

Math | Scope & Sequence

number sense and numeration

fundamentals of the decimal system

| | P3 | P4 | K | 1 | 2 | 3 | 4 | 5 | 6 |
|---|----|-------|--------|--------|--------|--------|--------|--------|--------|
| Count to 10 by units | ● | ● KN1 | ● KN1 | ● | | | | | |
| Associate number to numeral (1-10) | ● | ● KN2 | ● KN2 | ● | | | | | |
| Identify odd and even numbers/numerals and counters(1-10) | | ● | ● | ● 2N5 | 2N5 | | | | |
| Concept of odd and even numbers | | ● | ● | ● 2N5 | ● 2N5 | ● | | | |
| Count from 11 to 19 by units | | ● KN1 | ● KN1 | ● | | | | | |
| Count from 1 to 100 by units | | ● | ● | ● 2N1 | 2N1 | | | | |
| Count by tens to 100 combining quantity and symbol | | ● KP4 | ● KP4 | ● 2P4 | 2P4 | | | | |
| count from 1 to 1000 | ● | ● | ● | ● 2N1 | ● 2N1 | | | | |
| Identify and distinguish between multiple uses of numbers (ie. cardinal numbers and ordinal numbers) | | | ● KN3 | ● KN2 | KN2 | | | | |
| Represent order and compare numbers using expanded notation (ie. 1572, 1 thousand+5 hundreds+7 tens+2 units) | | | ● | ● 2N1 | ● 2N1 | ● 4N2 | 4N2 | | |
| Round whole numbers to the nearest 10s, 100s, 1000s | | | | | ● | ● 4N16 | ● 4N16 | ● | ● |
| Estimate number of objects and verify using objects and drawings to solve related addition and subtraction problems to ten | | KN8 | ● *KN8 | ● 2N12 | ● 2N12 | ● 4N17 | ● 4N17 | ● | ● |
| Select and use a variety of strategies (front-end, rounding and regrouping) to estimate quantities | | | | | | ● | ● | ● | ● |
| Compare whole numbers using terms and symbols ie.none, one more than, fewer than, same number of and one more than. Identify "Greater than..(>), Less than..(<), and Equal to..(=)" | | | ● KN4 | ● 2N4 | ● 2N4 | ● | | | |
| Identify the relationships between quantities involving multiple operations (3x4=2x3) | | | | ● | ● | ● 4N9 | ● 4N9 | ● 6N3 | ● 6N3 |
| Identify and distinguish between multiple uses of numbers (ie. As labels ab=nd measurements) | | | | ● *2N2 | ● *2N2 | ● | ● | ● | ● |
| Apply the order of operations for expressions involving addition, subtraction, multiplication, and division (PEMDAS and FOIL) | | | | | ● | ● | ● | ● 6N11 | ● 6N11 |

numerical place value

| | P3 | P4 | K | 1 | 2 | 3 | 4 | 5 | 6 |
|--|----|----|---|-------|-------|-------|-------|-------|-------|
| Recognize quantities up to 9,999 | | | ● | ● | ● 4N1 | ● 4N1 | | | |
| Identify numbers by place value | | | ● | ● 2N1 | ● 2N1 | ● 4N1 | ● 4N1 | ● 6N2 | ● 6N2 |
| Recognize quantities up to 9,999,999 | | | | ● | ● | ● | ● | ● 6N3 | ● 6N3 |
| Recognize quantities up to 999,999,999 | | | | | | ● | ● | ● 6N2 | ● 6N2 |

additional topics

| | P3 | P4 | K | 1 | 2 | 3 | 4 | 5 | 6 |
|--|----|----|---|---|---|---|---|-------|---|
| Recognize irrational numbers (ie. A number without a repeating pattern pi) | | | | | | | ● | ● | ● |
| Identify Roman numerals (enrichment) | | | | ● | ● | ● | ● | | |
| Demonstrate an understanding of positive integer exponents, in particular, when used in powers of ten. | | | | | | | ● | ● 6N1 | ● |

rounding off numbers

| | P3 | P4 | K | 1 | 2 | 3 | 4 | 5 | 6 |
|---|----|----|---|--------|--------|--------|--------|--------|--------|
| Round whole numbers off to nearest unit of tens, hundreds, thousands | | | | | ● | ● 4N16 | ● 4N16 | | |
| Round whole numbers off to nearest unit of ten thousand to million | | | | | | ● 4N16 | ● 4N16 | ● | ● |
| Round mixed numbers off to the nearest whole numbers | | | | | | ● | ● | ● | ● |
| Round whole numbers off to nearest unit of tenths, hundredths, or thousandths | | | | | | ● | ● | ● | ● |
| Estimate, calculate, and solve problems involving addition and subtraction of two digit numbers. Describe differences between estimates and actual calculations | | | | ● 2N12 | ● 2N12 | ● | ● | ● | ● |
| Estimate sums, differences, products, or quotients, using very large sums or very small | | | | | | ● | ● | ● 6N16 | ● 6N16 |

power of numbers

| | P3 | P4 | K | 1 | 2 | 3 | 4 | 5 | 6 |
|--|----|----|---|---|---|-------|---|---|---|
| Name the square of the numbers 1-10 | | | ● | ● | ● | ● 4N7 | ● | ● | ● |
| Name the cubes of the numbers | | | ● | ● | ● | ● | ● | ● | ● |
| Calculate the square of a binomial | | | | | | ● | ● | ● | ● |
| Calculate the square of a trinomial | | | | | | | ● | ● | ● |
| Calculate the cube of a binomial | | | | | | | | ● | ● |
| Calculate the cube of a trinomial | | | | | | | | | ● |
| Calculate square roots | | | | ● | ● | ● 4N7 | ● | ● | ● |
| Calculate the square root of binomial | | | | | | | | ● | ● |
| Calculate the square root of a trinomial | | | | | | | | | ● |
| Calculate cube roots | | | | | | | | | ● |
| Calculate the cube roots of binomials and trinomials | | | | | | | | | ● |

negative numbers

| | P3 | P4 | K | 1 | 2 | 3 | 4 | 5 | 6 |
|--|----|----|---|---|---|---|---|--------|--------|
| Explore negative numbers | | | | ● | ● | ● | ● | ● 6N6 | ● 6N6 |
| Order positive and negative numbers | | | | | ● | ● | ● | ● 6N7 | ● 6N7 |
| Name additive inverses for positive and negative numbers | | | | | | | ● | ● 6N10 | ● 6N10 |
| Use the number line to model addition and subtraction of integers, with the exception of subtracting negative integers | | | | | | | ● | ● 6N10 | ● 6N10 |
| Add and subtract integers, with the exception of subtracting negative integers | | | | | | | ● | ● 6N15 | ● 6N15 |
| Multiply positive and negative numbers | | | | | | | | ● | ● |
| Name reciprocals for positive and negative numbers | | | | | | | | | ● |
| Divide positive and negative numbers | | | | | | | | ● | ● |
| Simplify expressions using two or more operations and positive and negative numbers | | | | | | | | ● 6N11 | ● |

operations with whole numbers

addition with materials

| | P3 | P4 | K | 1 | 2 | 3 | 4 | 5 | 6 |
|---|----|-------|---|-------------|-------------|-------|------|---|---|
| Identify the process of addition using proper nomenclature (addend, plus, combine with, more) | ● | ● | | ● 2N7& 2N11 | ● 2N7& 2N11 | ● | | | |
| Write number sentences using + - < > = | | | | ● 2P6 | ● 2P6 | ● | | | |
| Add two 1, 3 and 4 digit addends without exchanging | ● | ● | | ● 2N10 | ● 2N10 | | | | |
| Add two 1, 3 and 4 digit addends with exchanging | | | ● | ● 2N10 | ● 2N10 | ● | 4N12 | | |
| Add multiple addends | | | ● | ● 2N11 | ● 2N11 | | | | |
| Work on exercises leading to the memorization of addition facts tables | ● | ● KN7 | ● | ● 2N9 | ● 4N9 | ● | | | |
| Use and explain the commutative law | | | ● | ● | ● 4N9 | ● 4N9 | ● | | |
| Use and explain the associative law | | | | | ● 4N9 | ● 4N9 | ● | ● | |

fraction

| | P3 | P4 | K | 1 | 2 | 3 | 4 | 5 | 6 |
|--|----|----|---|-------|-------|-------|-------|---|---|
| Introduction to fractions | | | | ● KN5 | ● 2N3 | ● 2N3 | | | |
| Recognize fractions: concrete material and symbol | | | | ● KN5 | ● 3N3 | ● 2N3 | | | |
| Understand the concept of whole and half | | | | ● KN5 | ● 2N3 | ● 2N3 | | | |
| Understand the concept of 1/3 and 1/4 | | | | | ● 2N3 | ● 2N3 | | | |
| Identify and represent common fractions as parts of groups | | | | ● 2N3 | ● 2N3 | ● 4N3 | ● 4N3 | | |
| Identify fractions as numbers on a number line | | | | | | ● 4N3 | ● 4N3 | | |
| Identify equivalences | | | | | ● | ● 4N3 | ● 4N3 | ● | |
| Ability to order and apply < > = | | | | | ● | ● 4N3 | ● 4N3 | ● | |

operations with fraction

| | P3 | P4 | K | 1 | 2 | 3 | 4 | 5 | 6 |
|--|----|----|---|---|---|--------|--------|--------|--------|
| Add fractions that share a common denominator using concrete objects and visual models | | | | | ● | ● 4N18 | ● 4N18 | ● 6N14 | ● 6N14 |
| Subtract fractions that share a common denominator | | | | | ● | ● 4N18 | ● 4N18 | ● 6N14 | ● 6N14 |
| Multiply a whole number by a simple fraction | | | | | | ● 4N18 | ● 4N18 | ● 6N14 | ● 6N14 |
| Divide a fraction by a whole number | | | | | | ● 4N18 | ● 4N18 | ● 6N14 | ● 6N14 |
| Add fractions that have different denominators | | | | | | ● 4N18 | ● 4N18 | ● 6N14 | ● 6N14 |
| Subtract fractions that have different denominators | | | | | | ● 4N18 | ● 4N18 | ● 6N14 | ● 6N14 |
| Multiply a fraction by a fraction | | | | | | ● | ● | ● 6N14 | ● 6N14 |
| Divide fractions by fractions | | | | | | | ● | ● 6N14 | ● 6N14 |

improper fractions: mixed numbers

| | P3 | P4 | K | 1 | 2 | 3 | 4 | 5 | 6 |
|--|----|----|---|-------|-------|-------|-------|-------------|-------------|
| Simplify improper fractions as whole numbers: 12/6 = 2 | | | | | ● | ● | ● | ● 6N5, 6N14 | ● 6N5, 6N14 |
| Simplify improper fractions as mixed numbers: 15/6 = 2 1/2 | | | | | | ● | ● | ● 6N5, 6N14 | ● 6N5, 6N14 |
| Add mixed numbers | | | | | | | ● | ● 6N14 | ● 6N14 |
| Subtract mixed numbers | | | | | | | ● | ● 6N14 | ● 6N14 |
| Multiply mixed numbers | | | | | | | ● | ● 6N14 | ● 6N14 |
| Divide mixed numbers | | | | | | | ● | ● 6N14 | ● 6N14 |
| Identify and use number lines | | | | ● 2N3 | ● 2N3 | ● 4N3 | ● 4N3 | ● 6N5 | ● 6N5 |

decimal fraction

| | P3 | P4 | K | 1 | 2 | 3 | 4 | 5 | 6 |
|---|----|----|---|---|---|-------|-------|------------|------------|
| Introduction to decimal fractions | | | | | | ● 4N5 | ● 4N5 | ● 6N5 | ● 6N5 |
| Identify nomenclature and recognize decimal fractions to .9999 | | | | | | ● 4N6 | ● 4N6 | ● 6N2 | ● 6N2 |
| Identify equivalences to regular fractions: 1/2 to 1/10 | | | | | ● | ● 4N5 | ● 4N5 | ● 6N5 | ● 6N5 |
| Identify equivalences to any other regular fractions | | | | | | ● 4N5 | ● 4N5 | ● 6N5 | ● 6N5 |
| Ability to order and apply (< > =) decimal fractions using the decimal checkerboard | | | | | | 4N4 | ● 4N4 | ● 6N6, 6N7 | ● 6N6, 6N7 |

operations with decimal fraction

| | P3 | P4 | K | 1 | 2 | 3 | 4 | 5 | 6 |
|--|----|----|---|---|---|-------|-------|--------|--------|
| Add decimal fractions | | | | | | | ● | ● 6N13 | ● 6N13 |
| Subtraction decimal fractions | | | | | | | ● | ● 6N13 | ● 6N13 |
| Multiply decimal fractions | | | | | | | ● | ● 6N13 | ● 6N13 |
| Identify nomenclature and recognize decimal fractions to .999999 | | | | | | | ● | ● 6N2 | ● 6N2 |
| Convert fractions (less than 1) to percent equivalents | | | | | | ● 4N5 | ● 4N5 | ● 6N5 | ● 6N5 |
| Convert percents (less than 1) to fraction equivalents | | | | | | | ● 4N5 | ● 6N5 | ● 6N5 |

ratios & percents

| | P3 | P4 | K | 1 | 2 | 3 | 4 | 5 | 6 |
|---|----|----|---|-------|-------|-------|-------|--------|--------|
| Write the ratio of two quantities as a fraction | | | | | | 4NE | 4NE | ● 6N4 | ● 6N4 |
| Solve for a missing term in a proportion | | | | | | | | ● 6NE | ● 6NE |
| Write a ratio with a denominator of 100 as a percent (%) and a percent as a ratio with a denominator | | | | | | | | ● 6N4 | ● 6N4 |
| Write a decimal (less than 1) as a percent and a percent (less than 100%) as a decimal | | | | | | | | ● 6N5 | ● 6N5 |
| Write a percent as a fraction in simplest form and a common fraction as a percent | | | | | | | | ● 6N5 | ● 6N5 |
| Find a percent (greater than 1% but less than 100%) of a given number | | | | | | | | ● 6N9 | ● 6N9 |
| Write a decimal (greater than 1) as a percent and a percent (greater than 100%) as a decimal | | | | | | | | ● 6N9 | ● 6N9 |
| Use a proportion to determine the number of which a given number is a percent | | | | | | | | ● 6N9 | ● 6N9 |
| Identify and position percentages and mixed numbers on a number line | | | | | | | | ● 6N6 | ● 6N6 |
| Use the number line to model addition and subtraction of integers with the exception of subtraction negative integers | | | | ● 2N3 | ● 2N3 | ● 4N3 | ● 4N3 | ● 6N10 | ● 6N10 |

data analysis , statistics & probability

graph

| | P3 | P4 | K | 1 | 2 | 3 | 4 | 5 | 6 |
|---|-----|----|-------|-------|-------|------------|------------|-------|-------|
| Collect, sort, organize and draw conclusions about data collected (using tally marks) | KD1 | | ● KD1 | ● 2D2 | ● 2D2 | ● 4D1 | ● 4D1 | ● 6DE | ● 6DE |
| Read graphs and make inferences from the information graphically displayed | KD1 | | ● KD1 | ● 2D2 | ● 2D2 | ● 4D3 | ● 4D3 | ● 6D2 | ● 6D2 |
| Read picture graphs | KD1 | | ● KD1 | ● 2D2 | ● 2D2 | ● 4D3 | ● 4D3 | ● 6D2 | ● 6D2 |
| Read circle graphs | | | | ● 2D2 | ● 2D2 | ● 4D3 | ● 4F3 | ● 6D2 | ● 6D2 |
| Read bar graphs | | | | ● 2D2 | ● 2D2 | ● 4D3 | ● 4D3 | ● 6D2 | ● 6D2 |
| Read line graphs | | | | ● 2D2 | ● 2D2 | ● 4D3 | ● 4D3 | ● 6D2 | ● 6D2 |
| Prepare picture graphs from gathered data | | | ● | ● 2D2 | ● 2D2 | ● 4D3 | ● 4D3 | ● 6D2 | ● 6DE |
| Prepare circle graphs from gathered data | | | | | | 4D2 | ● 4D2 | ● 6D2 | ● 6D2 |
| Prepare bar graphs from gathered data | | | | ● 2D2 | ● 2D2 | ● 4D3 | ● 4D3 | ● 6D3 | ● 6D3 |
| Prepare line graphs from gathered data | | | | | | ● 4D3 | ● 4D3 | ● 6D2 | ● 6D2 |
| Prepare graphs for two variables | | | | | | | ● | ● 6D6 | ● 6D6 |
| Prepare circle using a different scale | | | | | | | ● | ● 6D2 | ● 6D2 |
| Tabulate data into a table | | | | ● 2D2 | ● 2D2 | ● 4D3, 4P4 | ● 4D3, 4P4 | ● 6P4 | ● 6P4 |

coordinate graphs

| | P3 | P4 | K | 1 | 2 | 3 | 4 | 5 | 6 |
|--|----|----|---|---|---|------------|------------|-------|-------|
| Show location on a 2-axis grid as blocks over or up from one axis | | | | | | | | ● 6P6 | ● 6P6 |
| Identify the location of a given ordered pair on a grid | | | | | | ● 4P6, 4G6 | ● 4P6, 4G6 | ● | ● |
| Give location on a grid and identify the ordered pair | | | | | | ● 4P6, 4G6 | ● 4P6, 4G6 | ● | ● |
| Locate points for given coordinates and name the coordinates of a given point in any of the four | | | | | | ● 4G6 | ● 4G6 | ● 6G4 | ● 6G4 |

introduction to statistics

| | P3 | P4 | K | 1 | 2 | 3 | 4 | 5 | 6 |
|---|----|----|---|---|---|-------|-------|-------|-------|
| Determine the "average" for given data | | | | | | ● | ● | ● 6D1 | ● 6D1 |
| Determine the "mean" for given data and identify it on a graph | | | | | | | ● | ● 6D1 | ● 6D1 |
| Determine the "median" for given data and identify it on a distribution table | | | | | | | ● | ● 6D1 | ● 6D1 |
| Construct a frequency table | | | | | | | | | ● 6D |
| Calculate probability | | | | ● | ● | ● 4D4 | ● 4D4 | ● 6D3 | ● 6D3 |

