

# Sail into Summer with Math!



## For Students Completing Fourth Grade

This summer math booklet was developed to provide students in kindergarten through the eighth grade an opportunity to review grade level math objectives and to improve math performance.

Summer 2001

## Sail into Summer with Math!

One goal of the Northwest, Poolesville, Quince Orchard, and Seneca Valley clusters of schools is to promote increased math performance at all grade levels. Completing the summer math booklet allows each school, student, and parent within the clusters to work together to achieve this goal. Students who complete the summer math booklet will be able to:

- Increase retention of math concepts,
- Improve and raise the level of math CRT and MSPAP performance,
- Work toward closing the gap in student performance,
- Apply math concepts to performance tasks, and
- Successfully complete Algebra 1 by the end of ninth grade.

### Student Responsibilities



Students will be able to improve their own math performance by:

- Completing the summer math booklet
- Reviewing math skills throughout the summer, and
- **Returning the math booklet to next year's math teacher.**

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Student Signature

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Grade

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Date

### Parent Responsibilities

Parents will be able to promote student success in math by:

- Supporting the math goal of the cluster of schools,
- Monitoring student completion of the summer math booklet,
- Encouraging student use of math concepts in summer activities, and
- **Insuring the return of the math booklet to school in the fall.**



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Parent Signature

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Date

The "Sail into Summer with Math!" booklets were developed by:  
K – Susan Springer, 1 – Sharon Thorne, 2 – Lynne Todd, 3 – Aphy Lennon,  
4 – Sandy Holmes, 5 – Jennifer Roy, 6 – Michelle Ronan and Linda Verde,  
7 – Jody Baxley, 8 – Dottie Reitz, and Ed Nolan.

A special thanks to Don Kress (Community Superintendent) and Cynthia Rattley (Performance Director) for their help and support with this project.

The cover of the 2001 Fourth Grade summer math booklet was created by  
**Amanda Lowe**, an Fourth Grade student at  
Lake Seneca Elementary School.

## Summer Mathematics Packet

Dear Parents and Students,

In this booklet you will find math activities that will help to review and maintain math skills learned in fourth grade and prepare your child for fifth grade. These activities are varied and meant to show how much fun and relevant math can be in everyday life. There are activities that can be done throughout vacation, at the pool, at a restaurant, on the beach, etc.

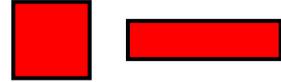
At least three activities should be done each week. The activities should be done in a small notebook or on separate sheets of paper organized in a folder. One problem solving activity from the problem solving section should also be completed each week. Parents and students should discuss the activities, and parents should check to see if the activities have been completed correctly.

All work should be returned to your child's fifth grade teacher. Have a great time "sailing into summer with math!"



### Week 1

1. Use a Venn diagram to compare a square and a rectangle.  
Use geometric terms.



2. Explain how you can solve these three problems using addition.

$$3 \times 4$$

$$6 \times 5$$

$$9 \times 2$$

3. Use a meter stick or yardstick to measure your bedroom. Find the perimeter and area of the total room. Find the area of your room covered by furniture. Find the area that is not covered by furniture.
4. Keep track of the time you spend on different activities for one day. Make a circle graph showing how you spent your day.

5. Solve.

$$\begin{array}{r} 2,419 \\ + 3,624 \\ \hline \end{array}$$

$$\begin{array}{r} 17,402 \\ - 9,621 \\ \hline \end{array}$$

$$\begin{array}{r} 15,499 \\ + 4,387 \\ \hline \end{array}$$

$$\begin{array}{r} 4,002 \\ - 2,849 \\ \hline \end{array}$$

Week 2

1. How old will you be on July 4, 2028?



2. Find examples of different polygons in magazines and catalogs. Make a collage. Label your shapes.

3. Look at the stripes on the American flag. What fraction represents the number of red stripes? What fraction represents the number of white stripes?

4. Draw clocks to show the following times:

11:05

10:20

6:55

7:40

12:15

3:10

5. Find the quotient of the following problems.

$81 \div 9 =$

$72 \div 9 =$

$64 \div 8 =$

$0 \div 1 =$

$56 \div 7 =$

$63 \div 9 =$

6. List ten different combinations of coins total exactly \$0.51?



**Week 3**

1. Make a set of multiplication flash cards or use a set you already have to complete this activity. Set a timer for three minutes. See how many facts you can answer correctly in three minutes. Do this for five days. Use a chart to keep track of your data. Make a bar graph showing your results.

2. Draw a picture to show the following fractions:  $\frac{1}{2}$      $\frac{1}{4}$      $\frac{3}{4}$      $\frac{2}{3}$

3. Consider the number 812,763.

Write the number that is:

One greater \_\_\_\_\_

One less \_\_\_\_\_

1,000 greater \_\_\_\_\_

10,000 less \_\_\_\_\_

4. List fifteen different ways can you create \$1.00 using only coins.

5. If you toss a penny ten times, how many times do you predict it will come up heads? Why? Toss the penny ten times and state whether your prediction was correct.



6. Estimate the following in inches:

your height

length of your foot

distance from your elbow to the tip of your little finger

Measure to see how close your estimates were.

**Week 4**

1. Illustrate the following types of lines

horizontal                      vertical                      perpendicular  
    intersecting                      parallel

2. List all of the two place decimals between 5.01 and 5.1

3. Write and solve.

$$\begin{array}{r} 28 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 66 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 200 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 1300 \\ \times 24 \\ \hline \end{array}$$

$$\begin{array}{r} 600 \\ \times 14 \\ \hline \end{array}$$

$$\begin{array}{r} 999 \\ \times 0 \\ \hline \end{array}$$

4. Look in magazines and newspapers to find an example of a circle graph, a bar graph, and a line graph. Explain how each is used differently.

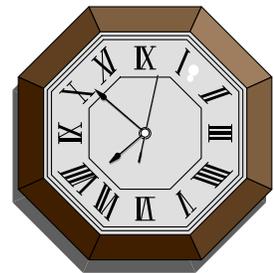
5. Use a clock to tell how many minutes are in the following parts of an hour.

$$\frac{1}{6}$$

$$\frac{1}{3}$$

$$\frac{1}{2}$$

$$\frac{1}{4}$$



6. List in order from least to greatest.

$$1$$

$$\frac{1}{2}$$

$$\frac{2}{3}$$

$$\frac{1}{4}$$

$$\frac{5}{6}$$

**Week 5**

1. Taylor has 4 coins. The total value is 35¢. What coins does he have?
2. Would you use kilometers, meters, or centimeters to measure each of the following?

Distance from your house to your school \_\_\_\_\_

Distance around your room \_\_\_\_\_

Length of a pencil \_\_\_\_\_

Length of a swimming pool \_\_\_\_\_

Length of a bicycle \_\_\_\_\_

Distance you traveled on your vacation \_\_\_\_\_

3. Use tape or chalk to make a number line on the sidewalk. Make 0 at the starting point and 1 at the end. Practice jumping on the number line to show where the following fractions are located:

$$\frac{1}{2} \quad \frac{1}{3} \quad \frac{3}{4} \quad \frac{2}{3} \quad \frac{1}{4}$$

Now draw a number line on paper and label those fractions.

4. Ask family and friends what their favorite summer activity is. Use a tally chart to collect your data. Make a graph of your choice to show the results. Share your graph with your family.

5. Add or subtract.

$$\begin{array}{r} 1,213 \\ + 681 \\ \hline \end{array}$$

$$\begin{array}{r} 997 \\ - 142 \\ \hline \end{array}$$

$$\begin{array}{r} 528 \\ + 315 \\ \hline \end{array}$$

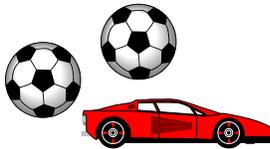
$$\begin{array}{r} 748 \\ - 206 \\ \hline \end{array}$$

**Week 6**

1. Write these numerals in order from least to greatest.

1,243      10,243      1,432      102,043      1,023

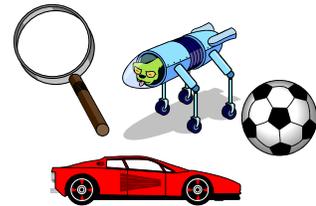
2. Look at the three sets of toys below. What members of Meghan's set are also in Marc's set? What members of Brian's set are not in either Meghan's or Marc's?



Meghan



Marc



Brian

3. Draw a picture to show  $\frac{11}{4}$ . What mixed numeral is another name for  $\frac{11}{4}$ ?

4. Round each of the following numbers to the nearer hundred.

7,342      959      8,099      5,043      439      562

5. Look at a supermarket flyer to locate two items advertised that can be purchased for under \$5.00. Pretend you purchased those items and give the cashier a five-dollar bill. What change would you get back?

6. Multiply or divide.

$$\begin{array}{r} 2,476 \\ \times \quad 9 \\ \hline \end{array}$$

$$\begin{array}{r} 12,098 \\ \times \quad 6 \\ \hline \end{array}$$

$$\begin{array}{r} 46,109 \\ \times \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} 7,056 \\ \times \quad 10 \\ \hline \end{array}$$

$$3,678 \div 4$$

$$6,209 \div 7$$

$$8,099 \div 5$$

$$3,007 \div 2$$

**Week 7**

1. Help your mother or father bake a batch of cookies. Measure the ingredients yourself.
2. Use a “number generator” for this activity (such as dice). Predict how many times you will roll a six if you roll the number generator 24 times. Test your prediction.

3. Add or subtract.

$$\begin{array}{r} \$7.10 \\ - 3.60 \\ \hline \end{array}$$

$$\begin{array}{r} \$3.00 \\ - 2.17 \\ \hline \end{array}$$

$$\begin{array}{r} \$10.00 \\ - 7.35 \\ \hline \end{array}$$

$$\begin{array}{r} \$8.50 \\ - 2.15 \\ \hline \end{array}$$

$$\begin{array}{r} \$4.12 \\ + 6.18 \\ \hline \end{array}$$

$$\begin{array}{r} \$12.67 \\ + 8.54 \\ \hline \end{array}$$

$$\begin{array}{r} \$43.78 \\ + 23.72 \\ \hline \end{array}$$

$$\begin{array}{r} \$309.12 \\ + 33.88 \\ \hline \end{array}$$

4. Lauren opened her math book to study addition. She noticed that the number of pages she turned to had a sum of 67. What pages did she open to?



5. How many lines of symmetry does a circle have? Explain your thinking.

6. Draw your own comic strip about time.



**Week 8**

1. Write and solve.

$$\begin{array}{r} 4,300 \\ + 7,921 \\ \hline \end{array}$$

$$\begin{array}{r} 9,000 \\ - 7,344 \\ \hline \end{array}$$

$$\begin{array}{r} 420 \\ \times 35 \\ \hline \end{array}$$

$$3,111 \div 71$$

$$817 \div 9$$

$$7 \times 6 \times 1 \times 9$$

$$\begin{array}{r} 200 \\ - 93 \\ \hline \end{array}$$

$$\begin{array}{r} 318 \\ \times 46 \\ \hline \end{array}$$

$$\begin{array}{r} 626 \\ \times 41 \\ \hline \end{array}$$

$$\begin{array}{r} 900 \\ \times 25 \\ \hline \end{array}$$

$$\begin{array}{r} 8,424 \\ - 7,424 \\ \hline \end{array}$$

$$\begin{array}{r} 60 \\ 30 \\ + 19 \\ \hline \end{array}$$

2. Write a mixed numeral for each improper fraction below.

$$\frac{21}{5}$$

$$\frac{17}{3}$$

$$\frac{14}{6}$$

$$\frac{28}{3}$$

3. Collect data from family and friends about their favorite ice cream. Create a bar graph to show your results.

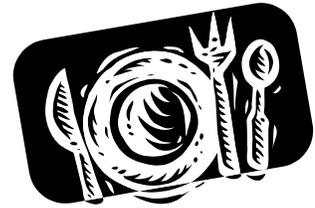
4. Calculate how many miles you traveled on your vacation.

5. Design a symmetrical robot that would do your math homework for you. Describe what function keys your robot would have.

## Problem Solving

1. The fourth grade teachers ordered cooked crabs for their classes. Instead of getting whole crabs, they received pincers and legs only. Each crab has 8 legs and 2 pincers. Before feasting on the legs and pincers, they began to wonder how many whole crabs must have been cooked to provide them with 80 legs and 20 pincers. They decided if they drew pictures, they could find out how many whole crabs had been cooked. Draw a picture to solve this problem.

2. The fourth grade classes are going to have a crab feast in the all-purpose room. There will be a total of 30 tables which are of two types. The first type seats two people at each table, the second type seats five people at each table. If 81 students are seated and all of the tables are filled, how many tables of two are there? (*Hint – draw a picture*)



3. The 4 fourth grade classes sat quietly in the all-purpose room waiting for an assembly to begin. Use the clues below to determine the order in which the fourth graders are seated.
  - Mrs. Moore-Vernon's class was sitting the nearest to Mr. Graham's class.
  - There was no class sitting behind Mrs. Brown's class.
  - Ms. LeMaster's class was between two other fourth grade classes.
  - Mrs. Moore-Vernon's class was closest to the stage.

Explain how you found your answer. What strategy did you use?

4. The oriole is the state bird of Maryland. When it gets cold, they need to migrate to a warmer place. Their destination is a 1,000 miles away. If the birds fly 50 miles in a day, how many days will it take them to fly to their winter home? What strategy did you use to solve this problem?

5. Keshia was in her yard one day when she noticed some beautiful flowers. She noticed that they were Black-eyed Susans, the state flower of Maryland. She noticed the black center and twelve yellow petals. Keshia picked three of the flowers and placed them in a vase to bring to school. After two days, Keshia noticed that  $\frac{1}{3}$  of the petals had fallen off. The following day,  $\frac{1}{4}$  of the remaining petals had fallen off. The next day,  $\frac{1}{2}$  of the remaining petals had fallen off. How many petals were left on the flowers?
6. Find all of the possible four digit numbers you can make using a 3, 7, 8, and 9. How many numbers can you make? What is the largest number you can make? What is the smallest number?
7. George was celebrating his tenth birthday with an ice cream party for his friends. He had chocolate, vanilla, and strawberry ice cream. He had chocolate syrup, rainbow sprinkles, chocolate chips, and m&m's for toppings. If each child was allowed to have two scoops of ice cream and one topping, what are all of the different kinds of sundaes that could be made?
8. Patrick and Brendon play on different baseball teams, but sometimes use the same field. Patrick plays at Seneca Field every third game and Brendon plays at Seneca Field every fifth game. If Patrick and Brendon are both playing at Seneca Field today, when will be the next time they will be there on the same day?

