## DK Common Core State Standards Alignment for Mathematics



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## Analyze patterns and relationships.

- CCSS.Math.Content.5.OA.B. 3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6 " and the starting number 0 , generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.


## Understand the place value system.

- CCSS.Math.Content.5.NBT.A. 1 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 $1 / 10$ of what it represents in the place to its left.
- CCSS.Math.Content.5.NBT.A. 3 Read, write, and compare decimals to thousandths.
- CCSS.Math.Content.5.NBT.A.3a Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392=3 \times 100+4 \times 10+7 \times 1+$ $3 \times(1 / 10)+9 \times(1 / 100)+2 \times(1 / 1000)$.
- CCSS.Math.Content.5.NBT.A.3b Compare two decimals to thousandths based on meanings of the digits in each place, using $>==$, and $<$ symbols to record the results of comparisons.
- CCSS.Math.Content.5.NBT.A. 4 Use place value understanding to round decimals to any place.


## Perform operations with multi-digit whole numbers and with decimals to hundredths.

- CCSS.Math.Content.5.NBT.B.5 Fluently multiply multi-digit whole numbers using the standard algorithm.
- CCSS.Math.Content.5.NBT.B.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/ or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/ or area models.


## Apply and extend previous understandings of multiplication and division.

- CCSS.Math.Content.5.NF.B. 3 Interpret a fraction as division of the numerator by the denominator $(\mathrm{a} / \mathrm{b}=\mathrm{a} \div \mathrm{b})$. Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. For example, interpret $3 / 4$ as the result of dividing 3 by 4 , noting that $3 / 4$ multiplied by 4 equals 3 , and that when 3 wholes are shared equally among 4 people each person has a share of size $3 / 4$. If 9 people want to share a 50 -pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?
- CCSS.Math.Content.5.NF.B. 4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.
- CCSS.Math.Content.5.NF.B. 5 Interpret multiplication as scaling (resizing), by:
- CCSS.Math.Content.5.NF.B.5a Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.
- CCSS.Math.Content.5.NF.B. 6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
- CCSS.Math.Content.5.NF.B. 7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. ${ }^{1}$
- CCSS.Math.Content.5.NF.B.7c Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share $1 / 2 \mathrm{lb}$ of chocolate equally? How many $1 / 3$-cup servings are in 2 cups of raisins?


## Convert like measurement units within a given measurement system.

- CCSS.Math.Content.5.MD.A. 1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m ), and use these conversions in solving multi-step, real world problems.


## Graph points on the coordinate plane to solve real-world and mathematical problems.

- CCSS.Math.Content.5.G.A. 1 Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., $x$-axis and $x$ coordinate, y -axis and y -coordinate).
- CCSS.Math.Content.5.G.A. 2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.


## Classify two-dimensional figures into categories based on their properties.

- CCSS.Math.Content.5.G.B. 3 Understand that attributes belonging to a category of twodimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.
- CCSS.Math.Content.5.G.B. 4 Classify two-dimensional figures in a hierarchy based on properties.

