles that have a perimeter of 20 units. Find the area of each rectangle you drew.	Tyrell has a grid made up of 16 equal squares. How many squares should he color if he wants to color ½? ¼? $^1/_8$?	Play a math game. 	Finish the table. What's the rule? 	Practice your math facts. 	Draw horizontal and vertical lines that intersect 12 times. How many maps can you make?	Play the Product Game. (see directions) 
Practice your math facts. 	How many minutes are in 1 hour? ½ of an hour? $^1/_3$ of an hour? ¼ of an hour? $^1/_6$ of an hour?	Play What's the Difference. (see directions) 	Find an object that is a rectangular prism. How many faces, vertices, and edges does it have?	How many seconds are in 5 minutes? How many minutes are in 4 hours? How many seconds are in 2½ minutes?	Play a math game. 	In Mr. Rao's garden, $^4/_{12}$ of the flowers are purple. How many sixths are purple? How many thirds?

Did you know?
The first public indoor pool ever opened was the Evelyn Kirrane Aquatic Center, in Brookline in 1897. How many years ago did the pool open?

Child's Name:_____

Parent's Signature: _____



Created by K-8 Math Department, Public Schools of Brookline, Revised Spring 2021

Alternate Summer Math Calendar

Entering Grade _____

If you would prefer to substitute your own math activities for those suggested in the enclosed calendars, please document your created activities below. Remember: the goal is to complete 20 activities each month, so you may need to print this sheet twice!

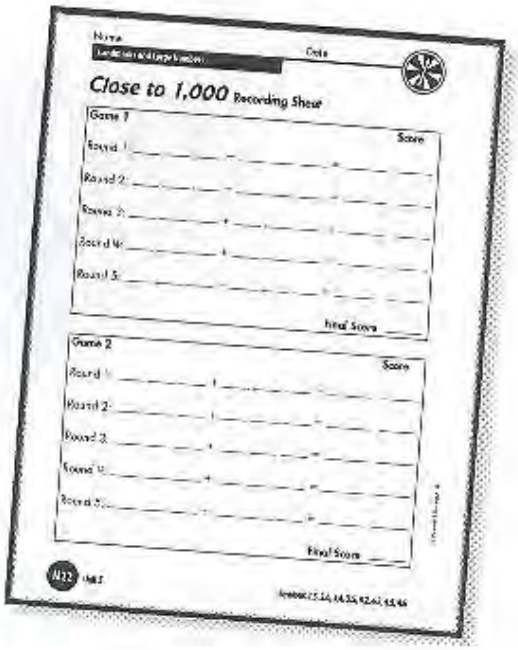
Activity #	Date Completed	Description of Math Activity
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

Student's Name:_____ Parent Signature:_____

Close to 1,000

You need

- Digit Cards (1 deck per pair)
- *Close to 1,000* Recording Sheet



Play with a partner.

1. Deal out eight Digit Cards to each player.
2. Use any six cards to make two numbers. For example, a 6, a 5, and a 2 could make 652, 625, 526, 562, 256, or 265. Wild cards can be used as any digit. Try to make two numbers that, when added together, give you a total that is close to 1,000.
3. Write these numbers and their total on the *Close to 1,000* Recording Sheet. For example, 652 + 347 = 999.
4. Find your score. Your score is the difference between your total and 1,000.
5. Put the cards you used in a discard pile. Keep the two cards you did not use for the next round.
6. For the next round, deal six cards to each player. Make more numbers that have a sum close to 1,000.
7. When you run out of cards, mix up the discard pile and use them again.
8. After five rounds, add your scores to find your final score. The player with the lower final score wins.

Variation

Write the score with plus and minus signs to show whether your total is less than or greater than 1,000. For example, if your total is 999, your score is −1. If your total is 1,005, your score is +5. The total of these two scores is +4. Your goal is to get a final score for five rounds that is as close to 0 as possible.

Close to 1,000 Recording Sheet

Game 1		Score
Round 1: ___ ___ ___ + ___ ___ ___	= ___	___
Round 2: ___ ___ ___ + ___ ___ ___	= ___	___
Round 3: ___ ___ ___ + ___ ___ ___	= ___	___
Round 4: ___ ___ ___ + ___ ___ ___	= ___	___
Round 5: ___ ___ ___ + ___ ___ ___	= ___	___
	Final Score	___

Game 2		Score
Round 1: ___ ___ ___ + ___ ___ ___	= ___	___
Round 2: ___ ___ ___ + ___ ___ ___	= ___	___
Round 3: ___ ___ ___ + ___ ___ ___	= ___	___
Round 4: ___ ___ ___ + ___ ___ ___	= ___	___
Round 5: ___ ___ ___ + ___ ___ ___	= ___	___
	Final Score	___

What's the Difference?

Object: Players roll dice to determine two three-digit numbers then find the difference between them. The difference is their score. Players add on to their scores with each round. The player who has 2000 points first is the winner.

Number of Players: 2 – 4

Materials: Dice, number line work sheets, paper and pencil for recording the scores.

Playing:
1. Players take turns. During a turn, a player rolls three dice (or one die three times) to construct a three-digit number. The player then does this again to make a second three-digit number.
2. The player then finds the difference between the numbers. Players may use a number line, compute on paper, or solve it in their heads.
3. The player reports the difference and records the score for that turn. If another player believes the difference found is not correct, that player can challenge. If the difference was incorrect, the challenging player gets the points for that turn (the correct difference between the two rolled numbers).
4. Players continue play clockwise around the circle. The player to collect 2000 points first is the winner.

Modifications:
*Players can construct two two-digit numbers and find the difference. In this version, the player who gets 200 points first is the winner.

*Players can solve only using a number line or by solving mentally. Traditional algorithms are not allowed.

Open Number Line Recording Sheet

Addition/Subtraction
BLM 11

Station : What's the Difference

Name & Date : _____

The Product Game

Materials: 2 paperclips, and 2 different colored game pieces (for example: coins, beans, or colored cubes. You will need several of each.)

Object of the Game: To be the first to get 4 in a row, horizontally, vertically or diagonally.

How to Play: The first player places the paperclips on any 2 of the 9 numbers below, multiplies the numbers (*factors*), and places a game piece on the answer (*product)* in the grid. ***Factor x Factor = Product***

The second player moves one of the paperclips to a new factor, finds the product, and marks their product with a different color game piece. Play continues until one player has marked four products in a row, column, or diagonal.

Note: It's OK to place 2 paperclips on the same factor: (5x5=25)

(Want to play against the computer? Try http://illuminations.nctm.org/ActivitySearch.aspx and search "product")

1	2	3	4	5	6
7	8	9	10	12	14
15	16	18	20	21	24
25	27	28	30	32	35
36	40	42	45	48	49
54	56	63	64	72	81

1 2 3 4 5 6 7 8 9

Pairs of 100

Materials: Pairs of 100 Recording Sheet
Numeral Cards from 0 – 9

Players: 2
Object: To find pairs of numbers with a sum of 100.

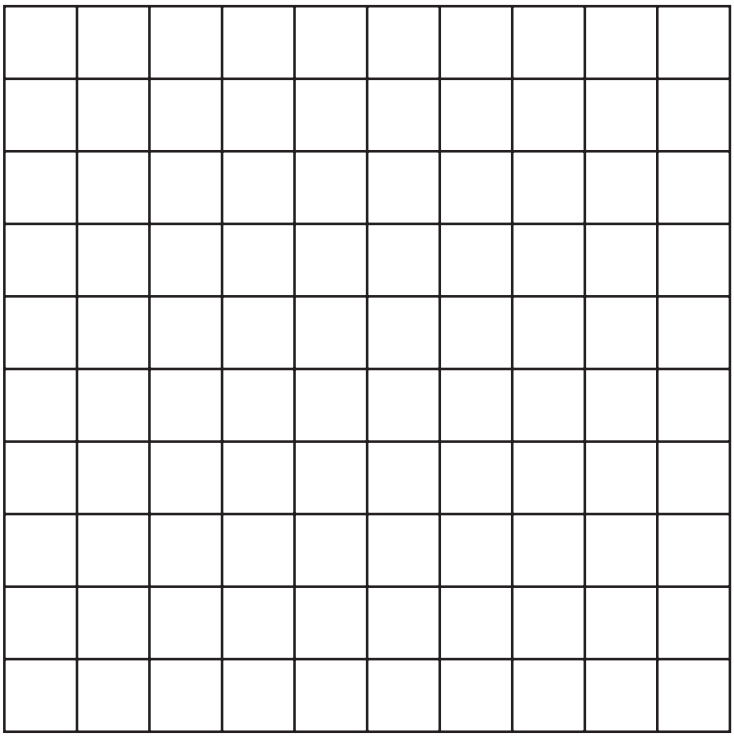
Note*: To play the game more than once, make multiple copies of the recording sheet before using it. Alternately, put the recording sheet in a clear sheet protector, use a dry erase marker and the sheet can be reused.*

How to Play:

1. Mix the cards and place them face down.
2. One player picks a card to be the tens digit of a number. The other picks a card to be the ones digit. Record the number on the recording sheet under **Number We Picked**. Return the cards to the pile.
3. One player colors in the squares on the 10 x 10 grid to represent the number picked, using rows of 10 and ones as needed.
4. The other player determines how many squares are not colored in, and records the number in the row **Number Needed to Make 100**.
5. Players switch roles for each round. Players can challenge themselves to find the second number without using the 100 grid.

Name _____ Date _____ **Activity Master 78**

Pairs of 100



Number We Picked					
Number Needed to Make 100					

Number We Picked					
Number Needed to Make 100					