Pleasant Valley School

FOURTH GRADE Parent Guide and Resources for

enVision® Mathematics

Kids See the Math. Teachers See Results.

General Guidelines

1. Math instruction now focuses more on **problem-solving, reasoning, and understanding** in addition to efficient computation.
2. Learning tasks are designed to develop concepts, not just promote efficient computation, therefore a young child will build **deep understanding** that leads to **better skills and fluency**.
3. Struggle means your child is learning. When a student is putting in effort to think, the brain is creating new pathways and connections. We call this "cognitive sweat." In fact, the very first math standard for all K-12 students is to ***Make Sense of Problems and Persevere*** in solving them. Help your child build that perseverance by allowing him or her to work through a difficult problem-solving task without memorizing shortcuts.

Homework Tips

- Communicate with the teacher directly:
  - Write notes on homework
  - Note questions that were challenging
- **Parents should not be re-teaching** during every assignment. See the next section for suggestions about ways you can help when you do not understand all the math
- Use the **many online tools** from the program to support student work at home.

Instead of Re-teaching, Try Questioning

Instead of attempting to re-teach a skill, try asking questions that help your child think through the solution on his or her own:

- What do you think might work to solve this? Why do you think that might work?
- What about this problem seems familiar?
- What is easy about this problem? Why do you think that part is easy?
- What seems difficult about this? Why is it confusing or complicated?
- What is the question you are trying to answer? What do you need to know in order to answer it? Are you missing some important information?
- What might happen if you try the opposite of what you are doing now? It might not work, but it could give you some interesting ideas about how to solve it.
- If you gave this problem to your teacher, what do you think he or she would do next?

After your child finds an answer, instead of telling him or her whether it is correct, try asking these kinds of questions:

- Why do you think that is a good answer? How do you know?
- Tell me how you got that answer. Why does that work?
- Why did you solve it that way?
- Is there another way you could solve it?

Online Resources

The following are available through Google.

- Savvas Realize
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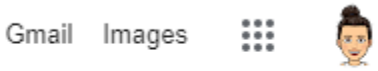
Supporting Your Child At Home

Clever Login

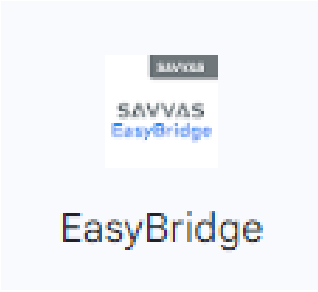
1. Have the student log in to their Clever account using their Gmail login.
2. Scroll down and click on the Savvas EasyBridge App.

Schoology Login

1. Have the student log in to their Google account using their Gmail login and lunch number.
2. Click the nine-dot Google“waffle.”



3. Scroll down and click on the EasyBridge App.

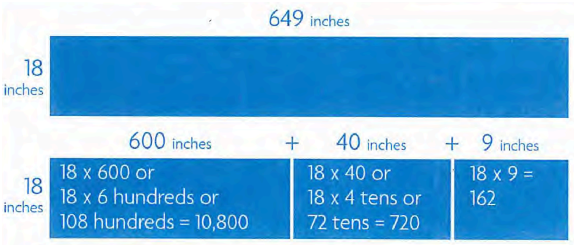


Examples

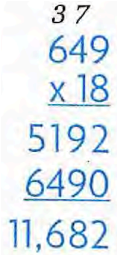
Here are just a few examples of how students will develop and use their understanding of place value in fourth grade.

Grade Three Mathematics	Grade Four Mathematics	Grade Five Mathematics
• Use place value understanding to round whole numbers to the nearest 10 or 100 • Quickly add accurately add and subtract numbers through 1000 • Use place value understanding to multiply and divide numbers up through 100 • Multiply one-digit whole numbers by multiples of 10 between 10 and 90. (For example, 9 X 80 or 5 X 60)	• Use place value understanding to round multi-digit whole numbers to any place • Use place value understanding to find the product of two multi-digit numbers • Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right • Compare two multi-digit numbers based on the meanings of the digits in each place, using the symbols > (greater than), = (equal to), < (less than)	• Use place value understanding to round decimals to any place • Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $\frac{1}{10}$ of what it represents in the place to its left. • Read, write, and compare decimals based on the meanings of the digits in the tenths, hundredths, and thousandths place, using the symbols >, =, and <

To find the area of this rectangle, students can first break it down into three parts. The length of each part can then be multiplied by the width of 18.



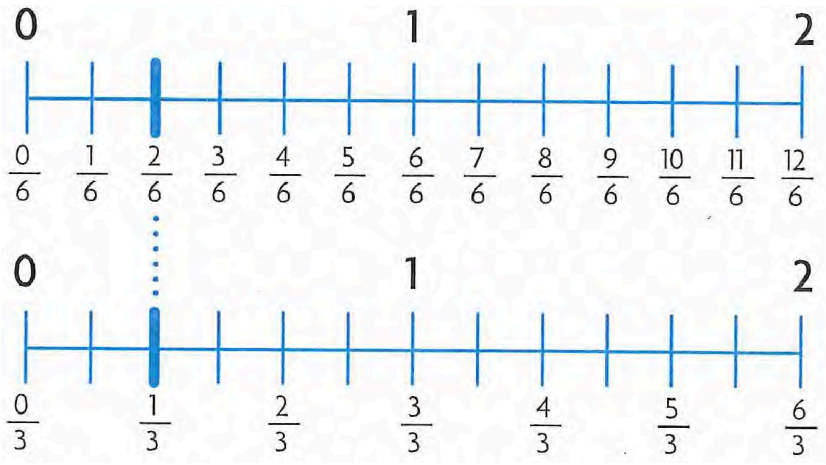
Students use concepts of area and place value as strategies to multiply multi-digit numbers. Students will explore a variety of strategies to deepen their understanding of multiplication.



Here are just a few examples of how students will learn about and work with fractions in fourth grade.

Grade Three Mathematics	Grade Four Mathematics	Grade Five Mathematics
• Determine a fraction's place on a number line by defining the length from 0 to 1 as the whole and "cutting it" into equal parts • Understand two fractions as equal if they are the same size or at the same point on a number line • Compare the size of two different fractions of the same size object (for example, which is bigger, ⅛ of a pizza or ¼ of that same pizza?)	• Break down a fraction into smaller fractions with the same denominator, or bottom number, in more than one way (for example, ⅝ = ⅛ + ⅛ + ⅛ + ⅛ + ⅛ = ⅜ + ⅛ + ⅛) • Explain why a fraction is equal to another fraction • Add and subtract mixed numbers (whole numbers mixed with fractions, such as 1⅕) with the same denominators • Multiply a fraction by a whole number	• Interpret a fraction as division of the numerator (the top number) by the denominator (the bottom number) • Add and subtract fractions with different denominators • Multiply a fraction by a whole number or another fraction • Divide fractions by whole numbers and whole numbers by fractions

Students will use the number line to break fractions into smaller fractions and to show that 2/6 = 1/3.



Understanding and creating equal fractions will prepare students for the next step: adding and subtracting fractions with different denominators.

Standards for Mathematical Practice for Parents

Mathematical Practice Standard	How a child can use the practice standards	Questions to ask
1. Make sense of problems and persevere in solving them.	•I can make my own plan for solving the problem and stick with it even if it is difficult. •I can check the reasonableness of my answer. •I can solve it a second way to make sure I am right!	•What plan can you make to solve this problem? •Can you draw a picture or act out the problem? •What information is in the problem and what are you trying to figure out?
2. Reason abstractly and quantitatively.	•I can use numbers and words to help make sense of problems. •I can think about what each number represents. •I can think about the relationships between the numbers in the problem. •I can think about what property might be used to solve the problem. •I can think about whether other operations might be used.	•Can you explain what the numbers in the problem mean? •How did you decide to use this operation?

3. Construct viable arguments and critique the reasoning of others.	•I can explain my thinking using objects, drawings or actions •I can consider the thinking of other students •I can ask questions to clarify my understanding •I can make connections to other strategies	•How can we be sure? •Is this like another problem you have solved before? •How could you prove that….?
4. Model with mathematics.	•I can recognize math in everyday life and use it to solve problems. •I can use pictures, words, objects, or symbols to solve. •I can use number lines, arrays, or other models to help myself as I solve the problem or to represent my solution.	•What model could you construct that might help you solve this problem? •Can you visualize the action in this problem?

Standards for Mathematical Practice for Parents

Mathematical Practice Standard	How a child can use the practice standards	Questions to ask
5. Use appropriate tools strategically.	•I can use math tools such as number lines, calculators, objects, tables, etc. to solve a problem. •I can use estimates when problem-solving.	•What tools could we use to solve this problem? •What information do you have that might help?
6. Attend to precision.	•I can be careful when I use math and clear when I share my ideas. •I always think about whether my answer is reasonable! •I try to be efficient and concise when I solve a problem. (this looks different at various grade levels)	•How do you know your solution is reasonable? •How could you test your solution to see if it accurately answers the problem?

	•I can test my solution by solving a different way or by modeling the solution and checking for reasonableness.	
7. Look for and make use of structure.	•I can see and understand how numbers and shapes are put together as parts and wholes. •I look for patterns that can help me solve a problem. •I think about other problems I have solved before and whether they can help me with this problem. •I try to connect mathematical ideas.	•What do you notice when…? •What patterns do you find in…? •What are some other problems that are similar to this one?
8. Look for and express regularity in repeated reasoning.	•I can notice when calculations are repeated and use these ideas to create a strategy. •I think about whether patterns are always true in all situations. •I can create rules for patterns.	•Is this always true? •What do you notice about…? •What is happening in this situation?