ShapeThe 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.

**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.

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.

**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 Accelerated 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 Accelerated Mathematics Standards**

This table describes the areas of emphasis within Grade 4 Accelerated 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.

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| --- | --- |
| **Area of Emphasis** | **Examples** |
| Developing the relationship between fractions and decimals. | * Plotting, ordering and comparing decimals using place value. * Connecting fractions with decimals. |
| Multiplying and dividing multi-digit whole numbers, including using a standard algorithm. | * Demonstrating procedural fluency while multiplying multi-digit whole numbers by choosing the standard algorithm that works best for them. A standard algorithm is a method that is efficient and accurate. * Solving multi-step word problems involving multiplication and division involving any combination of the four operations. * Understanding the relationships between the units of measure through problem solving. |
| Adding and subtracting fractions and decimals with procedural fluency, developing an understanding of multiplication and division of fractions and decimals. | * Reasoning about the magnitude of digits in a number. * Adding and subtracting fractions with like and unlike denominators in real world situations. * Understanding how to work with fractional and decimal sums and products when calculating perimeter and area. * Multiplying fractions. * Understanding that a division expression can be written as a fraction by explaining thinking when working with fractions in various contexts. * Dividing unit fractions by whole numbers and whole numbers by unit fractions. * Solving problems involving converting units of time and distance. * Applying understanding of multi-step real-world problems, measurement conversions and decimal operations to solve problems involving money. * Collecting and displaying authentic numerical data in tables, stem-and-leaf plots, line graphs or line plots, including fractional and decimal values. |
| Developing an understanding of the coordinate plane and plotting pairs of numbers in the first quadrant. | * Extending thinking about horizontal and vertical number lines to plot and label whole number ordered pairs on a coordinate plane. * Interpreting coordinate values plotted in mathematical and real-world contexts. |

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| **Area of Emphasis** | **Examples** |
| Extending geometric reasoning to include volume. | * Converting measurements flexibly. * Understanding that shapes can be classified by their attributes and these attributes may place them in multiple categories. * Understanding how to work with fractional and decimal sums and products when calculating perimeter and area. * Developing an understanding of volume. |
| Developing an understanding for interpreting data to include mean, mode, median and range. | * Selecting and using tools to measure precisely. * Developing the understanding that values in line graphs often represent data that changes over time. * Interpreting numerical data by using the mean, mode, median and range. * Solving real-world problems involving numerical data. |

**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 Accelerated**

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| --- | --- | --- | --- | --- | --- |
| Area model | Cylinder | Expression | Order of operations | Pyramid | Stem-and-leaf plot |
| Coefficient | Dividend | Line plot | Origin | Quotient | Trapezoid |
| Composite figure | Divisor | Mean | Parallelogram | Rectangular prism | Vertex |
| Cone | Edge | Median | Perimeter | Rhombus | Whole number |
| Coordinate plane (first quadrant) | Equation | Mode | Prism | Sphere | -axis |
| Cube | Equal sign | Numerical data | Product | Square | -axis |

*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*](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:

* Encourage your child to find decimals in everyday tasks and practice comparing, ordering or rounding them. For instance, they can use a navigation app to compare the distance from school to two different locations, such as home and the grocery store, and round the distances to the nearest whole number.
* Ask your child to calculate the total costs and differences of items while shopping. For instance, how much more does one type of snack cost per package compared to another?
* Involve your child in determining the total amount of drinking water (in gallons or ounces) that your family goes through in a day, a week and a month.
* While shopping, let your child calculate the total price of several items, like 6 cupcakes priced at $0.99 each.
* 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.
* Division is often used in daily life to calculate rates, like miles per hour. Ask your child to divide their weekly screen time total by the number of days in a week to find out how many hours are used each day.
* If you purchase several of the same thing, tell your child the total amount spent on all items and the price of each one. This way, your child can determine the quantity of items bought by dividing a decimal by another decimal.
* 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.
* Let your child discover the pattern for instructional tables on food packages like oatmeal or pasta that indicate the amount of water needed for a specific quantity of the product.
* Find opportunities for your child to practice adding or subtracting mixed numbers. For instance, they can calculate the total distance walked or the remaining distance to be traveled.
* Get your child involved in solving math problems by having them assist with multiplying fractions or mixed numbers. This could come in handy when calculating the area of spaces like porches, backyards, or furniture like tables that involve fractions in their measurements.
* Find scenarios where fractions can show division or when you must divide whole numbers and fractions. Get your child involved in solving problems with you. For instance, if you have 3 pounds of ground pork and want to make pound sausage patties, have your child calculate how many patties you can make (5 ÷ = 40).
* When you must send something in the mail that is in a box, let your child assist in measuring the box’s dimensions and calculating its volume.
* At family or school events, ask your child to gather interesting numerical data about the people there. Make sure to include fractions like heights. Then, have your child show this data using a line plot or line graph and explain it using mean, median, mode and range.
* Have your child come up with an expression to match the scenario you provide. For instance, you could say, “Your favorite football team gets 14 points in the first half and doubles that amount in the second half. What expression shows the total points the team has?” Then, let your child say or write down the expression (e.g., 14 + 2 × 14).
* Get your child involved when you need to change units of length, volume or time. For instance, while shopping, you can ask your child to help decide between two milk bottles that cost the same amount: one has 8 fluid ounces and the other has 2 pints.

**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 multiplication and/or division strategies is 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.

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

**Exploration**

The expectation is to develop understanding through the use of manipulatives, visual models, discussions, estimation and drawings.

**Procedural Reliability**

The expectation is to utilize skills from the exploration stage to develop an accurate, reliable method that aligns with the student’s understanding and learning style. Students may need the teacher’s help to choose a method, and they will learn how to use a method without help.

**Procedural Fluency**

The expectation is to utilize skills from the procedural reliability stage to become fluent with an efficient, generalizable and accurate procedure, including a standard algorithm.

**Automaticity**

The expectation is to directly recall basic arithmetic facts from memory. Automaticity is the ability to act according to an automatic response which is easily retrieved from long-term memory. It usually results from repetition and practice.

In Grade 4 Accelerated, students are expected to explore the multiplication and division of multi-digit numbers with decimals to the hundredths using estimation, rounding and place value.

For example, the quotient of 23 and 0.42 can be estimated as a little bigger than 46 because 0.42 is less than one-half and 23 times 2 is 46.

Students are also expected to multiply and divide a multi-digit number with decimals to the tenths by one-tenth and one-hundredth with procedural reliability.

For example, the number 12.3 divided by 0.01 can be thought of as ? × 0.01 = 12.3 to determine the quotient is 1,230.

In addition, students are expected to add and subtract multi-digit numbers with decimals to the thousandths, including using a standard algorithm with procedural fluency.

For example, Karina’s lunchbox weighs 2.5 pounds. She took out her apple that weighs 0.65 pounds. How much does her lunchbox weigh now? Students may choose a standard algorithm that works best for them and demonstrates their procedural fluency. A standard algorithm is a method that is efficient, generalizable (it works correctly no matter how many digits are involved) and accurate. Therefore, the difference between 2.5 and 0.65 is 1.85.