# FLORIDA'S BENCHMARKS FOR EXCELLENT STUDENT THINKING STANDARDS

***Parent Guide for Grade 4 Mathematics***

The Benchmarks for Excellent Student Thinking (B.E.S.T.) Standards for Mathematics are the state's mathematical standards that pave the way for Florida students to receive a world-class education and prepare them for a successful future.

Education leaders from across the state came together to develop Florida's B.E.S.T. Standards for Mathematics. These standards and benchmarks are goals that students are expected to achieve by the end of the school year. A standard is an overarching criterion for a grade level or grade band. A benchmark is a specific expectation or skill for the grade level or grade band that falls within a standard. The B.E.S.T. Standards are designed to ensure that ALL students reach their greatest potential.

**THESE STANDARDS WERE WRITTEN TO:**

Provide clarity on the grade-level expectations for educators, parents and students.

Allow students flexibility to solve problems using a method/strategy of their choice.

Allow for student discovery (i.e., exploration) of strategies rather than the teaching, naming and assessing of each strategy individually.

**Preparing your student for success begins in Kindergarten and continues as your child progresses through each grade. This guide will support parents, guardians and families with students in Grade 4 by helping them:**

- **LEARN about the B.E.S.T. Standards for Mathematics and why they matter for your student.**
- **UNDERSTAND important educational (academic) words that you will see in your student's grade-level standards and benchmarks.**
- **TALK with your student's teacher about what they will be learning in the classroom.**
- **LOCATE activities and resources to support your student's learning in practical ways at home.**

**Learn About the Grade 4 Mathematics Standards**

This table describes the areas of emphasis within Grade 4 and provides examples of specific expectations within each area of emphasis. The purpose of the areas of emphasis is not to guide specific units of learning and instruction, but rather provide insight on major mathematical topics that will be covered within the grade level. The table below is not in any set order in which areas should be taught. Areas of emphasis may be taught in any order, combined with others and throughout the year.

| **Area of Emphasis** | **Examples** |
|---|---|
| Extending understanding of multi-digit multiplication and division. | • Recalling multiplication facts with factors up to 12 and related division facts with automaticity.<br>• Multiplying fractions.<br>• Solving problems involving multiplication and division by using and discussing various approaches.<br>• Seeing the relationships between the units used for measurement.<br>• Finding the measures of unknown side lengths in area and perimeter problems. |
| Developing the relationship between fractions and decimals and beginning operations with both. | • Plotting, ordering and comparing decimals using place value.<br>• Connecting fractions with decimals.<br>• Adding and subtracting fractions with like denominators in real world situations.<br>• Solving problems involving converting units of time and distance. |
| Classifying and measuring angles. | • Understanding angles and how they can be identified in lines and shapes (e.g., right angle, straight angle, etc.).<br>• Understanding that angles can be precisely measured.<br>• Using the idea that angle measures are additive to find a missing angle measure (e.g., explain the equation 135 + 45 = 180, knowing that a straight angle measures 180-degrees). |
| Developing an understanding for interpreting data to include mode, median and range. | • Selecting and using tools to measure precisely.<br>• Understanding concepts of mode, median and range as ways to describe the center and spread of a data set.<br>• Solving real-world problems involving numerical data.<br>• Collecting authentic data and displaying the data using the appropriate format (e.g., table, stem-and-leaf plot, line plot, etc.). |

**B.E.S.T. Instructional Guide for Mathematics**

The B.E.S.T. Instructional Guide for Mathematics (B1G-M) is intended to assist educators with planning for student learning and instruction aligned to Florida's Benchmarks for Excellent Student Thinking (B.E.S.T.) Standards. This guide is designed to aid high-quality instruction through the identification of components that support the learning and teaching of the B.E.S.T. Mathematics Standards and Benchmarks. The B1G-M can be utilized by parents, guardians and families to support learning at home through the Instructional Strategies section.

This document is posted on the B.E.S.T. Standards for Mathematics webpage (https://www.fldoe.org/academics/standards/subject-areas/math-science/mathematics/bestmath.stml) of the Florida Department of Education's website and will continue to undergo edits as needed.

**Mathematical Words to Know and Use in Grade 4**

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|---|---|---|---|---|---|---|
| Acute Angle | Commutative property of multiplication | Divisor | Factor(s) | Perimeter | Right angle | Word form |
| Angle | Composite number | Equation | Line plot | Prime number | Rounding | Unit fraction |
| Area | Decimal | Equivalent | Median | Product | Standard form | |
| Area model | Distributive property | Estimate | Mode | Quotient | Straight angle | |
| Associative property of multiplication | Digit | Expanded form | Numerical data | Range | Stem-and-leaf plot | |
| Circle | Dividend | Expression | Obtuse angle | Reflex angle | Whole number | |

*Note: This is not a comprehensive list – please access the K-5 Glossary at https://cpalmsmediaprod.blob.core.windows.net/uploads/docs/standards/best/ma/appendixc.pdf.*

**Support Learning at Home**

You can encourage learning mathematics at home in ways that are fun for you and your student. Try these ideas after school, on weekends and during the summer:

- ✓ Find numbers in the thousands during your daily life. When you spot a number, encourage your child to say the number in different ways, compare it to another number and round it.
- ✓ Relate math to real life by having your child calculate the total when there are multiple quantities involved in a situation. For example, if you are buying three 24-packs of water, ask your child how many total bottles of water there will be. Places with many items, like seats in an auditorium or books on a library shelf, are good for practicing larger numbers.
- ✓ Have your child assist you with solving problems involving sharing or dividing quantities. For example, you may have to cut a 60-inch piece of fabric into 12 equal pieces. Therefore, each piece will be 5 inches long.
- ✓ In everyday life, there are often problems that require multiple steps to solve. You can involve your child in solving these problems. For instance, you may need to calculate the total cost of meals for a family with sandwiches priced at $14 each and drinks priced at $6 each.
- ✓ Search for everyday scenarios with decimals, like money or food weights. Engage your child in solving problems related to these situations. To help your child practice adding decimals, you could say, "We purchased 2.3 pounds of grapes and 0.84 pounds of strawberries. How much fruit do we have?"
- ✓ Get your child to help you find equivalent fractions and compare fractions during everyday activities. For instance, if someone mentions, "The grocery store is about 1/2 of a mile from the school," you could respond, "Our house is about 6/8 of a mile from the school. Which is farther away?"
- ✓ Pay attention to angles at home or when you're out, like angles in furniture, buildings or patterns in fabric. Get your child to identify the type of angle and estimate its measure.

**Talk with Your Student's Teacher**
Remember, you are your student's first teacher. Think about a parent-teacher conference as a "team meeting" in which you will discover the special contributions each of you bring to your student's success. Here are some questions you could ask to prompt discussions:

Which facts are my student working on? Which have they mastered? How can I support them at home?

In the area of mathematics, what are my student's strengths? How are those strengths supported during instruction? Where is my student struggling and how can I help?

Can my student show you that they understand what they are learning about through manipulatives, drawing, talking and writing? If not, what challenges are they facing?

What topics in connection to science and social studies is my student learning about through math?

What behaviors should I see when my student is doing math? Can I see an example of the type of problems my student is given? How can I support them at home?

**Mathematical Thinking and Reasoning Standards (MTRs)**
Florida students are expected to engage with mathematics through the Mathematical Thinking and Reasoning Standards (MTRs). These standards are written in clear language so all stakeholders can understand them, and teachers can assist students to use them as self-monitoring tools. The MTRs promote deeper learning and understanding of mathematics. By understanding the MTRs, parents, guardians and families can support the development of these skills at home.

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|---|---|---|
| **MA.K12.MTR.1.1**<br>Actively participate in effortful learning both individually and collectively. | **MA.K12.MTR.2.1**<br>Demonstrate understanding by representing problems in multiple ways. | |
| **MA.K12.MTR.3.1**<br>Complete tasks with mathematical fluency. | **MA.K12.MTR.4.1**<br>Engage in discussions that reflect on the mathematical thinking of self and others. | |
| **MA.K12.MTR.5.1**<br>Use patterns and structure to connect mathematical concepts. | **MA.K12.MTR.6.1**<br>Assess the reasonableness of solutions. | **MA.K12.MTR.7.1**<br>Apply mathematics to real-world contexts. |

Your student will develop the above skills (MTRs) throughout their education and during their life. These skills will help maintain positive relationships through effective communication, collaboration, conflict resolution and problem solving.

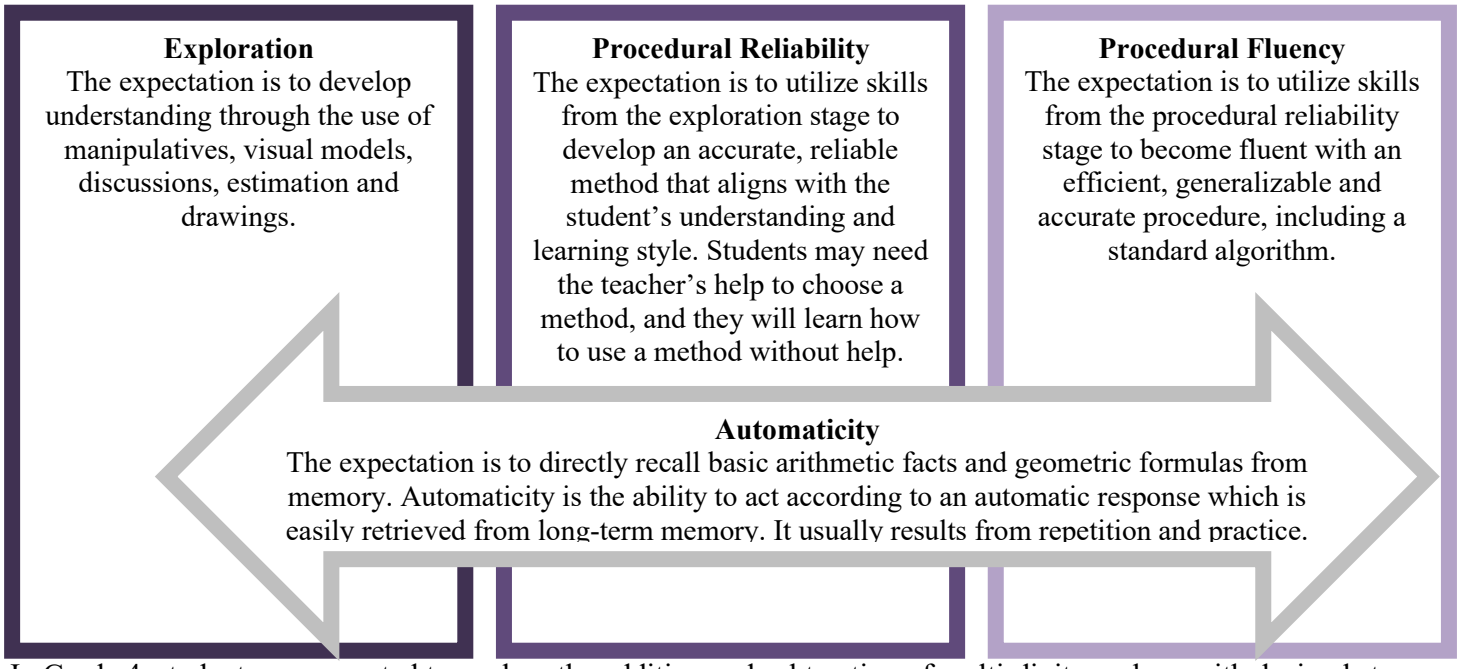
Below are some ways you can help develop mathematical thinking and reasoning skills for your Grade 4 student:

- ✓ Encourage your student to ask questions when they do not understand what is being asked of them.
- ✓ Ask your student to estimate before determining a solution to the task at hand.
- ✓ Identify a problem and create a plan to tackle it in smaller steps that are more manageable.
- ✓ Try activities like a scavenger hunt or a puzzle.

By helping to develop your student's mathematical thinking and reasoning skills, you will prepare them to become a confident, independent and successful individual.

**Fluency**

Building a strong numeracy foundation is critical to every child's mathematical success. The B.E.S.T. Standards for Mathematics were developed to allow skills to build upon one another within a grade level as well as from one grade to the next. Benchmark expectations have been developed with a hierarchy in mind consisting of three stages: exploration, procedural reliability and procedural fluency. The three stages illustrated below show the stages students may work through when learning new skills and concepts.




In Grade 4, students are expected to explore the addition and subtraction of multi-digit numbers with decimals to hundredths.

> For example, Tony's lunchbox weighs 2.5 pounds. He took out his apple that weighs 0.65 pounds. How much does his lunchbox weigh now? By placing the problem in a place value chart, students line up the decimals and subtract like place values. Therefore, the difference between 2.5 and 0.65 is 1.85.

Students are also expected to become procedurally reliable with the addition and subtraction of fractions with like denominators.

> For example, students may add by rewriting the expression $1\frac{4}{5} + 4\frac{3}{5}$ as $1 + 4 + \frac{4}{5} + \frac{3}{5}$ using the associative property of addition. Therefore, $1\frac{4}{5} + 4\frac{3}{5} = 6\frac{2}{5}$.

In addition, students are expected to recall multiplication of whole numbers with products from 0 to 144 and division with related facts with automaticity.

> For example, explain how the 2s facts, 4s facts and 8s facts for multiplication are related. Explaining doubles (2s facts), double and double again (4s), and doubling three times (8s) demonstrates repetition and practice needed to build automaticity. It is not recommended to use timed fact fluency activities to learn and practice facts.