# Grade 4: Math

**Solves multi-step word problems using all operations.**

| Performance Indicator | Does Not Meet | Partially Meets | Meets | Exceeds |
|---|---|---|---|---|
| Students will be able to identify and use pertinent information to solve a multistep problem with appropriate operations and revisit the problem to justify their solution. | I can write an equation using numbers from the problem. | I can make sense of a problem, represent it with an equation that has an unknown and then solve it. | After I accurately solve the problem, I can explain why my solution is reasonable. | I can explain similarities and differences between my thinking and someone else's. |

**Fluently adds and subtracts multi-digit whole numbers using the standard algorithm.**

| Performance Indicator | Does Not Meet | Partially Meets | Meets | Exceeds |
|---|---|---|---|---|
| Students will be able to add or subtract using the US algorithm. | I can add or subtract using the US algorithm with help. | I can add or subtract using the US algorithm, but I have a computational error. | I can accurately add and subtract using the US algorithm. | I can explain how the standard algorithm works. |

**Multiplies two digit by two digit and up to four digit by one digit using a variety of strategies and models.**

| Performance Indicator | Does Not Meet | Partially Meets | Meets | Exceeds |
|---|---|---|---|---|
| Students will be able to multiply multi-digit numbers using strategies based on place value and the properties of operations. | I can multiply by skip counting or using repeated addition. | I can accurately multiply using place value and properties of multiplication. | I can illustrate and explain my calculations using equations, arrays, and area models. | I can explain similarities and differences between my thinking and someone else's. |

**Divides up to four digits by one digit, with or without remainders, using a variety of strategies and models.**

| Performance Indicator | Does Not Meet | Partially Meets | Meets | Exceeds |
|---|---|---|---|---|
| Students will be able to divide four-digit dividends by one-digit divisors using strategies based on place value, the properties of operations, and the relationship between multiplication and division. | I can tell when I need to divide and I can set up the problem. I need help to solve. | I can accurately divide whole-numbers using place value, the properties of operations, and the relationship between multiplication and division. | I can illustrate and explain my calculations, including remainders, using equations, arrays, and area models. | I can explain similarities and differences between my thinking and someone else's. |

**Explains fraction equivalence using visual models.**

| Performance Indicator | Does Not Meet | Partially Meets | Meets | Exceeds |
|---|---|---|---|---|
| Students will be able to recognize and generate equivalent fractions by explaining the idea of equivalency. | I can identify equivalent fractions. | I can explain why fractions are equivalent using a model. | I can use what I know about equivalent fractions to come up with other fractions that are equivalent to them. | I can use what I know about equivalent fractions to help me add and subtract fractions with different denominators. |

**Compares two fractions with different numerators and different denominators.**

| Performance Indicator | Does Not Meet | Partially Meets | Meets | Exceeds |
|---|---|---|---|---|
| Students will be able to compare two fractions. | I can compare two fractions with the same numerator or the same denominator. | I can compare two fractions with different numerators and different denominators. I can record the comparison using the correct symbols: >, <, = | I can compare two fractions and justify my comparisons using a visual model. I record the comparisons using the correct symbols: >, <, = | I can compare two fractions and explain why my strategy makes sense for a particular situation. |

**Adds and subtracts fractions with like denominators.**

| Performance Indicator | Does Not Meet | Partially Meets | Meets | Exceeds |
|---|---|---|---|---|
| Students will be able to use what they know about unit fractions to add and subtract fractions. | I can add and subtract fractions with like denominators. | I can compose and decompose fractions in order to solve different types of addition and subtraction problems. | I can compose and decompose fractions in order to solve different types of addition and subtraction problems. I can explain my thinking by using visual fraction models and equations. | I can use what I know about composing and decomposing fractions to explain how I would add or subtract fractions that have unfamiliar or unlike denominators. |

**Multiplies a fraction by a whole number.**

| Performance Indicator | Does Not Meet | Partially Meets | Meets | Exceeds |
|---|---|---|---|---|
| Students will be able to multiply a fraction by a whole number. | I can solve different types of multiplication problems involving fractions with help from someone. | I can solve different types of multiplication problems involving fractions. | I can solve different types of multiplication problems involving fractions. I can explain my thinking by using visual fraction models and equations. | I can use what I know about multiplying a fraction with a whole number to explain how I would multiply two fractions. |

**Compares decimals up to hundredths by reasoning about their size.**

| Performance Indicator | Does Not Meet | Partially Meets | Meets | Exceeds |
|---|---|---|---|---|
| Students will be able to compare two decimals to the hundredths. | I can compare two fractions as decimals to the tenths. | I can compare two fractions as decimals to the hundredths. I can record the comparison using the correct symbols: >, <, = | I can compare two fractions as decimals to the hundredths by using the correct symbols: >, <, =. I can justify my comparisons using a visual model or words. | I can compare two fractions as decimals up to the thousandths by using the correct symbols: >, <, =. I can justify my comparisons using a visual model or words. |

# Math Practices

| *FOURTH GRADE* | *Does Not Meet* | *Partially Meets* | *Meets* | *Exceeds* |
|---|---|---|---|---|
| **MP.1: Make sense of problems and persevere in solving them** | I can solve problems and discuss how I solved them. With my teacher's help, I can determine whether or not my answer makes sense within the context of the problem. | I can solve problems, discuss how I solved them and determine whether or not my answer makes sense within the context of the problem. When I listen to how others solved a problem, I can make connections between different strategies. | Before solving, I can discuss the givens, constraints and extra information. I can solve problems, discuss how I solved them and determine whether or not my answer makes sense within the context of the problem. I can listen to others' strategies and try different approaches. I can use another strategy to check my answer. | I can discuss how the givens, constraints and my solution are related. I can use my solution to make conjectures. |
| **MP.2: Reason abstractly and quantitatively** | I can think about the units involved and the meaning of the quantities in a problem. I use manipulatives/pictures, and equations to represent and accurately solve the problem. | I can think about the units involved and the meaning of the quantities in a problem. Then I can use equations to create a logical representation of the problem and accurately solve the problem. | I can use what I know about quantities to write expressions, show calculations and represent or round numbers, including decimals and fractions. I can refer back to the problem context, evaluate my answer, and explain how it makes sense. | I can flexibly use properties to represent situations and explain their connection to the problem and its context. |
| **MP.3: Construct viable arguments and critique the reasoning of others** | I can consider my friends' feedback and use drawings, models and/or equations to refine or defend my argument. | I can come up with an argument based on what I know from solving the problem. I can use objects or drawings to support my argument or critique someone else's ideas. I can defend my argument. | I can explain other problems and examples to defend and clarify my thinking. | I can use my argument and the arguments of others to develop conjectures and generalizations during discussions. |
| **MP.4: Model with mathematics** | I can identify important information in order to represent real-life math situations with an equation. I can explain how my equation matches the problem. I can use objects or drawings to further explain my equation. | I can determine ways to simplify and then represent the problem. I can explain my representation of the problem and how it relates to my equations. | I can determine ways to simplify the problem and then model the problem. I can explain my representation of the problem and how it relates to my equations. I can reflect on whether or not my model was efficient and effective. I can revise or defend my model. | I can use what I learned from my model and solution to describe other real-world situations. |

| *FOURTH GRADE* | *Does Not Meet* | *Partially Meets* | *Meets* | *Exceeds* |
|---|---|---|---|---|
| **MP.5: Use appropriate tools strategically (ex: language, materials, symbols)** | I can choose a tool that directly models the problem. I can use this tool to solve the problem. I can choose appropriate measurement tools. With help, I use these tools to solve problems. | I can choose from various tools, including estimation, depending on the task. I can use appropriate measurement tools to solve problems. | I can choose from various tools, including estimation, depending on the task. I can use measurement tools to help me understand how units compare. | I can detect possible errors by analyzing someone else's work. I can explain why tools and solutions are different. |
| **MP.6: Attend to precision** | I can solve problems accurately and efficiently. I can justify my reasoning with precise math terms, labels, and symbols. | I can solve problems accurately and efficiently. I can justify my reasoning with precise math terms, labels, and symbols.<br>I can ask specific questions about someone else's work using precise math terms, labels, and symbols. | I can solve problems accurately and efficiently. I can justify my reasoning with precise math terms, labels, units, and symbols.<br>I can explain connections between my work and a friend's using precise math terms, labels, units, and symbols. | I can use precise definitions and math language when describing and analyzing the accuracy and efficiency of someone else's work. |
| **MP.7: Look for and make use of structure** | I can identify patterns and strategies that will help me solve problems. | I can find patterns and structures in math. I can use what I know about how different operations work to help me solve a variety of problems. | I can find patterns and structures in math. I can generate patterns that follow a rule. I can use what I know about how different properties work to help me solve a variety of problems and explain my calculations. | I can analyze patterns and rules with whole numbers and can explain how they relate to fractions, decimals, and different problems/operations. |
| **MP.8: Look for and express regularity in repeated reasoning** | When solving problems that are alike, I can tell how other similar problems can be solved. I can use my experiences with different types of problems to figure out efficient strategies. | I can use my experiences with different types of problems to figure out efficient strategies. I can use what I know about computation to help me come up with shortcuts for solving problems. | I can use my experiences with different types of problems to make generalizations about how math works. | I can model and explain why the generalizations work. I can explain the constraints of the generalization. |