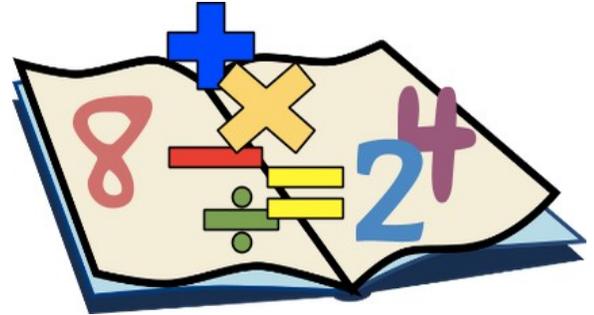


Math Parent Roadmap



Supporting your child in fourth grade

Did you like attending math classes as a student? Were you a confident math student? Often times when people are asked these questions, the most common response is that they were not so good at math or that they didn't like math class at all. Only a few people will actually say that they loved math or that they were good at it. We want to change that story!

Benton Elementary School is constantly working to improve math instruction for students.

Benton Elementary School (BES) is constantly working to improve mathematics instruction for students. Teachers intentionally plan lessons that engage students in problem solving, conceptual understanding, and mathematical applications. Using grade level math standards, BES teachers are able to identify exactly what each student knows, is ready to learn, and what comes next in the learning progression. The standards indicate the level of quality and achievement that is considered proficient or secure.

This document outlines the math curriculum at each grade level. While every grade level develops most math concepts, this document focuses on the most critical areas at each level. Math concepts are revisited and extended throughout your child's BES educational career.

*Math Practices
are what the
students are doing
as they learn the
content standards
and will be
embedded into
daily math
experiences.*

The Math Practices involve students:

1. Making sense of problems and persevering in solving them
2. Reasoning through problems
3. Constructing viable arguments and critiquing the reasoning of others
4. Modeling with mathematics
5. Using appropriate tools strategically
6. Attending to precision
7. Looking for and making use of structure
8. Looking for and expressing regularity in repeated reasoning



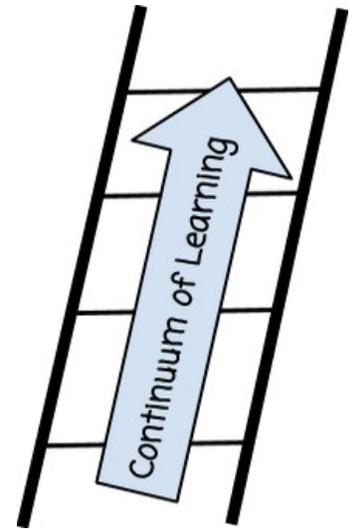
Academic standards are important because they help ensure that all students, no matter where they live, are prepared for success in college and the workforce. They help set clear and consistent expectations for students, parents, and teachers; build a child's knowledge and skills; and help set high goals for all students.

Of course, high standards are not the only thing needed for our children's success, but standards provide an important first step - a clear roadmap for learning for teachers, parents, and students. Having clearly defined goals helps families and teachers work together to ensure that students succeed. Standards help parents and teachers know when students need extra assistance or when they need to be challenged even more.

-The National PTA

In third grade students developed understanding of multiplication and division as well as the the relationship between the two operations. They used problem solving skills and learned strategies to solve multiplication and division problems within 100. Students developed an understanding of fractions using visual models. Third grade students also began to explore the structure of rectangular arrays and of area as well as recognize, describe, and analyze the attributes of two-dimensional shapes.

In fourth grade students will stretch their understanding of multiplication and division through multiplying and dividing multi-digit whole numbers and use all four operations to solve various math word problems including involving measurement of volume, mass, and time. Fourth grade will especially focus on multiplicative comparison problems where one factor is compared as a number of “times” greater or lesser than the other factor. Students will also build on their learning from third grade in the area of fractions by explaining, recognizing and generating equivalent fractions using visual models. Fourth graders will compare fractions using a variety of strategies with different numerators and denominators using symbols. Also, students will use this understanding of fractions to add and subtract fractions with same denominators and multiply a fraction by a whole number using various visual strategies and math reasoning. While fractions will be a major focus for fourth grade students, they will also continue to develop their understanding of two-dimensional shapes by analyzing their lines and angles, as well as solve problems involving measurement and the conversion of measurements from a larger unit to a smaller unit.



Here are just a few examples of how your child will develop math skills across grade levels:

Multiplication and Division/Solving Problems		
<p>Earlier Learning</p> <ul style="list-style-type: none"> • Fluently multiply and divide within 100 ($8 \times 5 = 40$, $24/6 = 4$) • Solve multiplication and division word problems within 100 • Solve two-step math word problems using addition, subtraction, multiplication and division 	<p>Grade Four Math</p> <ul style="list-style-type: none"> • Use place value and properties to multiply and divide multi-digit whole numbers • Understand factors and multiples • Solve multiplication and division word problems involving multiplicative comparison. • Solve multi-step word problems with whole numbers involving addition, subtraction, multiplication and/or division • Fluently add and subtract multi-digit numbers using the standard algorithm 	<p>Next Steps</p> <ul style="list-style-type: none"> • Add, subtract, multiply and divide whole numbers and decimals • Fluently multiply multi-digit whole numbers using the standard algorithm • Use place value and properties to divide multi-digit numbers • Write and interpret numerical expressions Example: $6[(4 \times 5) + (10 - 3)]$ • Solve word problems involving the four operations with fractions and decimals



Examples of Grade Four Word Problems	
Multiplicative Comparison - money	The large stuffed animal costs \$20 and that is 4 times as much as the smaller stuffed animal. How much does a smaller stuffed animal cost?
Multiplicative Comparison - measurement	The giraffe is 18 feet tall. The kangaroo is 6 feet tall. The giraffe is how many times taller than the kangaroo?
Multi-step Word Problems	The school store bought 7 boxes with 12 pencils inside. The cost was \$3 for each box. The students sold two pencils for \$1. If they sold all of the pencils, how much profit did the school store make?

Fractions		
<p>Earlier Learning</p> <ul style="list-style-type: none"> Recognize unit fractions as a number, representing part of a whole Determine a fraction's place on a number line Compare the size of fractions Explain and find simple equivalent fractions 	<p>Grade Four Math</p> <ul style="list-style-type: none"> Explain, recognize, and generate equivalent fractions Compare and order fractions Build unit fractions into a whole and decompose a whole into unit fractions Add and subtract fractions with same denominators Multiply a fraction by a whole number 	<p>Next Steps</p> <ul style="list-style-type: none"> Add and subtract fractions with different denominators Multiply a fraction by a whole number or another fraction using models and number sentences Interpret a fraction as division of the numerator by the denominator Divide fractions by whole numbers and whole numbers by fractions using models Solve problems using addition, subtraction, and multiplication of fractions

Examples of Grade Four Fraction Problems

	$\frac{7}{12} > \frac{3}{6}$ $\frac{2}{3} = \frac{4}{6}$ $\frac{2}{6} + \frac{1}{3} = \frac{4}{6}$
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Students will use a number line to break fractions into smaller parts, compare two fractions and to show two fractions that are equal.

Fourth Grade Math Experiences Include



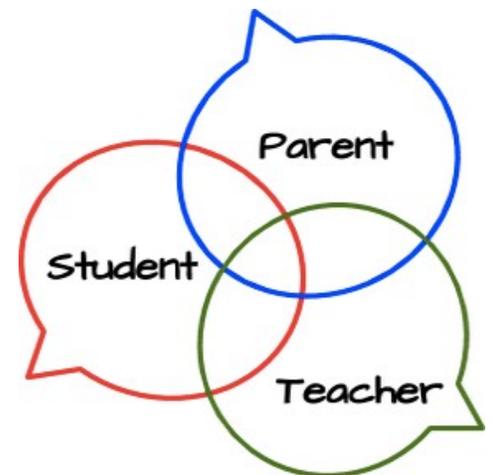
- students participating in lessons in small and whole group situations daily
- students modeling mathematics using a variety of tools such as ten frames, bead racks, counters, base ten blocks, tape diagrams, etc.
- students using technology to investigate and apply mathematics
- students discussing their mathematical thinking with others
- students completing work within varying formats: whole group, small group, partner, and individual
- students working on mathematical tasks that connect math to real world situations

Partnering to reflect on your child's learning:

Please check in with your child and your child's teacher whenever you have questions. Working together is the best way to ensure success for your child.

Possible conversation starters could be:

- What is the best thing that happened in math class today?
- What would you be interested in learning more about in math?
- What is something that was challenging for you in math class? Why do you think it is challenging?
- What websites, apps or other technology are you using to support your math learning?
- In what ways do you prefer to practice your math skills? (examples: using technology, paper/pencil, math tools, working on your own, working with others, etc.)



Possible questions to ask your child's teacher include:

- What are my child's strengths?
- Is my child at the level where he/she should be at this point of the school year?
- In what areas is my child most successful in math?
- What challenges my child?
- How can I help my child in math?

Helping your child learn outside of school:

There are many ways you can help your child at home. Try some of the following ideas:



- Praise your child for his/her effort in solving problems and for sticking with a problem that seems difficult. Share in the excitement when your child solves a problem or understands something for the first time.
- Encourage your child to notice math problems all around you and practice solving the problems together. (For example, use measuring cups to see equivalent fractions. ie filling a $\frac{1}{4}$ measuring cup twice is the same as filling one $\frac{1}{2}$ cup)
- Play board games where your child needs to add, subtract, multiply, divide and use strategies (Yahtzee, CONNECT, Cribbage, Chess, etc.)
- Play the “I’m thinking of a number” game. (“I’m thinking of a number that is makes 120 when multiplied by 4)
- Play the “What’s the question” game. (“The answer is $\frac{1}{2}$. What’s the question?”)