

Summer Math Calendar

Sixth Grade



Get ready to discover math all around you this summer! Just as teachers encourage students to continue reading throughout the summer to solidify and retain reading skills, we feel the same attention should be given to mathematics. Regular practice over the summer with problem solving, computation, and math facts will maintain and strengthen math gains made over the school year. 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'll find creative activities that include measuring and counting everyday objects, math games, riddles, basic facts practice, math web sites and math literature books (available through Brookline's public libraries). The goal is for your child to have fun thinking and working collaboratively with you while communicating his/her mathematical ideas. While you are working on these activities, ask your child **how** he found that solution or **why** she chose that strategy. These activities help reinforce the concepts/skills your child learned this past year so that s/he can retain them over the summer.

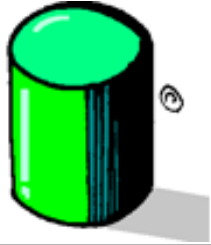
This packet consists of 2 calendar pages, one for July and one for August, an alternate summer math calendar as well as directions for math games to be played at home. (Note: a substitute for numeral cards can be a regular deck of cards without the face cards or Uno cards.) Each month's activities are organized into 28 "math boxes." ***You can choose which activities you'd like to complete on which day.*** We encourage your child to complete 20 math boxes each month. After completing a box, color it in. In September return the calendar, with your signature, to your child's new teacher.

We recommend that you integrate an average of 15-20 minutes of math activities into your child's day, including completing the enclosed activities *and* reviewing basic facts. Number facts can be practiced and reinforced through repeated use in games, real-life problems, songs, rhymes, and cards. Help your child to identify "FACTS I KNOW" and the "FACTS I AM WORKING ON." Think of regular and convenient times to review these facts, such as waiting in line, driving in a car, riding the train, reading time, etc.

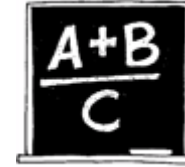
We hope that you will enjoy the activities, extend them, create new ones and have fun!

Public Schools of Brookline
K-8 Mathematics Department

We welcome your feedback on the calendar (tara_washburn@brookline.k12.ma.us).



July Sixth Grade Calendar Brookline



Directions: Complete **any** 20 math boxes and color in the box after you complete it. Return the Math Calendar to school in the fall.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday										
Play a game. Close to 0 (see directions)	Name the first five multiples of 12. Name the factors of 24 and the factors of 150. What are the common factors?	Recite the multiples of 9 to 9x12. What's your strategy?	As of today's date, record the Wins and Losses for the Red Sox this season. ←→ Wins _____ Losses _____	What percentage of games have the Red Sox won so far this season? What percentage have they lost?	What is the least common denominator <ul style="list-style-type: none"> • for $\frac{3}{4}$ and $\frac{1}{2}$? • for $\frac{2}{5}$ and $\frac{3}{20}$? • for $\frac{5}{6}$ and $\frac{1}{4}$? 	Play Equivalent Fractions on the Web* Choose shape: square Name 2 equivalent fractions for $\frac{3}{9}$ ths.										
What's the 2-step rule? <table border="1" style="width: 100%;"> <thead> <tr> <th>Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>13</td> </tr> <tr> <td>8</td> <td>17</td> </tr> <tr> <td>5</td> <td>11</td> </tr> <tr> <td>10</td> <td>?</td> </tr> </tbody> </table>	Input	Output	6	13	8	17	5	11	10	?	Play Fraction Game on the Web.* How many moves did it take to get all the red markers to the right side? Can you beat your score?	How many 25s are in 300? How many 20s are in 4,000?	What's the same about these numbers? 19, 47, 73, 23 (hint: odd is not the answer)	Recite the multiples of 8 to 8 x 12 What's your strategy?	Play a game Multiple Bingo (see directions)	23 x 100 66 x 1000 139 x 10 652 x 100 48 x 1000 What's your strategy?
Input	Output															
6	13															
8	17															
5	11															
10	?															
I am thinking of an odd number. The digits in my number are 4, 3, 2, 6. My hundreds place is less than my thousands place and less than my tens place. What number am I?	Read • The King's Chessboard By David Birch If the number of grains were to be tripled each day, how many grains would he have received on the 6 th day.	Play a game like Chess or Monopoly .	Ask 4 friends what time they went to bed last night and what time they awoke. Find the average of the time they slept.	Read ▼How Much is a Million? By David Schwartz If it takes 95 years to count to 1 billion, how many years would it take to count to 1 trillion? 1 million?	Recite the multiples of 6 to 6 x 12. What's your strategy?	About how long does it take on the commuter rail from Needham Heights to Back Bay? What is the average time between stops? See www.mbtta.com										
Read •On Beyond a Million by David Schwartz How many pieces of popcorn would Numero have after counting to 5 powers of 10? 10 powers of 10?	Square the following numbers: 8, 10, 6, 7, 9, 11	If the vet examined 13 dogs and 11 birds in one day, how many eyes did he look at? How many feet did the vet see?	Play The Factor Game on the Web.* Choose Game Type: 100 What's your score? How many factors can you find for 100?	Ian drank 2 quarts of water and 1 pint of Gatorade at the soccer game. How many more ounces does he need to drink to make a gallon?	If 210 children and 45 adults are going on a field trip, how many buses do they need? Each bus can seat 50 people. How many empty seats will you have?	144 ÷ 12 128 ÷ 4 93 ÷ 3 72 ÷ 6 121 ÷ 11 What's your strategy?										

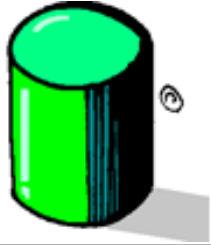
* Website Directions: Go to: illuminations.nctm.org Click on **ACTIVITIES**. Click on **3-5** and press **SEARCH**.

grade 5.July calendar.07

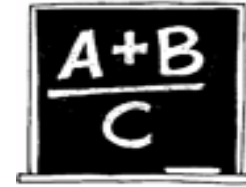
• Book is available through Brookline's public libraries or Minuteman library network (▼)

Parent's Signature: _____

Child's Name: _____



August Sixth Grade Calendar Brookline



Directions: Complete **any** 20 math boxes and color in the box after you complete it. Return the Math Calendar to school in the fall.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday										
Listen to the whole string of numbers before answering. I had 247 shells. I got 25 more. I lost 5. How many do I have? Make up your own.	How many combinations can you create with: 3 ice cream flavors 2 types of sauce and 2 kinds of sprinkles?	Change the following improper fractions into mixed numbers. 12/7 11/3 21/4	8 x 7 9 x 6 8 x 8 7 x 6 6 x 8 8 x 9 What's your strategy?	Play a game. Multiple Bingo (see directions)	I have a machine that adds 14 to every number I put in. If 174 comes out, what did I put in? If 111 comes out, what did I put in?	Play <i>Cube Nets</i> on the Web.* How many nets can you find for a cube? What do they have in common? Make a cube net with paper.										
Play a game like Chess or Monopoly .	I have 17 eggs but I want 113. How many more do I need? How many egg cartons (dozen sized) do I need to carry 113 eggs?	12 x 7 12 x 8 12 x 9 12 x 10 12 x 11 12 x 12 What's your strategy?	Using the GLOBE or weather.com, record the forecasted high temperatures for the next week. Find the mean, median, range & mode of temperatures.	Over the next week, record the actual high temperatures. Make a double bar graph of the actual and forecasted high temperatures.	Compare the forecasted with the actual temperatures. What was the difference for each day? What was the average difference?	Recite the multiples of 7 to 84 forwards and backwards. What's your strategy?										
Recite the multiples of 8 to 96. What's your strategy?	Find a shoebox and measure all the sides in inches. Find the total surface area of all 6 sides.	What is the square root of 49, 64, 144, 81, and 100? How many square numbers exist between 100-200?	What is the perimeter of your room measured in feet and inches? in meters and cm?	Name the 2-step rule <table border="1" style="display: inline-table; border-collapse: collapse;"> <thead> <tr> <th style="padding: 2px;">Input</th> <th style="padding: 2px;">Output</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">1</td> <td style="padding: 2px;">5</td> </tr> <tr> <td style="padding: 2px;">4</td> <td style="padding: 2px;">11</td> </tr> <tr> <td style="padding: 2px;">2</td> <td style="padding: 2px;">7</td> </tr> <tr> <td style="padding: 2px;">10</td> <td style="padding: 2px;">?</td> </tr> </tbody> </table>	Input	Output	1	5	4	11	2	7	10	?	Play a game. Close to 0 (see directions)	Play <i>Equivalent Fractions</i> on the Web.* Choose shape: square Find 2 equivalent fractions for 1/3?
Input	Output															
1	5															
4	11															
2	7															
10	?															
Read ▼ Big Numbers by E. Packard If you started with 6 peas on a plate and doubled it 4 times, how many peas would there be? Write with exponents.	How many minutes in 1 hour? How many seconds in 1 hour? How many minutes in 1 day? How many seconds in 1 day?	Read ● Math Curse by Jon Scieszka What 2 numbers am I thinking of? The sum of my numbers equals 15 and the product equals 54.	Play <i>Cubes</i> on the Web.* Set the width: 3, depth: 3, height: 3 What is the cubic volume? What dimensions would work for a volume of 120 cubic units?	Roll two dice together and multiply to find the product. Record the products. Do this 25 times. Find the mean, median, range & mode of the products.	If you pick a random card from a regular deck of cards, what's the probability you'll get a heart? a king? a black number card? Express as a fraction.	Read ● 17 Kings and 42 Elephants by Margaret Mahy If the journey took 3 hrs and they traveled 1/2 mile every 15 min., how many miles was their trip?										

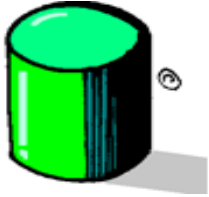
* Website Directions: Go to: illuminations.nctm.org Click on **ACTIVITIES**. Click on **3-5** and press **SEARCH**.

grade 5.Aug calendar.07

● Book is available through Brookline's public libraries or Minuteman library network (▼)

Parent's Signature: _____

Child's Name: _____



Bonus Sixth Grade Calendar Brookline



Directions: Complete all 31 math boxes. Record your answers, with a highlighter, in each box. Return this sheet to school in the fall.
Answer key: The solution to each problem is a number between 1-31, and each number is used once, so check your work!

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Ms. Brook's class received 168 postcards from pen pals. If each of the 24 students received the same number of postcards, how many did each receive?	Fran's favorite radio station is WXYZ at 107.89 on the radio. Which number is in the tenths place?	What is the numerator of $\frac{6}{8}$ in lowest terms?	It takes Mark 3 minutes to make $1\frac{1}{2}$ inches of a bracelet. If he works at the same speed, how many minutes will it take him to make a 3-inch bracelet?	3 friends share the cost of a video game. If the game costs \$74.79 including tax, what is the BEST ESTIMATE to the nearest dollar of the amount each friend will pay?	Howard has a blue, a white, and a black shirt. He also has a black, a red, and a white tie. How many different shirt and tie combinations can he make?	How many more even number days are there in July than in February?
Bill and Carol buy a pizza that is cut into 8 equal slices. If Bill eats $\frac{1}{8}$ and Carol eats $\frac{1}{4}$ of the pizza, how many eighths of the pizza is left?	Stacy has 79 strawberries to put in 5 baskets. If she puts the same number of strawberries in each basket. How many strawberries will be left over?	I bought 60 lollipops. I kept 3 lollipops and gave the rest to my 3 friends. They divided the lollipops equally among themselves. How many lollipops did each friend get?	Glen glued 4 white cubes together. After the glue dried, he painted the cubes red. How many faces of the 4 cubes were red?	One side of an equilateral triangle is 9 cm. What is its perimeter?	The number of sides in a hexagon plus the number of sides in a heptagon plus the number of sides in a triangle totals how many sides?	$(12 \times 5 + 2) \div 2 = \underline{\quad}$ Make up 3 more number equations using at least 2 operations (+, - \times \div) to get the <i>same</i> answer. Solve.
One side of a regular heptagon measures 3 cm. What is its perimeter?	The perimeter of a square is 52 cm. What is the length of each side?	Sally sold 2 out of 12 tickets to the concert. To the nearest whole percent, what percent of the tickets did she sell?	$3477 + B = 3500$ What value does B stand for?	Barry bought a roll of ribbon to make bows for his gift boxes. There were 132 inches of ribbon on the roll. How many feet of ribbon was that?	If you tripled the number of sides on a pentagon, it would be a polygon with how many sides?	Ted used a rule to make this list of numbers: 1, 2, 5, 10, 17, _____. If he continues, which number should he write next?
$2978 + \blacksquare = 3000$ What value does \blacksquare stand for?	$2022 - 1998 = \blacktriangledown$ What value does \blacktriangledown stand for?	The largest multiple of 4 that is less than 30 is _____?	Eight hours after 6:00 am is _____?	If 4 mint chocolates cost \$1.00, how many mint chocolates can you get for \$5.00?	$1\frac{3}{4}$, $3\frac{1}{2}$, 7, _____, 28. In the above pattern, what number belongs between 7 and 28?	How many multiples of 9 are on the Hundreds Chart?
Six nickels is what percent of a \$1.00?	How many edges does a cube have?	The largest prime number less than 30 is _____?				

Parent's Signature: _____

Child's Name: _____

Close to 0

Materials

- One deck of Numeral Cards (face cards removed)
- Close to 0 Score Sheet for each player

Players: 2

How to Play

1. Deal out 6 Numeral Cards to each player.
2. Use any four cards to make two numbers. For example, a 6 and a 5 could make 56 or 65. Wild cards can be used as any numeral. Try to make two numbers that, when subtracted, give you a difference that is close to 0.
3. Write these numbers and their difference on the Close to 0 Score Sheet. For example, $56 - 37 = 19$. The difference is your score.
4. Put the four cards you used in a discard pile. Keep the two cards you didn't use for the next round.
5. For the next round, deal four new cards to each player. Make two more numbers with a difference close to 0. When you run out of cards, mix up the discard pile and use them again.
6. After five rounds, total your score. Lower score wins.

Variation

Deal out **eight** Numeral Cards to each player. Each player uses **six** cards to make two numbers that, when subtracted, give a difference that is close to 0.

Close to 0 Score Sheet

Name _____

Game 1					Score	
Round 1:	_____	-	_____	=	_____	_____
Round 2:	_____	-	_____	=	_____	_____
Round 3:	_____	-	_____	=	_____	_____
Round 4:	_____	-	_____	=	_____	_____
Round 5:	_____	-	_____	=	_____	_____
				Total Score		_____

Name _____

Game 2					Score	
Round 1:	_____	-	_____	=	_____	_____
Round 2:	_____	-	_____	=	_____	_____
Round 3:	_____	-	_____	=	_____	_____
Round 4:	_____	-	_____	=	_____	_____
Round 5:	_____	-	_____	=	_____	_____
				Total Score		_____

Multiple Bingo

Materials:

- a 100 Chart for each player (*You'll need to make copies*)
- a deck of number cards (face cards removed)
- colored pencils/crayons or chips to re-use the board
- a calculator – for checking

Players: 1, 2, or 3

Directions:

1. Place the deck of number cards face down.
2. Players take turns turning over a number card and calling out the number. Each player colors in one multiple of the number card. (For example, if the number **7** is turned over, players can color in 7, 14, 21, **or** 28, etc.)
3. A player may challenge another player's turn. Multiples may be checked with the calculator.

Goal:

The first player to color in five in a row is the winner. You can choose to keep playing until everyone has colored in five in a row.

Variations - to make it more challenging

1. Don't use the top row and right column.
2. Winner has to get five numbers diagonally.

100 Chart

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100