

June 22, 2017

Dear Incoming and Returning Middle School Students,

Summer is right around the corner! We hope you have lots of time for rest and relaxation but we would like to take this opportunity to share with you some important items for this summer and the next school year.

ELA, Social Studies and Math Summer Work

For ELA and Social Studies, please read at least three books (combined) from the enclosed Boston Public Schools summer book list or the summer reading lists for Boston Latin School/Boston Latin Academy

(http://www.bls.org/apps/pages/index.jsp?uREC_ID=191775&type=d&termREC_ID=&pREC_ID=405928). If you are reading a book from the BLS/BLA list, please choose books for the list for the grade you will be entering or a higher grade. For social studies, you should read at least one book that is historical fiction.

The writing assignment for your historical fiction book is attached. For one of your two other books, enter the Read Your Way to Fenway contest (entry form attached). Please make a copy of your completed entry to bring with you to ELA in September.

For math, please complete the attached packet. You may turn in your math summer work one of two ways: 1) submit a google doc with your calculations and responses on Google Classroom by the first day of school (you will receive the class code from Ms. Silva); or 2) submit a hard copy of your calculations and final results on the first day of school.

Boston Public Schools also has a Summer Reading Together initiative. With this initiative, all students in the same grade are reading one book in common over the summer. The Reading Together books are:

Rising 6th Graders: *Dear Bully: Seventy Authors Tell Their Stories*, Carrie Jones, editor

Rising 7th Graders: *Fault in Our Stars*, by John Green

Rising 8th Graders: *Monster*, by Walter Dean Myers

If you have trouble gaining access to this book, you can instead read a book from one of the above reading lists. Boston Public Library should have copies of these titles available.

ISEE

All students in the sixth and eighth grades are eligible to take the ISEE in October which, along with students' grades, is used to determine admission to the BPS exam schools (Boston Latin School, Boston Latin Academy and John D. O'Bryant School of Math & Science). While we would like for all students to remain with us through eighth grade, we realize that many sixth grade students are interested in attending one of the exam schools. Students often find it useful to begin preparing for this test over the summer. If you are looking for resources to help you prepare, Summit Educational Group publishes a preparation guide that can be purchased online (<http://mytutor.com/product-category/isee/>). This book is used during the test preparation session offered by Boston Latin School during the summer. Other publishers also have test preparation materials for purchase.

Keyboarding Skills

For those students already in the middle school, you know that the Kilmer has purchased a set of tablets/laptops for use in the middle school. As we increase the amount we use the use of electronic classwork and homework, it will be more and more helpful for you to have solid keyboarding skills. There are a variety of free online sites that can help you practice your keyboarding skills (a link to a list of five such sites is here: <http://www.educational-freeware.com/news/top-5-free-typing-tutors.aspx>) – whether by using a home computer or one at your local library, we ask that you spend time this summer to develop your keyboarding skills.

School Supplies

The middle school team has come up with a unified supply list for all middle school students for next year. Ideally, this unified list will help students stay organized as they rotate through the different classrooms and will reduce the overall cost of supplies for each student. Each student should have these supplies for the first day of school:

- one 2.5-inch 3-ring binder (students will use this one binder for all classes)
- lined looseleaf paper for binder
- eight dividers
- folder for take-home work and notices
- number 2 pencils
- Protractor
- earbuds (1:1 devices)

If you have questions about the summer work or supplies, please contact a member of the middle school team. We look forward to seeing you in class in September!

Sincerely,

Mr. Cleves (fcleves@bostonpublicschools.org)

Mr. Heffron (jheffron@bostonpublicschools.org)

Ms. Silva (lsilva3@bostonpublicschools.org)

Ms. von der Luft (cvonderluft@bostonpublicschools.org)

Name _____ Grade: _____

Social Studies Summer Work: Book Review for a "Historical Fiction" Novel

"Real" book reviews can be found in newspapers, magazines and online. "Real" readers and writers use them to communicate about books they've read or would like to read. We will use them in our classroom community to help one another discover books!

Step 1: Choose a historical fiction novel to read. It should be a book that you have not started yet and have never read before. The book must be on the BPS Book List provided to you under the "Historical Fiction" section.

Historical Fiction- These novels tell stories that are set in the past. The setting is usually real and drawn from history, and often contains actual historical persons, but the main characters tend to be fictional.

Step 2: Read your book. Use a sticky note after each chapter to write down the main ideas.

Step 3: Think about your book. Pre-write your book review by answering the following questions.

o **What is the book's title?**

o **Who is the author?**

o **What is the theme?**

o **Who is the story about?**

o **What parts of the story are characteristics of historical fiction?**

o **When does the story happen?**

- o Where does the story happen?

- o How does the story make you feel? What parts make you feel that way?

- o What did you like and dislike about the book(use specifics)?

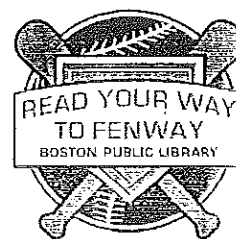
Step 4: Write your book review on a separate sheet of paper(or create a google doc using your bps email). Don't forget to include the theme and support for your opinions. Edit and revise your draft.

Historical Fiction Book Review

1st Paragraph: Summary (includes title, author, main characters, setting, and plot)

2nd Paragraph: Your Opinion (2nd paragraph includes your personal opinion of the book. Did you like it or not? Why or why not? Would you recommend this book? What kind of reader would like this book?)

2017 Read Your Way to Fenway Entry Form



Rules

- For children and teens ages 5 to 17.
- Read at least 3 books and write a brief essay about your favorite one.
- One entry per person at one branch only.
- Multiple entries will disqualify the entrant.
- The essay must be original work, not plagiarized or recycled from a prior year.
- Winner receives 3 tickets to the game on Sunday, August 27, vouchers for food at Fenway Park, a t-shirt, a hat, and a backpack.
- Each winner must be accompanied to the game by one parent or guardian.

Important Dates

- Contest starts: June 1
- Essays due to a Boston Public Library location: August 1
- Winner notified: August 10-14
- Pick up your tickets at your branch library: August 17-22
- Game day: Sunday, August 27 at 1:35 p.m., Red Sox vs. Orioles at Fenway Park



Applicant Information

Full Name _____ Email _____

Age _____ BPL Location _____

How many times you have been a RYWTF winner and attended a RYWTF Boston Red Sox game? _____

Comments: _____

If you win Red Sox tickets, you will receive a t-shirt to wear to the game that you can pick up with the tickets.

Shirt size (circle ONE) Kids sizes: S M L Adult size: M L XL

Parent or Guardian Information *Please circle preferred way to be contacted (i.e., home, cell, or email).*

Full Name _____

Home Phone Number _____ Cell Phone Number _____

Email _____

Street _____ Apt. # _____

City _____ State _____ Zip _____

Books I've read this summer:

Title	Author
1.	
2.	

Sponsored by John Hancock, the Red Sox Foundation, and the Boston Public Library.

www.bpl.org/summer

Summer Reading Together Engages Students in their rising grade to share the experience of reading and talking about the same book over the summer and at the beginning of the school year. Boston school communities are welcome to opt into this one book/one grade summer reading program. These books are for students to keep and add to their libraries and are available at the following Boston Public Library Branches:

Dudley • East Boston
Grove Hall • Hyde Park • Mattapan

Dudley • East Boston

Grove Hall • Hyde Park • Mattapan

The goal of this initiative is to prevent summer reading loss, encourage pleasure reading, and foster a culture of readers. It is our focus to foster motivation and engagement and begin to cultivate a culture of readers as we launch Guided Independent Reading (GIR).

Assignment:

This summer, read your text for about 20 minutes per session. As you read, consider the following:

- What is the author's message?
- Did the author explain things clearly?
- Is the language in the text inviting?
- How does this writing compare to that in other texts?

Remember to highlight, underline, or write in the margins of the text. Share with someone in your home what you found interesting or confusing, and discuss why. In September, bring your book to school. Be prepared to share your thoughts about the text you read this summer.

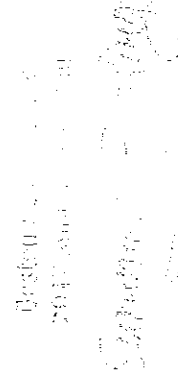
Summer in the City

Join the Boston Public Library's Summer in the City program and fill out a passport page each week indicating if you have been to a park, a museum, seen public art or visited a BPL library branch. Indicate what book, magazine or audiobook you have read that week and drop the passport page off at your neighborhood branch of the BPL to be entered in a drawing for prizes. Small weekly prizes will be awarded at each branch and grand prizes will be awarded system-wide at the end of the six weeks. This program is open to children and teens in grades K-12.



SCHOLASTIC

Courtesy of the Krueger Charitable Foundation, Tulsa, OK



Boston Public Library's 2017 summer program features books and activities about all kinds of sports enjoyed by all kinds of people. For more information, contact or visit any BPL location.

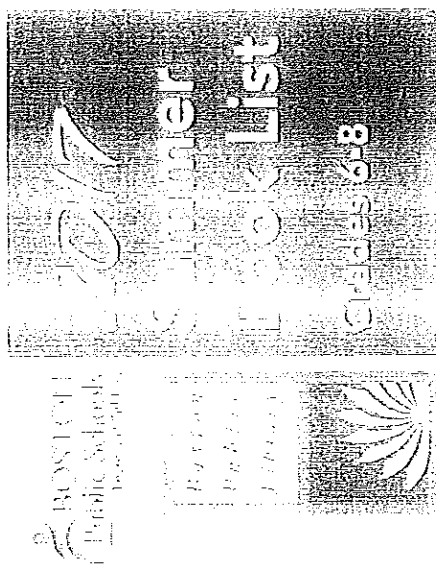
Allston:	300 N. Harvard St.	617-787-6313
Brighton:	40 Academy Hill Rd.	617-782-6032
	419 Fanshull St.	617-782-6705
Charlestown:	179 Main St.	617-242-1248
Copley Square:	700 Boylston St.	617-536-5400
Dorchester:	690 Adams St.	617-436-6900
	500 Columbia Rd.	617-265-0139
	1520 Dorchester Ave.	617-436-2155
	41 Geneva Ave.	617-427-3337
	27 Richmond St.	617-298-7841
	690 Washington St.	617-436-8214
East Boston:	365 Bremen St.	617-569-0271
Hyde Park:	35 Harvard Ave.	617-361-2524
Jamaica Plain:	433 Centre St.	617-522-1960
Mattapan:	1350 Blue Hill Ave.	617-298-9218
North End:	25 Parmenter St.	617-227-8135
Roslindale:	4246 Washington St.	617-323-2343
Roxbury:	2044 Columbus Ave.	617-445-4340
	1497 Tremont St.	617-427-3820
	65 Warren St.	617-442-6186
South Boston:	646 East Broadway	617-268-0180
South End:	685 Tremont St.	617-536-8241
West End:	151 Cambridge St.	617-523-3957
West Roxbury:	1961 Centre St.	617-325-3147

www.bpl.org

Summer Reading Together is sponsored by the Boston Public Library, Boston Public Schools, WGBH, and Scholastic Press.

Librarians from the Boston Public Library (BPL) and English Language Arts and Library teachers from the Boston Public Schools (BPS) compiled this book list. It was prepared by the BPL Office of Youth Services, BPS, Office of English Language Arts and Literacy and BPS Office of Library Services with support from the BPS Communications Office.

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617-635-9000 | www.bostonpublicschools.org



Dear Parent/Guardian:

The summer months are a wonderful time to explore the world of books and reading—and the staff of the Boston Public Schools and Boston Public Library look forward to helping you plan a reading program to last the whole summer.

This Summer Book List will help you choose high-quality literature geared to the interests of middle school students. All the books on the list are available at your neighborhood library. Your local librarian can suggest additional titles.

The Boston Public Schools is working to ensure high standards and high achievement for every student in every classroom, and literacy is a priority at all grade levels. We expect our students to work hard at reading and writing, and to keep reading year-round, and we need the support and encouragement of families to help us reach the goal of every student becoming an excellent reader.

Happy reading!

Sincerely,

Tommy Chang
Superintendent
Boston Public Schools

David Leonard
President
Boston Public Library

This summer, all rising **6th graders** will read
Dear Bully: Seventy Authors Tell Their Stories
 Carrie Jones, Editor

This summer, all rising **7th graders** will read
Fault in Our Stars by John Green,

This summer, all rising **8th graders** will read
Monster by Walter Dean Myers

Fiction

The Crossover.....Alexander
El Deafo.....Bell
Esperanza Rising.....Ryan
Sisters.....Telgemeier
After Tupac and D Foster.....Woodson
Millicent Min, Girl Genius.....Yee

Science Fiction/Fantasy

Things Not Seen.....Clements
Artemis Fowl (series).....Colfer
Books of Ember (series).....DuPrau
The Manuels.....Selznick
Bone (series).....Smith
Lumberjanes (series).....Stevenson

Enchanted Air: Two Cultures, Two Wings, a Memoir.....Engle
Claudette Colvin: Twice Towards Justice.....Hoose
Red Scarf Girl: A Memoir of the Cultural Revolution.....Jiang
Becoming Maria: Love and Chaos in the South Bronx.....Manzano
Temple Grandin: How the Girl Who Loved Cows Embraced Autism and Changed the World.....Montgomery
Brown Girl Dreaming.....Woodson
I Am Malala: How One Girl Stood Up for Education and Changed the World.....Yousafzi

Legends and Fables

Trickster: Native American Tales: A Graphic Collection.....Dembicki, ed.
Odd and the Frost Giants.....Gaiman
The Wise Fool: Fables from the Islamic World.....Husain
Outlaw: The Legend of Robin Hood.....Lee
Ain't Nothing But a Man: My Quest to Find the Real John Henry.....Nelson
Percy Jackson's Greek Heroes.....Riordan



Hold Fast.....Balliet
Tangerine.....Bloor
From the Mixed-Up Files of Mrs. Basil E. Frankweiler.....Konigsburg
The Boy Sherlock Holmes (series).....Peacock
Liar and Spy.....Stead
Sammy Keyes (series).....Van Draanen

Historical Fiction

Chains (series).....Anderson
March Toward Thunder.....Bruchac
The Evolution of Calpurnia Tate.....Kelly
Inside Out and Back Again.....Lai
Kampung Boy.....Lat
One Crazy Summer (series).....Williams-Garcia

International Books

Sugar Changed the World: A Story of Magic, Spice, Slavery, Freedom, and Science.....Aronson
Trapped: How the World Rescued 33 Miners from 2,000 Feet Below the Chilean Desert.....Aronson
The Hive Detectives: A Chronicle of a Honey Bee Catastrophe.....Burns
Go: A Kidd's Guide to Graphic Design.....Kidd
An Eye for Art: Focusing on Great Artists and Their Work.....National Gallery of Art
Bomb: The Race to Build--and Steal--The World's Most Dangerous Weapon.....Sheinkin
Courage Has No Color: The True Story of the Triple Nickels: America's First Black Paratroopers.....Stone

Grade 5 Learning Goals

*In grade five, students build their understanding of the place value system by working with decimals up to the hundredths place. Students also add, subtract, and multiply fractions, including fractions with unlike denominators. They continue to expand their geometry and measurement skills, learning the concept of volume and measuring the volume of a solid figure. Activities in these areas include:

- Quickly and accurately multiplying multi-digit whole numbers
- Dividing numbers with up to four digits by two digit numbers
- Using exponents to express powers of 10 (in 102, 2 is the exponent)
- Reading, writing, and comparing decimals to the thousandths place
- Adding, subtracting, multiplying, and dividing decimals to the hundredths place
- Writing and interpreting mathematical expressions using symbols such as parentheses. For example, “add 8 and 7, then multiply by 2” can be written as $2 \times (8+7)$.
- Adding and subtracting fractions with unlike denominators (bottom numbers) by converting them to fractions with matching denominators
- Multiplying fractions by whole numbers and other fractions
- Dividing fractions by whole numbers and whole numbers by fractions
- Analyzing and determining relationships between numerical patterns
- Measuring volume using multiplication and addition

Looking Ahead to Sixth Grade

*In grade six, your child will learn the concept of rates and ratios and use these tools to solve word problems. Students will work on quickly and accurately dividing multi-digit whole numbers and adding, subtracting, multiplying, and dividing multi-digit decimals. Students will extend their previous work with fractions and decimals to understand the concept of rational numbers—any number that can be made by dividing one integer by another, such as $\frac{1}{2}$, 0.75, or 2. Students will also learn how to write and solve equations—mathematical statements using symbols, such as $20+x=35$ —and apply these skills in solving multi-step word problems. Activities in these areas will include:

- Understanding and applying the concepts of ratios and unit rates, and using the correct language to describe them (for example, the ratio of wings to beaks in a flock of birds is 2 to 1, because for every 2 wings there is 1 beak)
- Building on knowledge of multiplication and division to divide fractions by fractions
- Understanding that positive and negative numbers are located on opposite sides of 0 on a number line
- Using pairs of numbers, including negative numbers, as coordinates for locating or placing a point on a graph
- Writing and determining the value of expressions with whole-number exponents (such as $15+32$)
- Identifying and writing equivalent mathematical expressions by applying the properties of operations. For example, recognizing that $2(3+x)$ is the same as $6+2x$
- Understanding that solving an equation such as $2+x=12$ means answering the question, “What number does x have to be to make this statement true?”
- Representing and analyzing the relationships between independent and dependent variables
- Solving problems involving area and volume

*Adapted from *Parent Roadmaps* by Council for Great City Schools

Summer Math Learning Packet

Students Entering Grade 6

Discover mathematics all around you this summer!!! Just as with reading, regular practice over the summer with problem solving, computation, and math facts will maintain and strengthen the mathematical gains you made over the school year.

Attached to this letter, you will find creative mathematics activities to explore at home. The goal is for you to have fun thinking and working collaboratively to communicate mathematical ideas. While you are working, ask how the solution was found and why a particular strategy was chosen.

The Summer Math Learning Packet consists of 2 calendar pages, one for July and one for August, as well as directions for math games to be played at home. Literature and websites are also recommended to explore mathematics in new ways. We encourage you to complete at least 15 math days each month. Keep track of your math in a journal.

Fun math books to read

A Gebra Named Al by Windy Isdell
Math Curse by Jon Scieszka
Chasing Vermeer by BlueBalliett
Counting on Frank by Rod Clement
Guinness Book of Records by Time Inc
Mathematicians are People Too by Luetta Reimer & Wilbert Reimer

Fun websites to explore

www.funbrain.com
www.aplusmath.com
www.pbskids.org
www.illuminations.nctm.org
www.setgame.com
www.multiplication.com
www.firstinmath.com
www.kids.gov/
<http://mathforum.org/index.html>

Student Accountability

The intention is that your child spends at least 10 minutes a day, 4 to 5 times a week, practicing math. Your child should aim to complete at least 250 minutes of math practice over the course of the summer. When your child has completed the math requirements, please sign and return this paper to the sixth grade teacher with his/her journal.

Parent's signature _____

Date _____

Grade 6 Summer Math Ideas

DIRECTIONS: Do your best to complete as many of these summer math activities as you can! Record your work in your math journal every day. In September, share your Math Journal with your third grade teacher.

Each journal entry should

- Have the date of the entry
- Have a clear and complete answer
- Be neat and organized

Math Tools You'll Need

- Notebook for math journal
- Pencil
- Crayons
- Regular deck of playing cards
- Coins
- Dice

Here is an example of a "Great" journal entry.

July 23rd

Today's number is 144.

$$12 \times 12 = 24 \times 6 = 48 \times 3$$

1

$$1440 \div 10 = 12 \times 12$$

$$143 + 1 = 121 + 23$$

Games to play: Checkers, Othello, Memory, Set, jigsaw puzzles, Parcheesi, Crazy Eights, Connect Four, Legos, etc.

July 2016 Entering Sixth Grade Mathematics Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
3	4	5	6	7	8	9
	What is the perimeter of your room measured in feet and inches? in meters and cm?	Find the sum of the digits of your phone number. What numbers is it divisible by?	Six friends have 4 sandwiches to share. What fraction of a sandwich will each person get?	Express the number 50 in at least 25 different ways. Use all 4 operations and include fractions and decimals.	Square the following numbers: 8, 10, 6, 7, 9, 11 How many 25s are in 300? How many 20s are in 4,000?	1 2
10	11	12	13	14	15	16
Try a new activity at http://www.coolmath4kids.com Challenge yourself. What did you chose to do?	Predict the number of times a 6 will occur when you roll a die 50 times. Roll the die and record the results- are they the same as your prediction? Why?	Count cricket chirps for 15 sec. Add 39. This will give you the Fahrenheit Temperature outside. Try it on 3 different days. Does it work?	Choose a favorite professional athlete and research his/her annual salary. How much does s/he earn in a month? A day?	Read a book from the suggested "Great Math books to Read" What new vocabulary did you use?		
17	18	19	20	21	22	23
Measure and record the heights of each member of your family in inches. What is the difference between the tallest and the shortest persons?	A California Condor has a 114 in. wingspan. How many feet is that?	I am an even, 3 digit palindrome. (ex. 464) The product of the digits is 8. What number am I?	Record the time you go to bed and get up for 1 week. Figure out the total hours & minutes. Find the mean, median, and range.	Try "Beatscalc" at http://mathforum.org/index.html		
24	25	26	27	28	29	30
Plan a meal for your family. With an adult, make a list of the ingredients, go shopping, and then follow the recipe.	Try the Weigh the Wangdoodles at http://mathplayground.com/	Today's number is 144 Make 144 by: -Multiplying two numbers -Dividing two numbers -Adding odd numbers	A farm has cows and ducks. There are 78 feet and 27 heads. How many of each animal are there? How do you know?	Cut a string 1 meter long. Identify and record 10 items that are this length.		

August 2016 Entering Sixth Grade Mathematics Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
31	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			

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?

How many blades of grass are in a square yard of your backyard? Use logic, measurement, and problem solving strategies to find the answer.

Visit the website **Figure this** and look for a real life math challenge. <http://www.figurethis.org/index.html>

How many minutes in 1 hour? How many seconds in 1 hour? How many minutes in 1 day? How many seconds in 1 day?

The largest prime number less than 30 is _____?

Make a dollar with 50 coins. What coins did you use? How many of each?

Read a book from the suggested "Great Math Books to Read" What new math did you discover?

Play a game like **Chess** or **Monopoly**.

Jen is 12. Amy is 13. In 25 years, what will be the product of their ages?

Bill and Carol buy a pizza that is cut into 8 equal slices. If Bill eats $\frac{1}{8}$ and Carol eats $\frac{4}{8}$ of the pizza, how many eighths of the pizza is left?

Choose a geometry activity at Math Illuminations <http://illuminations.nctm.org/activitysearch.aspx>

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?

If you spend \$100.00 a day, how many days will it take to spend a million dollars? How many years is that? What would you buy?

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?

YOU DID IT! Please bring your journal to your sixth grade teacher on the first day of school!

Is a 3 gallon pitcher large enough to hold 25 pints of juice? Explain.

Design a container for popcorn with one piece of paper. How much popcorn will your container hold?

Read Guinness Book of Records by Time Inc. What record surprised you the most? Why?

If you save two cents everyday in the month of July, how much money will you have saved at the end of the month?

Play **Sudoku** from the newspaper. How did logic help you to solve the puzzle?

Make a paper airplane and fly it several times. Find the mean average of the distance your plane can fly.

I am a number less than 50. When divided by 5, my remainder is 4. Who am I? Is there more than 1 correct answer?

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?

Grade 6 Learning Goals

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- Understanding and applying the concepts of ratios and unit rates, and using the correct language to describe them (for example, the ratio of wings to beaks in a flock of birds is 2 to 1, because for every 2 wings there is 1 beak)
- Building on knowledge of multiplication and division to divide fractions by fractions
- Understanding that positive and negative numbers are located on opposite sides of 0 on a number line
- Using pairs of numbers, including negative numbers, as coordinates for locating or placing a point on a graph
- Writing and determining the value of expressions with whole-number exponents (such as $15+32$)
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- Understanding that solving an equation such as $2+x = 12$ means answering the question, “What number does x have to be to make this statement true?”
- Representing and analyzing the relationships between independent and dependent variables
- Solving problems involving area and volume

Looking Ahead to Seventh Grade

In grade seven, students will further develop their understanding of rates and ratios, using tables, graphs, and equations to solve real-world problems involving proportional relationships. Students will also work on quickly and accurately solving multi-step problems involving positive and negative rational numbers—any number that can be made by dividing one integer by another, such as $\frac{1}{2}$, 0.75, or 2. Additionally, students will expand their knowledge of geometry and apply the properties of operations to solve real world problems involving the measurement of multi-dimensional objects. Activities in these areas will include:

- Determining whether two quantities are in a proportional relationship and using knowledge of rates, ratios, proportions, and percentages to solve multi-step problems
- Identifying the unit rate of change (the constant rate at which the value of a variable changes) in tables, graphs, equations, and verbal descriptions
- Calculating the unit rates associated with ratios of fractions, including quantities measured in different units (for example, the ratio of $\frac{1}{2}$ a mile for every $\frac{1}{4}$ of an hour means that you travel 2 miles in an hour)
- Solving problems using equations to find the value of one missing variable
- Applying the properties of operations to generate equivalent mathematical expressions
- Solving multi-step word problems by adding, subtracting, multiplying, and dividing positive and negative rational numbers in any form (including whole numbers, fractions, or decimals)
- Understanding that numbers cannot be divided by 0
- Converting rational numbers to decimals using long division
- Describing situations in which positive and negative quantities combine to make 0
- Finding the area of two-dimensional objects and the volume and surface area of three-dimensional objects

*Adapted from *Parent Roadmaps* by Council for Great City Schools

Summer Math Learning Packet

Students Entering Grade 7

Discover mathematics all around you this summer!!! Just as with reading, regular practice over the summer with problem solving, computation, and math facts will maintain and strengthen the mathematical gains you made over the school year.

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Fun math books to read

Evil Genius by Catherine Jinks
Forever Changes by Brendan Halpin
Geek Abroad by Piper Banks
All of the Above by Shelley Pearsall
Hannah Divided by Adele Griffin
A Higher Geometry by Sharelle Byars
Moranville Guinness Book of Records by Time Inc
Mathematicians are People Too by Luefta Reimer & Wilbert Reimer

Fun websites to explore

<http://www.figurethis.org/index.html>
<http://nrich.maths.org/frontpage>
<http://www.khanacademy.org/>
<http://mathforum.org/index.html>
<http://www.coolmath4kids.com/>
<http://www.thinkingblocks.com/>
<http://mathplayground.com/>
<http://illuminations.nctm.org/activitysearch.aspx>

Student Accountability

The intention is that your child spends at least 10 minutes a day, 4 to 5 times a week, practicing math. Your child should aim to complete at least 250 minutes of math practice over the course of the summer. When your child has completed the math requirements, please sign and return this paper to the sixth grade teacher with his/her journal.

Parent's signature _____

Date _____

Grade 7 Summer Math Ideas

DIRECTIONS: Do your best to complete as many of these summer math activities as you can! Record your work in your math journal every day. In September, share your Math Journal with your third grade teacher.

Each journal entry should

- Have the date of the entry
- Have a clear and complete answer
- Be neat and organized

Math Tools You'll Need:

- Notebook for math journal
- Pencil
- Crayons
- Regular deck of playing cards
- Coins
- Dice

Here is an example of a "Great" journal entry:

July 23rd

Today's number is 144.

$$12 \times 12 = 24 \times 6 = 48 \times 3$$

1

$$1440 \div 10 = 12 \div 12$$

$$143 + 1 = 121 + 23$$

Games to play: Checkers, Othello, Memory, Set, jigsaw puzzles, Parcheesi, Crazy Eights, Connect Four, Legos, etc.

July 2016 Entering Seventh Grade Mathematics Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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

If it took 7 hours to mow 4 lawns, then, at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?

Write an expression to represent the situation. The skating rink charges \$1.00 to reserve and then \$5 per person. Write an expression to represent the cost for any number of people.

Alisa had $\frac{1}{2}$ liter of juice in a bottle. She drank $\frac{3}{8}$ liters of juice. What fraction of the juice in the bottle did Alisa drink?

Find two numbers that have 2, 3, and 5 as factors.

Denver's elevation is 5280 feet above sea level. Death Valley's is -282 feet. Is Death Valley located above or below sea level? Explain. How many feet higher is Denver than Death Valley?

List all the factors of 48. List all the factors of 64. What are the common factors of 48 and 64? What is the greatest common factor of 48 and 64?

If the mean, median, and mode are all equal for the following set, what is the value of x ? {3, 4, 5, 8, x }

Mia walks her dog twice a day. Her evening walk is two and a half times as far as her morning walk. At the end of the week she says she walked her dog 30 miles. How long is her morning walk?

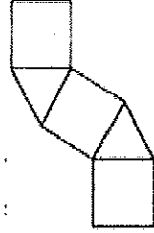
In trail mix, the ratio of cups of peanuts to cups of chocolate candies is 3 to 2. How many cups of chocolate candies would be needed for 9 cups of peanuts?

Try a new activity at <http://www.coolmath4kids.com/> Challenge yourself. What did you choose to do?

Lin rode a bike 20 miles in 150 minutes. If she rode at a constant speed, how far did she ride in 15 minutes? How long did it take her to ride 6 miles? How fast did she ride in miles per hour?

What is the smallest number that is divisible by 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10? How do you know?

Will this net form a triangular prism?



Some kids like to ride their bikes to and from school. Let d be the distance in miles from a kid's home to school. Write 2 expressions to represent how far a kid travels by bike in 4 weeks.

Seifn wants to buy a new skateboard that costs \$169. He has \$88. If he earns \$7.25 an hour pulling weeds, how many hours will he have to work to earn the rest of the money needed?

Try "Beatacalc" at <http://mathforum.org/index.html>

Try one of the recommended websites. Record what you did

What is the prime factorization of 32?

The temperature is -28°F in Anchorage, Alaska and 65°F in Miami, Florida. How many degrees warmer is it in Miami than in Anchorage?

Look up a math topic and read about the history. Who discovered it? How was it used? Ex. pi, gallons, metric...

The temperature in Alaska was 23 degrees below zero and in Maine was 14 degrees below zero. Ben wrote Maine was colder because $-14 < -23$. Is Ben correct? Explain your answer.

August 2016 Entering Seventh Grade Mathematics Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
31	1	2	3	4	5	6
	<p>Amy has a fish tank that is a rectangular prism, 20 cm by 20 cm by 16 cm. What is the volume of the tank? If Amy only fills the tank $\frac{3}{4}$ of the way, what will be the volume of the water in the tank?</p> <p>Visit the website http://nlvm.usu.edu/en/n/av/MI/brary/html. Challenge yourself with fun activities! List them.</p>	<p>Read Guinness Book of Records by Time Inc. What record surprised you the most? Why?</p> <p>Play Sudoku from the newspaper. How did logic help you to solve the puzzle?</p>	<p>Alexis is painting 4 exterior walls of a rectangular barn. The length is 80 feet, width is 50 feet, and height is 30 feet. The paint costs \$28 per gallon, and each gallon covers 420 sq. feet. How much will it cost? Explain.</p> <p>The average of six numbers is 4. A seventh is added and the new average is 5. Find the seventh number</p>	<p>The Patriots beat the Giants in a football game. The sum of their scores was 44. The difference of their scores was 20. How many points did the Patriots score?</p> <p>Sophia's dad paid \$43.25 for 12.5 gallons of gas. What is the cost of one gallon of gas?</p>	<p>Choose an activity at Math Illuminations http://illuminations.nctm.org/activitysearch.aspx</p> <p>Bryan sells candy bars at 4 for 50¢. How many candy bars must Bryan sell in order to make \$5.00?</p>	
7	8	9	10	11	12	13
	<p>Are $3(3x - y)$ and $12(x - 4y)$ equivalent expressions?</p> <p>What is a real life example of: $\frac{3}{4} \div \frac{1}{2} =$</p>	<p>Try one of the recommended websites. Record what you did.</p> <p>What is the smallest three digit number that is divisible by exactly three different prime numbers?</p>	<p>The lowest temperature ever recorded on earth was -89°C in Antarctica. The average temperature on Mars is about -55°C. Which is warmer? Write an inequality to support your answer.</p> <p>Given an expression such as $3x + 2y$, find the value of the expression when x is equal to 4 and y is equal to 2.4.</p>	<p>What is the largest possible area (in square inches) for a rectangle with a perimeter of 120 inches?</p> <p>ABCD x 4 DCBA What is the value of A, B, C, and D if they are each a different digit?</p>		
14	15	16	17	18	19	20
	<p>What is a real life example of: $\frac{3}{4} \div \frac{1}{2} =$</p> <p>A tank is 24 cm wide, and 30 cm long. It contains a stone and is filled with water to a height of 8 cm. When the stone is pulled out of the tank, the height of the water drops to 6 cm. Find the volume of the stone.</p>	<p>At Books Unlimited, 3 paperback books cost \$18. What would 7 books cost? How many books could be purchased with \$54?</p>				
21	22	23	24	25	26	27
28	29	30	31			

Grade 7 Learning Goals

- *In grade seven, students will further develop their understanding of rates and ratios, using tables, graphs, and equations to solve real-world problems involving proportional relationships. Students will also work on quickly and accurately solving multi-step problems involving positive and negative rational numbers—any number that can be made by dividing one integer by another, such as $\frac{1}{2}$, 0.75, or 2. Additionally, students will expand their knowledge of geometry and apply the properties of operations to solve real world problems involving the measurement of multi-dimensional objects. Activities in these areas will include:
- Determining whether two quantities are in a proportional relationship and using knowledge of rates, ratios, proportions, and percentages to solve multi-step problems
 - Identifying the unit rate of change (the constant rate at which the value of a variable changes) in tables, graphs, equations, and verbal descriptions
 - Calculating the unit rates associated with ratios of fractions, including quantities measured in different units (for example, the ratio of $\frac{1}{2}$ a mile for every $\frac{1}{4}$ of an hour means that you travel 2 miles in an hour)
 - Solving problems using equations to find the value of one missing variable
 - Applying the properties of operations to generate equivalent mathematical expressions
 - Solving multi-step word problems by adding, subtracting, multiplying, and dividing positive and negative rational numbers in any form (including whole numbers, fractions, or decimals)
 - Understanding that numbers cannot be divided by 0
 - Converting rational numbers to decimals using long division
 - Describing situations in which positive and negative quantities combine to make 0
 - Finding the area of two-dimensional objects and the volume and surface area of three-dimensional objects

Looking Ahead to Eighth Grade

- *In grade eight, students take their understanding of unit rates and proportional relationships to a new level, connecting these concepts to points on a line and ultimately using them to solve linear equations that require them to apply algebraic reasoning as well as knowledge of the properties of operations. Students will also expand their understanding of numbers beyond rational numbers to include numbers that are irrational— meaning that they cannot be written as a simple fraction, such as the square root of 2 or 2 . Activities in these areas will include:
- Understanding that every rational number (such as $\frac{1}{2}$, 0.3, 2, or -2) can be written as a decimal, but that the decimal form of an irrational number (such as 2) is both non-repeating and infinite
 - Applying the properties of exponents to generate equivalent numerical expressions
 - Determining the value of square roots of small perfect squares (such as $49= 7$) and cube roots of small perfect cubes (such as $3 64=4$)
 - Graphing proportional relationships and interpreting the unit rate as the slope (how steep or flat a line is)
 - Solving and graphing one- and two-variable linear equations
 - Understanding that a function is a rule that assigns to each value of x exactly one value of y , such as $y=2x$, a rule that would yield such ordered pairs as (-2,-4), (3,6), and (4,8)
 - Comparing the properties of two functions represented in different ways (in a table, graph, equation, or description)
 - Determining congruence (when shapes are of equal size and shape) and similarity (same shape but different sizes)
 - Learning and applying the Pythagorean Theorem (an equation relating the lengths of the sides of a right triangle: $a^2 + b^2 = c^2$)
 - Solving problems involving the volume of cylinders, cones, and spheres

*Adapted from *Parent Roadmaps* by Council for Great City Schools

Boston Public Schools Summer 2016

Some of these activities have been adapted from materials developed by Cambridge and Brookline Public Schools

Summer Math Learning Packet

Students Entering Grade 8

Discover mathematics all around you this summer!!! Just as with reading, regular practice over the summer with problem solving, computation, and math facts will maintain and strengthen the mathematical gains you made over the school year.

Attached to this letter, you will find creative mathematics activities to explore at home. The goal is for you to have fun thinking and working collaboratively to communicate mathematical ideas. While you are working, ask how the solution was found and why a particular strategy was chosen.

The Summer Math Learning Packet consists of 2 calendar pages, one for July and one for August, as well as directions for math games to be played at home. Literature and websites are also recommended to explore mathematics in new ways. We encourage you to complete at least 15 math days each month. Keep track of your math in a journal.

Fun math books to read	Fun websites to explore
<p><u>Evil Genius</u> by Catherine Jinks <u>Forever Changes</u> by Brendan Halpin <u>Geek Abroad</u> by Piper Banks <u>All of the Above</u> by Shelley Pearsall <u>Hannah Divided</u> by Adele Griffin <u>A Higher Geometry</u> by Sharelle Byars Moranville <u>Guinness Book of Records</u> by Time Inc <u>Mathematicians are People Too</u> by Luetta Reimer & Wilbert Reimer</p>	<p>http://www.ixl.com/ http://www.figurethis.org/index.html http://nrich.maths.org/frontpage http://www.khanacademy.org/ http://mathforum.org/index.html http://www.coolmath4kids.com/ http://www.figurethis.org/index.html http://www.thinkingblocks.com/ http://mathplayground.com/ http://illuminations.nctm.org/activitysearch.aspx</p>

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Go to website:
<http://nrich.maths.org/public/>
 eg.php?code=718c1=38c1d
 cm pid=5864 and use
 reasoning and proof to
 solve the problems.

Solve: $45 \div (-9) = (-105) \div (-15) =$

A menu has these
 options for sandwiches: 3
 types of bread, 4 meat
 choices, 5 topping
 choices. How many
 possible sandwiches can
 be made? Can you
 create a different menu
 with the same outcome?

if the product of 6 integers
 is negative, at most how
 many of the integers can
 be negative?

Describe situations in
 which opposite quantities
 combine to make 0.

In the following equation, a
 and b are both integers.
 find their value: $a(3x - 8) =$
 $b - 18x$

Try a new activity at
<http://www.coolmath4kids.com/>
 Challenge yourself.
 What did you choose to do?

Write an expression for the
 sequence of operations. Add
 3 to x, subtract the result
 from 1, then double what you
 have.

Using a grocery store
 receipt, figure what
 percentage of the bill was
 spent on vegetables, meat,
 drinks, junk food ...

A circle has a circumference
 of 28π centimeters (cm).
 What is the area, in cm, of
 this circle? Show all work
 necessary to justify your
 response.

Twice a number (n) minus
 nine is ninety-five. Find the
 number (n).

Joe has an 80:1
 scaledrawing of the floor
 plan of his house. On the
 floor plan, the dimensions
 of his rectangular living
 room are $1 \frac{7}{8}$ inches by 2
 $\frac{1}{2}$ inches. What is the
 area of living room in
 square feet?

Games Unlimited buys
 video games for \$10. The
 store increases the price
 300%. What is the price of
 the video game?

Add: $2 + (+3) =$
 $(-2) + (-3) =$
 $(-2) + 3 =$

There are three choices of
 jellybeans: grape, cherry
 and orange. if the
 probability of getting a
 grape is $\frac{3}{10}$ and the
 probability of getting
 cherry is $\frac{1}{5}$, what is the
 probability of getting
 orange?

Look up a math topic and
 read about the history.
 Who discovered it? How
 was it used? Ex. pi, gallons,
 metric...

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The pages of a book are
 numbered consecutively
 from 1 to 275. How many
 times is the digit 8 used in
 numbering the pages?

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