

Sail into Summer with Math!



For Students Completing First Grade

This summer math booklet was developed to provide students an opportunity to review grade level math objectives and to improve math performance.

Sail into Summer with Math!

Dear Parents,

In this booklet you will find math activities that will help to review and maintain math skills learned in first grade and prepare your child for second 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. (If an activity has an asterisk *, it indicates a more challenging problem.)

Have a great time “sailing into summer with math!”



The “Sail into Summer with Math!” booklets were developed by:
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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 First Grade summer math booklet was created by
Marcello Fischer, a first grade student at
Thurgood Marshall Elementary School.

Week 1 / Summer Calendar

First grade students use calendar skills daily. Students learn how to locate specific dates on a calendar, tell what day was yesterday and what day tomorrow will be, and match a corresponding day with the date.

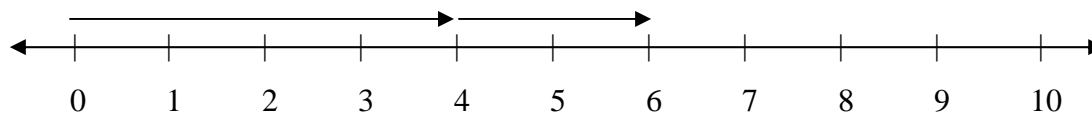
- ___ 1. Record special summer events on a calendar with your child.
- ___ 2. Go through a calendar. Help your child to find or circle the month on each page. Talk about which are the summer (fall, winter, spring) months.
- ___ 3. Go through a calendar. Help your child find or circle the first and last day of each month. On which day of the week they each fall.
- ___ 4. Choose a month in the calendar. Color all of the Mondays one color, Tuesdays another color, etc.
- ___ 5. Make a table or chart to show how many Sundays, Mondays, Tuesdays, etc. there are in the current month.
- ___ 6. Mark the first day of school on your calendar. Count how many days there are left until the first day of school.
- ___ 7. Make up and write a word problem about the calendar. Show a number sentence that you could use to solve the problem.

Week 2 / Addition and Subtraction

Students in the 1st grade learned the basic concept of addition and subtraction by separating a set into two parts and identifying the number of the whole part and each part (example: total – 5, parts – 3 and 2). When a student has an understanding of this concept, he/she should be able to solve addition and subtraction problems using the symbols +, -, and =.

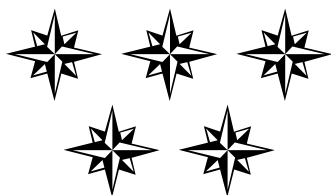
Children go through developmental stages when mastering addition and subtraction problems:

- Manipulatives – using beans, chips, pretzels, etc. to construct and solve the problem.
- Number line – using the numbers to move forward and backwards to add and subtract.



- Counting up or back (mental math) – with the problem 4+2, start at 4 and count up 2.
- Memorization of addition and subtraction facts.

___ 1. Solve these addition and subtraction problems.



$$3 + 2 = \underline{\hspace{2cm}}$$

$$\begin{array}{r} 3 \\ + 7 \\ \hline \end{array}$$

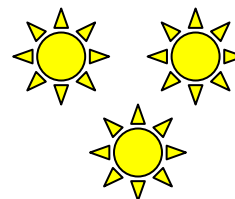
$$\begin{array}{r} 5 \\ + 3 \\ \hline \end{array}$$



$$4 + 4 = \underline{\hspace{2cm}}$$

$$\begin{array}{r} 2 \\ + 8 \\ \hline \end{array}$$

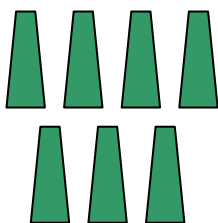
$$\begin{array}{r} 6 \\ + 0 \\ \hline \end{array}$$



$$2 + 1 = \underline{\hspace{2cm}}$$

$$\begin{array}{r} 3 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ + 5 \\ \hline \end{array}$$



$$7 - 2 = \underline{\hspace{2cm}}$$

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

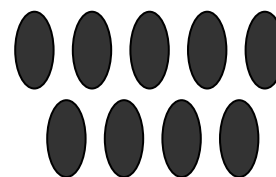
$$\begin{array}{r} 3 \\ - 1 \\ \hline \end{array}$$



$$5 - 4 = \underline{\hspace{2cm}}$$

$$\begin{array}{r} 7 \\ - 0 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ - 5 \\ \hline \end{array}$$



$$9 - 6 = \underline{\hspace{2cm}}$$

$$\begin{array}{r} 9 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ - 5 \\ \hline \end{array}$$

- ___ 2. *Make flash cards with addition and subtraction problems (difficulty of the problems should depend on the ability of the student). Practice flash cards.
- ___ 3. *In the car, play mental math – do a string of simple addition and subtraction problems: 7 plus 1, 7 plus 2, 7 minus 5, etc.
- ___ 4. Take two dice. Roll the dice and make up an addition and subtraction sentence for each roll ($3 + 2 = 5$, $3 - 2 = 1$, etc.). Do this four times.
- ___ 5. *Do the same activity with 3 dice. Make up an addition sentence to add up to all of the numbers.
- ___ 6. *On a trip: Record the last three numbers on the speedometer (not the tenths) when you leave and then when you arrive. Figure out how many miles you traveled. Write down your results.



Week 3 / Numeration (Numbers and Place Value)

First graders learned to recognize and write numbers 1 through 10 and count to 20, they learned to compare them (greater than and less than). They then investigated place value by placing objects into groups of ten and looking at double digit numbers in terms of tens and ones (34 is 3 tens and 4 ones) and practiced counting to 1000. Students in the first grade also learned to count by tens and fives to 100, and to 20 by twos.

___ 1. Fill in the blanks with the missing numbers.

Count by ones

23, 24, 25, ____, 27

56, 57, ____, 59, ____.

Count by tens

60, 70, ____, 90

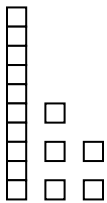
0, 10, 20, ____, 40

Count by fives

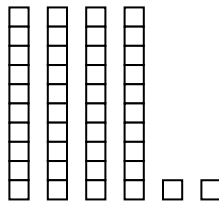
5, 10, ____, 20

40, 45, ____, ____.

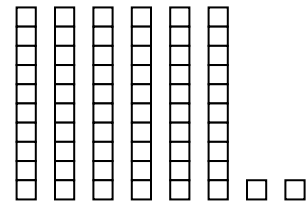
___ 2. Count the tens and ones blocks and write the number.



___ tens ___ ones



___ tens ___ ones



___ tens ___ ones

___ 3. Practice counting by 5's and 2's to 100.

___ 4. Mental math – In the car, choose a number and start counting. When you stop counting, your child has to say the number that comes next.

Example: 71, 72, 73, ___, 75, 76, 77, ___ or 238, 239, ___, 241, 242, ___ .

Do this by counting by 5's, 10's, and 2's

Summer Mathematics Packet

- ___ 5. On a trip, make a list of colors. Put a tally mark next to each color when you find a car that color. Count the tally marks. Discuss which color has the most, least, same number, etc.
- ___ 6. Do the above activity looking for signs (stop sign, exit sign, restaurant sign, etc.).
- ___ 7. Do the above activity looking for types of vehicles.
- ___ 8. Make a list of all of the different types of summer weather. Make a graph or table to show the weather over a period of time (one week).
- ___ 9. In a restaurant, estimate the number of people in the restaurant. Count to see if your estimate was close.
- ___ 10. Have your child estimate how many seeds he/she will find in a piece of watermelon. Record your estimate. Divide seeds into groups of tens. Record the number of seeds.
- ___ 11. Make a collection of objects: coins, rocks, seeds, etc. Put them into groups of tens. How many objects do you have in your collection? Write about your collection.
- ___ 12. *In a restaurant or at the dinner table, count the different things at your table. Tell whether there is an even or odd number of each.
- ___ 13. *Practice counting from 100 to 200 (200 to 300, etc.).
- ___ 14. *Investigate numbers in the hundreds, grouping ten tens to make 100, counting in the hundreds by fives, tens, and ones, etc.

Week 4 / Money

Students in the first grade learned to identify a nickel, dime, and penny along with stating the value of each. They should be able to find the value of groups of like coins, counting dimes by tens, nickels by fives, and pennies by ones. When they mastered this skill the students moved on to counting a group of mixed coins.

Parents can help children to count coins by grouping like coins together and helping them to count by tens, fives, and then ones.

- ___ 1. Count and write the value of each set of coins. Don't forget the cent sign.



- ___ 2. At the pool, how much does a soda cost? Write a sentence to tell some of the different combinations of coins you could use to buy a soda.

- ___ 3. At a restaurant, look at the menu. Count out coins to pay for something on the menu.

- ___ 4. Put a collection of dimes, nickels, and pennies on the table. Pick up a handful of coins. Record how much money you have in your hand. (Do this three times.)

- ___ 5. *Do the above activity adding quarters to the group of coins.

- ___ 6. *Investigate how many of the following coins add up to one dollar. Record your answers.

___ nickels = \$1

___ dimes = \$1

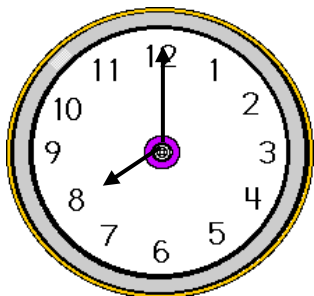
___ quarters = \$1

___ half dollars = \$1

Week 5 / Time and Temperature

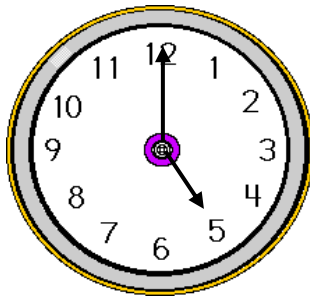
This past year, in first grade, students used an analog clock to tell time. They learned the directions in which the clock hand moves, and the difference between the hour and minute hand. Students should be able to read the time on the clock (hour and half hour) and draw a picture or set a clock to a given hour.

___ 1. Look at each clock. Write the time under each clock.



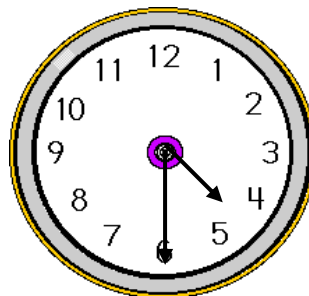
___ o'clock

___:___:



___ o'clock

___:___:

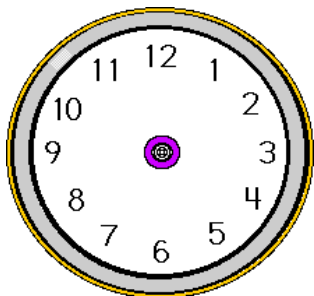


___ o'clock

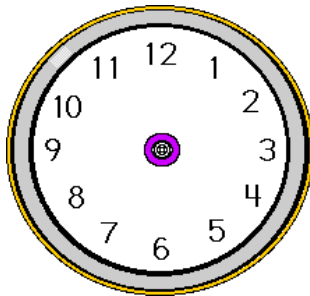
___:___:

___ 2. Draw the hand on the clock to show the time.

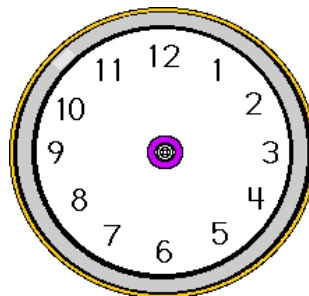
5:00



8:30



12:30



___ 3. Estimate how many minutes it would take you to eat a popsicle. Use a watch to count the minutes. Record your estimate and result.

___ 4. At the pool, store, or restaurant, record what time the place opens and closes and record how many hours the place is open.

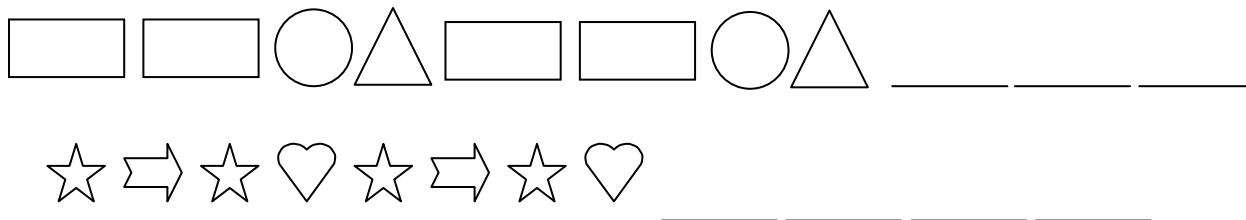
- ___ 5. At the pool, store, or restaurant, what time did you arrive and leave? Discuss how much time in hours and minutes you spent there.
- ___ 6. At a restaurant, how many minutes did it take for your dinner to arrive? Look at a watch to help you count the minutes.
- ___ 7. *On a trip, estimate how long it will take to arrive where you are going. Record what time you left and arrived. How much time did it take?
- ___ 8. *Look at a thermometer and record the temperature at three different times during the day or week. Write about your observations.

Week 6 / Geometry and Common Fractions

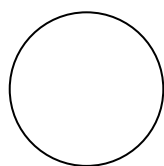
In first grade, students practiced recognizing and describing basic shapes: rectangle, square, triangle, and circle; and geometric solids: sphere, cone, cylinder, and cube. Students should be able to recognize and continue a pattern.

The students were introduced to the terms whole, halves, thirds, etc. They learned that in a fractional part of a whole the parts had to be equal.

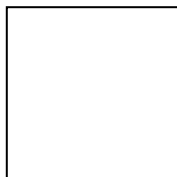
- ___ 1. Label each shape and finish the pattern.



- ___ 2. Divide each shape into the indicated fractional parts.



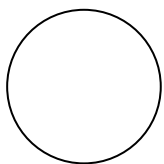
halves



fourths



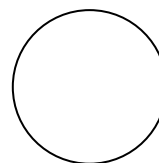
sixths



thirds



tenths



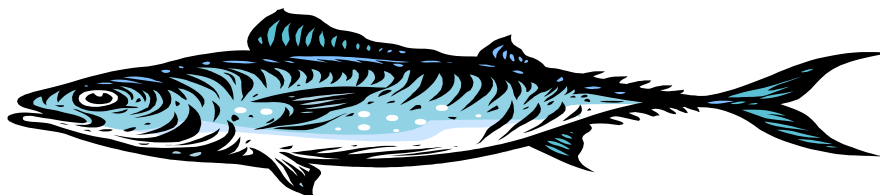
eighths

- ___ 3. At the pool, play “Follow the Leader” in the pool using a repeating pattern.
Example: jump, jump, step, step, step, jump, jump, step, step, step, etc.
- ___ 4. Divide things in halves, thirds, fourths, eighths, etc.: sandwich, waffle, cracker, pancakes, cookies, apple, etc. Draw a picture to show three of the things you chose and how you divided them.
- ___ 5. How many geometric solids can you find (cube, cylinder, cone, sphere, pyramid, rectangular prism)? Draw a picture of an example of each and label with its geometrical term.
- ___ 6. *On the above problem, color each one of the shapes with the fractional parts.
1. $\frac{1}{2}$ 2. $\frac{3}{4}$ 3. $\frac{5}{6}$ 4. $\frac{2}{3}$ 5. $\frac{3}{10}$ 6. $\frac{2}{8}$

Week 7 / Measurement

In first grade, students used non-standard units to measure length, weighed objects on a balance scale, and measured the capacity of containers. An important part of the measurement process is for a child to be able to estimate before actually doing the measurement.

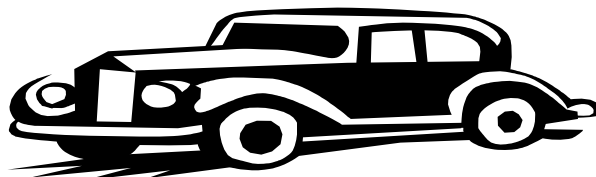
- ___ 1. Use non-standard units (paper clips, pretzels, etc.) to measure the length of each object. Write your estimate first before doing the measuring. Record your results. Don’t forget to write the unit of measure used (example: 4 paper clips).



Estimate _____ Actual length _____



Estimate _____ Actual length _____



Estimate _____ Actual length _____

- ___ 2. At the beach, use buckets and cups to compare which can hold more, less, etc.
- ___ 3. Follow a recipe with your child. Discuss the measuring terms: cup, tablespoon, etc. Let them help measure the ingredients.
- ___ 4. When in the bathtub, let your child use a variety of containers. Talk about full, empty, and compare how much each container holds.
- ___ 5. Put two different sized containers out in the rain. Look at how full they are after it rains. Draw or write about what you noticed.
- ___ 6. *Use a centimeter or inch ruler to measure the pictures on the previous page. Record the length next to each picture.
- ___ 7. *Choose 4 objects from around the house. Estimate how many inches or centimeters long each one is. Write your estimates. Measure and record your results.

Week 8 / Problem Solving and Make-a-Graph Project – Favorite Sport

In first grade, it is important that students are able to apply what they have learned in problem solving situations. They have learned strategies that will help them to figure out the problem (examples: use manipulatives, make a number sentence, draw a picture, etc.). The next activities are only a small representation of the skills used.

- ___ 1. Make up and write a word problem about the pool (example: 14 children were at the pool. 5 were in the water. How many were not in the water?). Draw a picture and show a number sentence you could use to solve the problem.
- ___ 2. Do the above activity about taking a trip.
- ___ 3. Do the above activity using objects in your house.
- ___ 4. Do activity #1 about a picnic.
- ___ 5. Do activity #1 about summer weather.
- ___ 6. Do activity #1 about going to a restaurant.
- ___ 7. *Make-a-Graph Project on favorite sports (counts as all 3 activities for the week).
 - Use the table on the next page to take a survey of people's favorite sport. Ask each person to choose his/her favorite sport from the list. Blank spaces are for other choices.

- Put a tally mark next to each sport chosen.

Sport	Number of People
Baseball	
Football	
Soccer	
Swimming	
Hockey	
Gymnastics	

- On a separate sheet of paper or poster board make a bar graph showing your results.
- Write four sentences telling that tell information about your graph (example: Most people liked soccer, etc.).