



*The Dominican*  
COMMUNITY of SCHOOLS

## Lower School Summer Math Challenge

### Point Requirements

Grade	Points	Grade	Points	Grade	Points
Rising K	30	Rising 3rd	60	Rising 6th	90
Rising 1st	40	Rising 4th	70	Rising 7th	100
Rising 2nd	50	Rising 5th	80	Rising 8th	110

### Rising Kindergarten, 1st, and 2nd grade *only*:

1. Practice flash cards for 10 minutes. **(1pt)**
2. Find a math problem at the grocery store. **(1pt)**
3. Set a cup outside when it starts to rain and measure how much rain you get. **(1pt)**
4. Ask your parents to explain 3 ways they use math at work or in their daily life. **(1pt)**
5. Jump rope or dribble a basketball while you skip count. **(1pt)**
6. Practice math with sidewalk chalk. **(1pt)**
7. Play Hopscotch. Make up a math problem that equals each number you land on. **(1pt)**
8. Collect extra change and count it. Donate your change to a charity. **(5pts)**
9. Build a sand castle. Count how many scoops or buckets of sand you use. **(5pts)**
10. Practice your math skills on one of the websites listed below. **(5pts)**
  - a. Math Seeds ([mathseeds.org](http://mathseeds.org); paid subscription with free trial available)
  - b. Tens Frame App (\$1.99 in App store)

## All Rising K-6th:

### 1 point each:

11. Teach a parent or adult one skill that you learned in math class last year. Then, make a quiz for them to take.
12. Write about how you used Math on your vacation.
13. Write 3 story problems and ask someone to solve them. Check his or her answers.
14. Complete a Sudoku puzzle.
15. Find the perimeter or area of your room (or any room).
16. Swim as many laps as you can. Count your laps, measure your distance, or time yourself.
17. Play "Target Number": In three minutes, list as many problems as you can that equal 100. Challenge an adult to see who can come up with more. Then, pick a new "target number" and play again. Feel free to change the time limit or add new rules to make it more challenging.
18. Calculate (or help a grown up calculate) the tip at a restaurant.
19. Draw a picture using only one shape (circles, triangles, rectangles, trapezoids, etc.).
20. Interview three people about how they use fractions in their daily lives.
21. Make a schedule for a day or an event that includes how long each activity will take. At the end of the day, write about how your schedule went. Did you give yourself enough time to complete each activity?
22. Run a race. Measure the distance and time yourself. Calculate your pace/speed.
23. Count how many times you can jump rope or jump on a trampoline in one minute. Try to calculate how many times you could jump in 10 minutes, in one hour, or in one day.
24. Think of a mystery number. Ask an adult to ask "yes" or "no" questions about the number to help him/her guess your mystery number. After he/she guesses the number or after 10 questions, let the adult have a turn. Ask him/her to think of a number for you to guess.
25. Create and complete your own activity. *This activity can only be completed once.*
26. Complete a grocery store scavenger hunt (1 point each, up to 12 points).
  - a. Find something that costs more than \$20 and something that costs less than \$1.
  - b. Find the most expensive item in the store.
  - c. Find something on sale. Notice the original price, the sale price, and the discount.
  - d. Find something that is sold according to how much it weighs ("per pound" or "per ounce").
  - e. Find the cost of a healthy breakfast food and the cost of your favorite snack.
  - f. Find the cost of buying ten of something, or estimate the cost. You can choose ten of the same item or ten different items.
  - g. Ask an employee how he or she uses math at work.
  - h. Find the difference between the cost of a fresh vegetable and the cost of a canned vegetable. Use the same vegetable.
  - i. **\*Bonus-** Total all of the groceries mentioned in lines **a** through **h** to earn two extra points.
  - j. **\*Bonus-** Find the tax for your groceries to earn two extra points.

## 1 point *continued...*

27. Complete a shape scavenger hunt. Find each shape and take a picture of each. (1 point each, up to 10 points):

- |                                       |  |              |                               |
|---------------------------------------|--|--------------|-------------------------------|
| a. The largest circle you can find    | d. The smallest rectangle you can find | g. A sphere  | j. A shape that is not listed |
| b. The smallest circle you can find   | e. A square                            | h. A cube    |                               |
| c. The largest rectangle you can find | f. A trapezoid                         | i. A pyramid |                               |

## 5 points each:

28. Read a picture book about math. Find your own or choose from our book list below.
29. Complete a Khan “exercise” or “quiz” for the grade level that you just completed and score 80% or higher.
30. Keep up with how many miles you travel during a road trip and how long it takes you to get there. Find your average speed for an extra point.
31. Play dominoes, chess, a card game, a dice game or do a puzzle.
32. Play the board game “Muggins” or “Set.” (Purchase required; available on Amazon)
33. Spend twenty minutes practicing your math skills on one of the websites or apps listed below.

**Fogstoneisle.com**, Free

**Math Ninja HD**, App must be purchased for \$1.99

**Polyup.com**, Free

**Timed Test**, App, Free

**Wuzzit Trouble**, App/Bundle must be purchased for \$1.99/\$4.99; Ages 8 and up

**Solveme.edc.org**, Free

**Wuzzit Trouble Math Jr.**, App must be purchased for \$4.99; Ages 5-8

**Coolmathgames.com**, Free

34. Take a survey by asking people about their food preference (ex. favorite kind of pizza), or ask any question. Make a graph to show the results.
35. Build a sandcastle. Find its perimeter and area.
36. Calculate how many minutes or seconds are in a day, a month, or a year. Estimate how much time you spend doing 3 different activities each day (like watching TV, eating and sleeping). Calculate how much time you spend each year doing that activity. What percent of the year do you spend doing each activity?
37. Attend or participate in a sporting event. List all the ways that you used (or saw) math. Discuss this with a friend or family member.
38. Choose and complete a Khan “exercise” or “quiz” that challenges you.
39. Create and complete your own activity. *This activity can only be completed once.*

## 10 points each:

39. Complete a LEGO challenge (1 point each, up to 10 points):

- |  |   |
|--|---|
| a. Build the tallest tower you can and measure it.           | f. Build a model of your house or room. |
| b. Build something that moves.                               | g. Build a robot.                       |
| c. Build something that performs a task (a tool or machine). | h. Build a maze.                        |
| d. Build something that shows a color and/or shape pattern.  | i. Build a slide or a roller coaster.   |
| e. Build something that flies.                               | j. Build your own creation.             |

40. Make a list of ten different gas prices that you see while you're on a road trip.

- a. Compare the prices to see who has the cheapest price. (5 points)
- b. Add all of the prices together and divide by 10 to find the average cost of gasoline. (5 points)

41. Build a bridge and test how much weight it can hold using 3 items of different sizes.

42. Keep a journal for one week. At the end of each day, write about all of the ways you used (or saw someone use) math that day.

43. Complete an "exercise" or "quiz" on Khan for the grade level that you will be in next year and score 80% or higher.

44. Complete a "unit test" on Khan for the grade level you just completed. Want a challenge? Try a unit test above your grade level.

45. Run a lemonade/popsicle stand (real or make believe) for a day and count your money. Find your "profit." Donate your earnings to a good cause.

46. Bake something using measuring cups. Cut the recipe in half or double it.

47. Build a boat and test it to see how well it floats.

48. Help an adult with a project that uses math ( i.e. building something). Have a discussion about what you did and what you noticed.

49. Plan a meal for your family. Use the recipes to make a grocery list. Make sure to think about how much you will need to buy and how much it will cost.

50. Plan a family game night. Create a scorecard to keep track of everyone's score. Decide how many points you will award for each game.

51. Plan a family movie night. Look up the cost of the Movie (on DVD) and decide how much you would need to charge each person for the "movie ticket".

If you are going to provide snacks, don't forget to add that into the cost of each "ticket".

52. Read a chapter book about math. Find your own or choose from our list below.

53. Create and complete your own activity. *This activity can only be completed once.*

## Picture Books (5 points)

- [Billions of Bricks: A Counting Book About Building](#) by Kurt Cyrus (K-2)
- [Pattern Fish](#) by Trudy Harris and Anna Green (K-2)
- [When Sophie Thinks She Can't](#) by Molly Bang and Ann Stern (K-2)
- [Spaghetti and Meatballs for All!](#) by Marilyn Burns and Debbie Tilley (K-3)
- [Counting on Frank](#) by Rod Clement (K-3)
- [The Girl Who Never Made Mistakes](#) by Mark Pett and Gary Rubinstein (K-3)
- [One Odd Day](#) by Doris Fisher and Dani Sneed (K-3)
- [My Even Day](#) by Doris Fisher and Dani Sneed (K-3)
- [Equal Shmequal](#) by Virginia Kroll and Philomena O'Neill (K-3)
- [Math Curse](#) by Jon Scieszka (K-3)
- [A Dollar, a Penny, How Much and How Many?](#) by Math Is CATegorical<sup>®</sup> (K-3)
- [The Mission of Addition](#) by Math Is CATegorical<sup>®</sup> (K-3)
- [Triangle](#) by Mac Barnett and Jon Klassen (K-4)
- [A Fraction's Goal — Parts of a Whole](#) by Math Is CATegorical<sup>®</sup> (K-4)
- [Infinity and Me](#) by Kate Hosford and Gabi Swiatkowska (K-5)
- [Seeing Symmetry](#) by Loreen Leedy (1-3)
- [The Action of Subtraction](#) by Math Is CATegorical<sup>®</sup> (1-3)
- [A Second, a Minute, a Week With Days in It: A Book About Time](#) by Math Is CATegorical<sup>®</sup> (1-4)
- [Counting on Katherine: HOW Katherine JOhnson saved Apollo](#) by Helaine Becker (1-4)
- [Place Value](#) by David Adler and Edward Miller (1-5)
- [Zero the Hero](#) by Joan Holub and Tom Lichtenheld (1-5)
- [A Very Improbable Story](#) by Edward Einhorn and Adam Gustavson (2-5)
- [Mind-Boggling Numbers](#) by Michael J. Rosen (2-5)
- [The Grapes of Math](#) by Greg Tang (2-5)
- [Nothing Stopped Sophie: A Story of Unshakeable Mathematician Sophie Germain](#) by Cheryl Bardoe (2-6)
- [Sir Cumference and the First Round Table](#) by Cindy Neuschwander and Wayne Geehan (2-6)
- [A Hundred Billion Trillion Stars](#) by Seth Fishman (3-5)
- [Which One Doesn't Belong? A Shapes Book](#) by Christopher Danielson (3-5)
- [Really Big Numbers](#) by Richard Evan Schwartz (3-5)

## Chapter Books (10 points)

- [Ada Lace and the Suspicious Artist](#) by Emily Calandrelli (1-4)
- [Ada Lace and the Impossible Mission](#) by Tamson Weston and Emily Calandrelli (1-5)
- [7 x 9 = Trouble!](#) by Claudia Mills (2-5)
- [Fractions = Trouble](#) by Claudia Mills (2-5)
- [The Math Wiz](#) by Betsy Duffey (2-5)
- [The Lemonade War](#) by Jacqueline Davies (2-5)
- [William Wenton and the Impossible Puzzle](#) by Bobbie Peers (2-6)
- [William Wenton and the Secret Portal](#) by Bobbie Peers (2-6)
- [Bringing Down the Mouse](#) by Ben Mezrich (2-6)
- [All of the Above](#) by Shelley Pearsall (2-6)
- [Charlie Numbers and the Man in the Moon](#) by Tonya Mezrich and Ben Mezrich (2-6)
- [Ellie, Engineer](#) by Jackson Pearce (2-6)
- [Ellie, Engineer: The Next Level](#) by Jackson Pearce (2-6)
- [Hidden Figures Young Readers Edition](#) by Margot Lee Shetterly (2-6)
- [The Multiplying Mysteries of Mount Ten](#) by Krista Van Dolzer (2-6)
- [The Miscalculations of Lightning Girl](#) by Stacy McAnulty (3-6)
- [Sideways Arithmetic From Wayside School](#) by Louis Sachar (3-6)
- [The Phantom Tollbooth](#) by Norton Juster (3-6)
- [To the Moon! The True Story of the American Heroes on the Apollo 8 Spaceship](#) by Jeffrey Kluger and Ruby Shamir (4-6)
- [The Toothpaste Millionaire](#) by Jean Merrill (4-6)

\*\*\*For more award winning book recommendations, please visit [www.mathicalbooks.org](http://www.mathicalbooks.org)