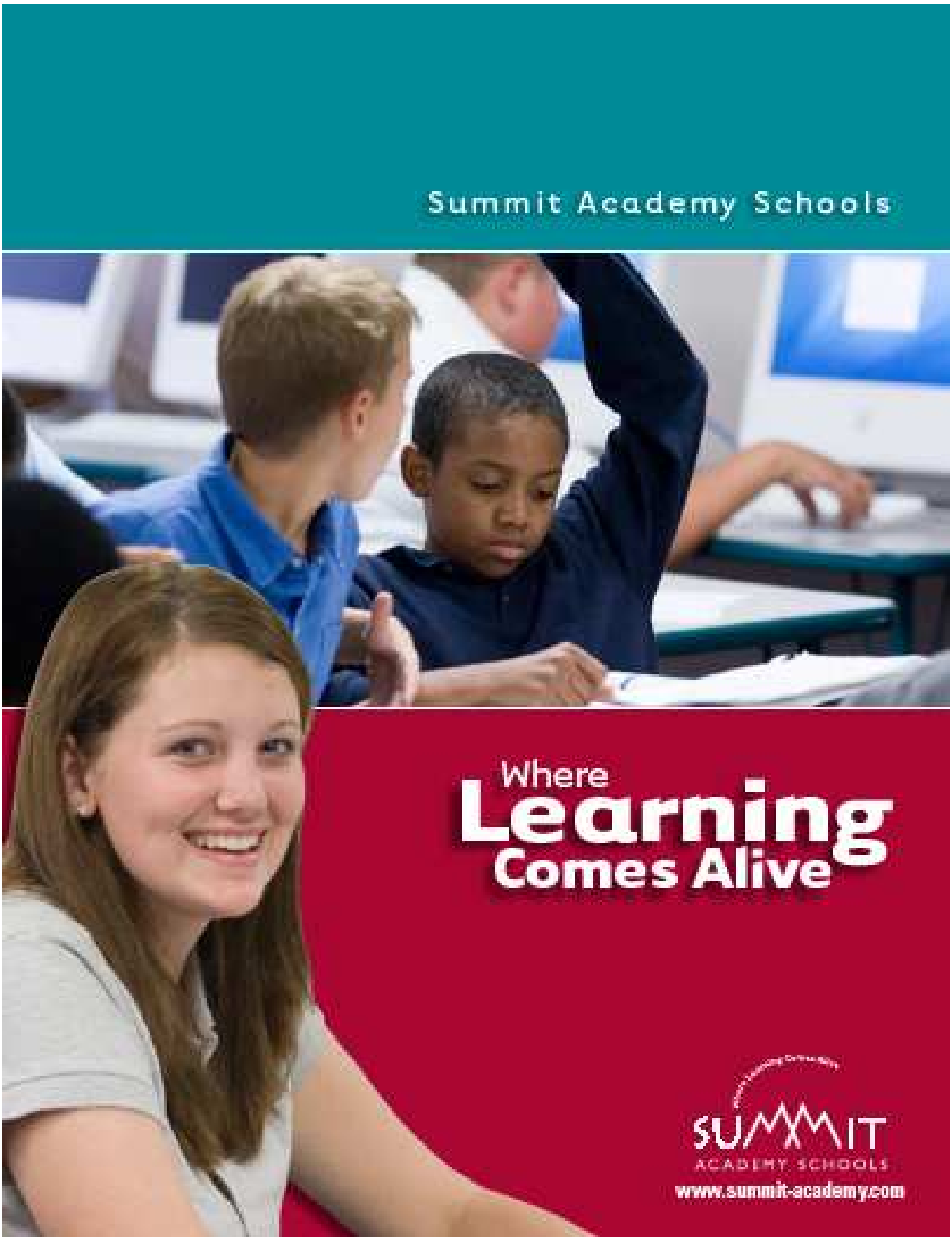
A Parent's Guide
To
First Grade Mathematics



First Grade Mathematics is the science of patterns and relationships. It is the language and logic of our technological world. Mathematical power is the ability to explore, to imagine, to reason logically and to use a variety of mathematical methods to solve problems-all important tools for children's futures. A mathematically powerful person should be able to:

- reason mathematically.
- communicate mathematically.
- solve problems using mathematics.
- make connections within mathematics and between mathematics and other fields.

Michigan's **Mathematics Grade Level Content Expectations** (GLCE) are organized into five strands:

- Number and Operations
- Algebra
- Geometry
- Measurement
- Data and Probability

In the first grade, children are asked to strengthen their **counting** knowledge, and to explore addition and subtraction using concrete materials and situations. Students will begin to measure time and money. In geometry, concepts are based on children's experiences in the real world.

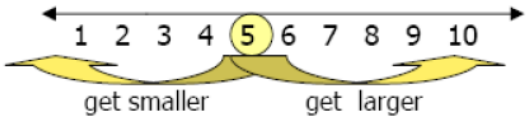
Glossary Terms

Words that have asterisks **(*)** are defined in the Glossary located in the back of this booklet.

Number and Operations

Count, write, and Order Numbers

- ❑ Count to 110 by 1s, 2s, 5s, and 10s, starting from any number.
- ❑ Count to 500 by 100s and 10s.
- ❑ Use numbers to show position in a sequence (1^{st}, 2^{nd}, 3^{rd})
- ❑ Read and write numbers to 110 and match them to the same number of objects.
- ❑ Put numbers in order to 110. Compare numbers using the phrases same as, more than, greater than, fewer than; use the = symbol.
- ❑ Arrange small sets of numbers in increasing or decreasing order. (Write the following from smallest to largest: 21, 16, 35, 8)
- ❑ Identify one more than, one less than, 10 more than and 10 less than for any number up to 100.
- ❑ When using a number line, know that a number to the left of a number is smaller and a number to the right of a number is larger.
  Example:



- ❑ Count backward by 1s starting from any number between 1 and 100.
- ❑ Explore place value by bundling (straws) into groups of tens and ones (24 is made of 2 tens and 4 ones or 24 ones)

Add and Subtract Numbers

- ❑ List number facts for 2 through 10.
  Example:
  Here are different facts to make 5.
  1+4 = 5 2+3 = 5 3+2 = 5 4+1 =5 5+0 = 5

- ❑ Compare the difference of objects in two groups.
- ❑ Add and subtract numbers less than 20. Be able to solve and explain story problems using objects, pictures and/or numerals.
- ❑ Understand that subtraction is connected to addition.
  Example: Because 3+5 = 8, we know that 8-3 = 5.
- ❑ Know all the addition facts up to 10+10 and solve the related subtraction facts.
- ❑ Find the missing numbers for addition and subtraction facts.
  Example: 2+ _____=6 6- _____ = 2

- ❑ Add three one-digit numbers. Example: 1+2+4 = _____
- ❑ Add and subtract in his/her head (mental math) when the problem involves a 2-digit number and 1-digit number with out regrouping or carrying. Example: 22+2=_____

Measurement (*)

- ❑ Measure the lengths of objects in non-standard units. Example: Use a pencil as a ruler to get pencil lengths of objects, or connected paper clips as a ruler to get paperclip lengths of objects.
- ❑ Compare measured lengths using the words shorter, shortest, longer, longest, taller, tallest.

Explore Concepts of Time

Tell Time

- ❑ Tell time on a twelve-hour clock face to the hour and half hour.

Work with Money

- ❑ Name different coins and bills.
- ❑ Match one coin or bill to another way to form that same amount of money. Example: 1 quarter = 2 dimes and 1 nickel.
- ❑ Tell the amount of money they see/have: using cents up to $1.00 and using dollars up to $100.00
- ❑ Use the symbols $ and ¢.
- ❑ Add and subtract money in dollars only or in cents only.

Solve Problems

- ❑ Solve one-step word problems using addition and subtraction, money and time, including 'how much more or less, without mixing units. Example: $1.00 + $2.00 = $3.00

Geometry (*)

- ❑ Create and describe shapes.
- ❑ Describe common two-dimensional and three-dimensional shapes. Example: the small blue triangle, the large silver can.
- ❑ Describe the position of objects using words such as above, below, behind, in front of.
- ❑ Create and describe patterns involving geometric objects.
- ❑ Create and describe patterns, such as repeating patterns, and growing patterns using number, shape and size.
  Example: What would come next in these patterns?

Shapes

Size

- ❑ Tell the difference between a repeating pattern and a growing pattern.
- ❑ Predict the next element in a simple repeating pattern.
- ❑ Describe ways to get to the next element in simple repeating patterns.

Ways to Praise Your Child

Great work!
I knew you could do it!
You are getting better every day!
Keep on trying.

Data and Probability

Data Analysis and Statistics (*)

Use Pictographs (*)

- ❑ Collect and organize data to use in pictographs.
- ❑ Read and interpret pictographs.
- ❑ Make pictographs of given data using both horizontal and vertical graphs. Example: Which child has the most children living on his or her block? Each ☺ = 1 child

James	☺ ☺ ☺ ☺
Kylia	☺ ☺
Bob	☺ ☺ ☺ ☺ ☺ ☺ ☺

Glossary Page

- **data analysis and statistics** - interpret information and see relationships, by using tables, graphs and charts.
- **fluently** - the ability to calculate numbers with ease and accuracy.
- **geometry** - the area of mathematics that involves shape, size, space, position, direction, and movement. It describes and classifies the physical world in which we live.
- **measurement** - finding the length, height, and weight of an object using units like inches, feet, meters, centimeters, and pounds. Time is measured using hours, minutes and seconds.
- **Perimeter** - the distance around a two-dimensional shape found by adding together the measured length of all the sides of the shape.
- **pictographs** - a graph constructed with pictures or icons. Pictures are used to represent numbers.
  Example: Each ☺ = 1 cookie

Questions to ask of your child's teacher: _____

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