

Number and Operations: Whole Numbers Compacted DesCartes

Counting

Counts numbers...

151-160	To 20
161-170	To 100 1 st -10 th
171-180	To 1000 1 st -10 th By 2s to 100 and writes by 5s Of objects that are grouped into tens and ones
181-190	1000 And writes by 3-4s, 6-9s 1 st -10 th Of objects that are grouped into tens and ones

Place Value

Identifies...

171-180	Place value through the tens place Numerals and written names for numbers to 10,000
181-190	Place value through the hundred thousands place Numerals and written names for numbers to 10,000
191-200	Place value through the hundred thousands place Numerals and written name for numbers through the billions
201-210	Place value through the billions Numerals and written names for numbers through the billions

Place Value

Identifies...

161-170	Missing numbers in a series through 100 Numbers using pictures
171-180	Same as above Numerals and written names for ordinal numbers 0-20 th that come before, between, or after a given ordinal number Numbers that come between two given numbers
181-190	Missing numbers in a series through 100 Numbers that are "one more than" or "one less than" a given number Ordinal numbers that come before, between, or after a given ordinal number
191-200	Numerals and written name for ordinal numbers 0-100 th that come before, between, or after a given ordinal number Numbers that are "one more than" or "one less than" a given number
201-210	Numerals and written names for ordinal numbers 0-100 th Numbers that come before and after any given number through 999
211-220	Numbers less than and beyond 1000 using 2D & 3D models

Standard & Expanded Form**Writes numbers in standard and expanded form using place value terms and vice versa through the...**

161-180	Tens
181-200	Hundreds
201-220	Through the hundred thousands

Problem Solving**Solves problems...**

181-200	Using ordinal numbers
201-210	Using ordinal numbers By applying base ten place value concepts

Comparisons**Compares...**

171-180	Numbers through 999 Numbers using pictures
181-190	Numbers through 9999
191-200	Numbers through 999,999 Sets of objects and identifies (=,<,>) through the thousands
201-210	Numbers through 999,999 Sets of objects and identifies (=,<,>) through the billions

Ordering**Orders...**

161-170	Numbers 0-10
171-180	Numbers 0-10 Sets of objects 0-20
181-190	Sets of objects 0-20 Numbers through 999
191-200	Numbers through 9999
201-210	Numbers through the billions
211-220	No skills addressed at this level
221-230	Numbers through the billions using symbols

Rounding**Rounds...**

181-200	2- and 3-digit numbers to the nearest hundred
201-210	4-, 5-, and 6-digit numbers to the nearest thousand And explains the rules for rounding
211-220	4-, 5-, and 6-digit numbers to the nearest ten thousand
221-230	4-, 5-, and 6-digit numbers to the nearest ten billion

Addition**Adds...**

Below 150	Using a number line to construct addition facts with sums through 20
151-160	Same as above Using models to calculate whole numbers with sums through 99
161-170	Two 1-digit numbers with sums to 10 in horizontal format 2 to 3-digit numbers with no regrouping, with sums under 1000 Using models to calculate whole number sums through 999
171-180	Using a number line to construct addition facts with sums through 20 2 or 3-digit numbers with regrouping with sums under 1000 Multiple digit numbers with no regrouping with sums over 1000 Using models to calculate whole number sums through 999
181-190	Using a number line to construct addition facts with sums through 20 Demonstrating an understanding that vertical and horizontal representations are equivalent Multiple digit numbers with regrouping with sums over 1000 Using mental computation with 4 addends
191-200	3 and 4-digit numbers with regrouping
201-210	Multiple digit numbers with regrouping with sums over 1000 Using mental computation with more than 4 addends Demonstrating an understanding of the associative, commutative, and zero, and symmetric ($10=2+8$ is the same as $2+8=10$) property of addition
211-220	Demonstrating an understanding of the associative, commutative, and zero, and symmetric ($10=2+8$ is the same as $2+8=10$) property of addition Demonstrating an understanding of the inverse relationship with subtraction

Addition**Uses strategies to...**

161-170	Solve facts (e.g. compatible numbers, counting on, doubles, neighbors, making tens) Solve problems with sums to 20
171-180	Solve problems with sums to 1000 Solve facts (compatible numbers, counting on, doubles, neighbors, making tens)
181-190	Solve problems with sums to 1000
191-200	Judge the reasonableness of given answers Solve word problems with sums over 1000
201-210	Determine 2 or more missing digits Solve magic squares and related puzzles Solve problems with sums to 100
211-220	Determine 2 or more missing digits Solve magic squares and related puzzles Predict the relative size of the answer
221-230	Predict the relative size of the answer Model algorithms using place value concepts
231-240	Model algorithms using place value concepts

Subtraction

Subtracts...

- 161-170 Two 1-digit numbers, horizontally and vertically
Using models to calculate differences through 100
- 171-180 3-digit numbers with no regrouping
Using models to calculate differences through 1000
Understanding that vertical and horizontal representations are equivalent
- 181-200 4-digit numbers with regrouping
Mentally with numbers with numbers under 1000
Using a number line with subtrahends and minuends through 20
- 181-200 4-digit numbers with regrouping
Using mental computation with numbers with numbers over 1000
Using a number line with subtrahends and minuends through 20
- 201-210 5-digit numbers with regrouping
- 210-220 Understanding the inverse relationship with addition

Subtraction

Uses strategies to...

- 161-180 Solve facts (counting back, one/two less)
- 181-190 Find differences with 2-digit numbers (e.g. decomposing, compatible, compensation, counting on)
Solve word problems under 1000
- 191-200 Find differences with 2-digit numbers (e.g. decomposing, compatible, compensation, counting on)
Judge the reasonableness of given answers
Solve word problems with numbers over 1000
- 201-220 Determine 2 or more missing digits
Solve magic squares and related puzzles
- 221-240 Model algorithms using place value concepts

Multiplication

- 161-170 Instantly recalls basic facts to 5
- 171-180 Same as above
Multiplies basic facts to 10
- 181-190 Multiplies basic facts to 10
Multiplies 2 by 1-digit number with regrouping
- 191-200 Instantly recalls basic facts to 12
Multiplies a 3 by 3-digit number with no regrouping
Multiplies a 2 by 1-digit number with regrouping
- 201-210 Instantly recalls basic facts to 12
Multiplies a 3 by 2-digit number with regrouping
Multiplies a 2 by 2-digit number with no regrouping
Performs mental computation
- 211-220 Multiplies a 3 by 3-digit number with regrouping
Multiplies a 4 or more digit number by multiples of 1000
Evaluates a numerical equation involving more than one operation
Performs mental computation
Predicts relative size of answer

221-230 Multiplies multiple digit numbers

Multiplication Problem Solving

- 181-190 Solves word problems involving basic facts to 10
Models multiplication algorithms using arrays
Models whole number multiplication algorithms (shows multiplication as repeated addition)
Demonstrates an understanding of inverse relationship with division
- 191-200 Solves word problems with products greater than 100
Uses strategies to determine missing digit
Models algorithms (shows multiplication as repeated addition)
- 201-210 Solves word problems with products greater than 100
Solves word problems involving 2-step operations
Models algorithms (uses physical materials to show 4 groups of 3 objects)
- 211-220 Uses strategies to determine 2 or more missing digits
Solves problems using the inverse
Solves problems involving 2-step operations
Models algorithms (uses physical materials to show 4 groups of 3 objects)
- 221-230 Uses strategies to develop computational fluency (doubles, 9-patterns, decomposing partial products)
Solves multiple step problems
Models algorithms using place value concepts
- 231-240 Models algorithms using place value concepts

Multiplication Properties

Demonstrates and understanding of...property

- 181-190 Zero
- 191-200 Zero, commutative, and identity
- 201-210 Commutative and symmetric
- 211-230 Associative, commutative, distributive

Division

- 181-190 Instantly recalls division facts to 9
- 191-200 Instantly recalls division facts to 11
Divides a 2 by 1-digit number with no remainder
Uses repeated subtraction
- 201-210 Instantly recalls division facts to 12
Divides a 2 by 3-digit and 4 by 1-digit with remainder
Divides a 4 by 2-digit with no remainder
Evaluates a numerical equation involving more than one operation
- 211-220 Divides a 4 by 2-digit number with no remainder
Expresses remainder as decimal
Uses and evaluates number sense strategies to solve word problems
Performs mental computation
- 221-230 Divides a 4 by 2-digit number
- 231-240 Divides multiple-digit numbers
Predicts the relative size of an answer

Division Problem Solving

- 181-190 Solves word problems involving basic facts to 10
Solves word problems with dividends and divisors less than 11, involving money
Models algorithms using arrays and division as repeated subtraction
Demonstrates an understanding of inverse relationship
- 191-200 Solves word problems with division facts to 10, with remainders
- 201-210 Solves word problems with products over 100 and division facts to 10
- 211-220 Solves complex word problems (e.g. 2-step, 2-digit divisor)
- 221-230 Same as above
Predicts the relative size of the answer
Use number sense strategies to judge reasonableness of answers