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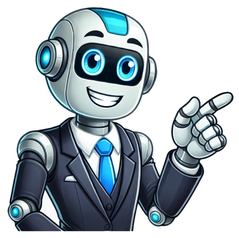

Third grade math standards

With forty-one states adopting the common core curriculum, there is a very good chance your child is following the common core state standards. Below we will provide you a detailed insight into the third-grade common core math standards and with valuable resources to help your child succeed in school and at home. What is Common Core? This is one of the most frequent questions we get asked by parents and across the board, there is confusion when it comes to the words "common core". Very simply, Common Core is a comprehensive list of standards that students need to know for English Language Arts (ELA) and math from kindergarten to 12th grade. Who created these common core standards? Highly qualified teachers and experts all over the United States helped create the framework of what we know today as the common core standards. The main objective of creating these common core standards is so students can develop their critical-thinking skills, analytical skills, and problem-solving skills. Grade 3 Common Core Math Standards OverviewThere are five main topics covered in the third-grade common core math standards.Operations & Algebraic ThinkingNumbers & Operations in Base TenNumbers & Operations - FractionsThe chart below provides a comprehensive review of the learning standards for third grade. The chart below provides a comprehensive review of the learning standards for second grade. Operations & Algebraic ThinkingRepresent and solve problems involving multiplication and division.3.OA.A.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. 3.OA.A.2 Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each.3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.13.OA.A.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers.Understand properties of multiplication and the relationship between multiplication and division.3.OA.B.5 Apply properties of operations as strategies to multiply and divide.3.OA.B.6 Understand division as an unknown-factor problem. Multiply and divide within 100.3.OA.C.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.Solve problems involving the four operations, and identify and explain patterns in arithmetic.3.OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.3.OA.D.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.Numbers & Operation in Base TenUse place value understanding and properties of operations to perform multi-digit arithmetic.3.NBT.A.1 Use place value understanding to round whole numbers to the nearest 10 or 100.3.NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.3.NBT.A.3 Multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.Numbers & Operation - Fractions Develop understanding of fractions as numbers.3.NF.A.1 Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.3.NF.A.2 Understand a fraction as a number on the number line; represent fractions on a number line diagram.3.NF.A.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.Measurement & DataSolve problems involving measurement and estimation.3.MD.A.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.3.MD.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.Relate addition and subtraction to length.3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using the information presented in scaled bar graphs.3.MD.B.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.Geometric measurement: understand concepts of area and relate area to multiplication and to addition.3.MD.C.5 Recognize area as an attribute of plane figures and understand concepts of area measurement.3.MD.C.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).3.MD.C.7 Relate area to the operations of multiplication and addition.Geometric measurement: recognize perimeter.3.MD.D.8 Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.GeometryReason with shapes and their attributes.3.G.A.1 Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.3.G.A.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.*The third-grade common core math standards were created by the NGA Center for Best Practices (NGA Center) and the Council of Chief State School Officers (CCSSO). NGA Center/CCSSO is not affiliated with CommonCoreMath by ArgoPrep nor do they endorse any ArgoPrep products or programs. Now that we understand the five main topics covered in third-grade math (Operations & Algebraic Thinking, Numbers & Operations in Base Ten, Numbers & Operations - Fractions, Measurement & Data, and Geometry), let's review in more detail what students are expected to learn throughout the year. Operations and Algebraic Thinking Operations and algebraic thinking require third-grade students to use the four operations (addition, subtraction, multiplication, and division). In the previous grades, we only dealt with addition and subtraction. Third grade introduces the concept of multiplication and division. Multiplication: By the end of the third grade, students should easily be able to solve any multiplication problem with products up to 100. They solve these problems by interpreting products of whole numbers such as 4x3 as the total number of objects in 4 groups of 3 objects.It's important to note that in multiplication we are combining groups of objects where the first number represents the number of groups and the second number represents the number of objects. Students should be able to draw a picture to represent multiplication equations as well as write equations to represent pictures given. Let's take a look at an example. (Example) Write an equation to represent the following. Third-grade students will also deal with basic multiplication word problems. Let's take a look at an example. (Example) Angel bought 4 packets of sweets. Each pack has 5 sweets inside. How many sweets did Angel buy? Drawing a diagram is ideal so students can visually see the answer. When students are first introduced to multiplication-based word problems, diagrams like this are especially helpful because students can first add up all the objects (in this case sweets). There are 5 sweets in each box and there are 4 boxes. If you add up the sweets, the answer is 20. Division: Aside from learning multiplication, third-grade students are also introduced to division. Common core requires that the two methods of division (quotative and partitive) be introduced to students. The quotative or measurement model requires students to solve the problem to find the number in each group by providing them with the total number of objects in each group. This problem can be solved by using the skip-count method. (Example) 12÷4=1111 1111 1111. We can see the answer is 3 because we have 4 objects in each group and a total of 12. The outcome is 3 groups. On the other hand, the partitive/ fair division model requires the student to solve a problem and find the number in each group by providing them with the total number of objects and the number of groups. (Example) There are 15 sweets equally distributed in 5 packets. How many sweets are in each packet? We can solve this problem using repeated subtraction OR division. For repeated subtraction, take the 15 sweets and subtract 5 repeatedly until none is left. 15 - 5 = 10 10 - 5 = 5 5 - 5 = 0 Therefore, the number of sweets in each packet is 3. Students can also solve this same problem using direct division. Divide the total number of items (dividend) by the total number of groups (divisor) to get the answer (quotient). That concludes the topics covered in this section. If you haven't already done so, be sure to check out our award-winning K-8 Math & ELA program to help boost your child's score and increase confidence. The correct answer is 3 x 3 = 9. Students should recognize there are 3 groups and each group has 3 objects. Numbers & Operations in Base 10 The common core math standards require students to be able to solve problems by using the place value to round off whole numbers to the nearest 10 or 100. One of the main goals under this unit is to round off to the number with the nearest zero ones or zero tens. (Example) 539 rounded off to the nearest tens is 540. However, if we round off to the nearest hundreds, 539 becomes 500. This is an important difference and students need to be aware of what place value they are rounding off to. With the knowledge of place value and properties of operation from the first unit (Operations & Algebraic Thinking), students should be able to solve subtraction problems within 1,000. Finally, the last standard covered under Numbers & Operations in Base 10 unit is working with one-digit whole numbers and multiplying it by numbers such as 10, 20, 30, 40, 50, 60, 70, 80, and 90. (Example) 7 x 10 = 70 5 x 30 = 150 2 x 90 = 180Numbers & Operations - Fractions Under this unit, students in third-grade are introduced to visual representations such as models, the number line, and the fraction strip to develop a conceptual understanding of the meaning of a fraction. They are expected to work with unit fractions in order to understand the meaning of the terms numerator and denominator. It's important to note in the third grade, the denominator is limited to numbers 2, 3, 4, 6, and 8.While working with fractions at this grade level, an important concept is equivalent fractions. Students should understand that two fractions are equivalent (equal) if they are the same size, or if they are on the same point on a number line. Additionally, students should be able to compare two fractions with the same numerator or the same denominator by analyzing their size. They should also understand that comparisons are valid only when the two fractions refer to the same whole. This is where they represent the comparisons using symbols such as ≥ or ≤. (Example) ½ an apple is ≥ than ¼ of an apple. Here's a visual diagram to better visualize why ½ is greater than ¼ The image on the left represents one-half which is shaded in more than the image on the right which represents one-fourth. If you haven't already done so, be sure to check out our award-winning K-8 Math & ELA program to help boost your child's score and increase confidence. Measurement & Data When students get to the third grade, they are taught a variety of models relating to measurement and data. They measure physical objects using standard measuring tools, such as rulers. Students continue to build a deeper understanding of time by telling and writing time to the nearest minute and by solving problems on elapsed time. The topic of area and perimeter is also introduced under this unit. While building upon second-grade, at this grade students work with both mass and volume. When learning topics in this unit, it's vital that students are already comfortable with fractions because in the topic of measurement, students will need to be able to measure to the closest one-half and one-quarter inch. Geometry Third-grade students are introduced to more shapes and their attributes and are expected to understand them and solve any problem given in relation to them. These shapes include; the rectangle, rhombus, square, etc. At the end of every year, students should be able to partition given shapes into equal parts and represent them in fractions to represent the whole.(Example) Partition a shape into four parts that have an equal area and describe the area of each part as 1/4 of the area of the shape. If you are looking to boost your child's math score, you've come to the right place! Aside from the free learning resources Common Core Math by ArgoPrep has to offer, our award-winning comprehensive K-8 Math & ELA subscription-based platform offers everything your child needs to boost their scores. >> Common Core Math Standards Main Page Welcome to 3rd Grade Common Core Math Standards Resource Page! This page is your go-to guide for understanding and implementing the 3rd Grade Common Core State Standards for Mathematics. Below, you'll find a complete list of all the standards and skills, along with resources to help make your teaching more effective and efficient. The Common Core Math Standards are organized into broad categories called Domains, with specific skills outlined under each. Within each Domain, Clusters group related standards that progress in complexity, ensuring a clear and cohesive structure for learning at each grade level. For 3rd grade, the key Domains include: Each Cluster is further broken down into Standards, which are specific skills or concepts that students are expected to learn. For example, the standard 3.OA.C.7 focuses on fluently multiplying and dividing within 100 using strategies such as the relationship between multiplication and division or properties of operations. Click on a domains (buttons linked above) to start exploring! Cluster A: 3.NBT.A – Use place value understanding and properties of operations to perform multi-digit arithmetic Cluster A: 3.OA.A – Represent and solve problems involving multiplication and division Cluster B: 3.OA.B – Understand properties of multiplication and the relationship between multiplication and division Cluster C: 3.OA.C – Multiply and divide within 100 Cluster D: 3.OA.D – Solve problems involving the four operations, and identify and explain patterns in arithmetic Cluster A: 3.MD.A – Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects Cluster B: 3.MD.B – Represent and interpret data Cluster C: 3.MD.C – Understand concepts of area and relate area to multiplication and addition Cluster D: 3.MD.D – Recognize perimeter as an attribute of plane figures and distinguish between linear and area measures Cluster A: 3.NF.A – Develop understanding of fractions as numbers Cluster A: 3.G.A – Reason with shapes and their attributes