

OPERATIONS AND ALGEBRAIC THINKING 003 - 271

REPRESENT AND SOLVE PROBLEMS INVOLVING
ADDITION AND SUBTRACTION

UNDERSTAND AND APPLY PROPERTIES OF
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ADDITION AND SUBTRACTION

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OPERATIONS AND ALGEBRAIC THINKING

REPRESENT AND SOLVE PROBLEMS INVOLVING ADDITION AND SUBTRACTION

1.OA.A.1

Use addition and subtraction within 20 to solve word problems involving Situations of adding to, taking from, putting together, taking apart, and Comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

WORD PROBLEMS (WITHIN 20)

ADD TO

RESULT UNKNOWN	006
CHANGE UNKNOWN	011
START UNKNOWN.....	016

TAKE FROM

RESULT UNKNOWN	021
CHANGE UNKNOWN	026
START UNKNOWN.....	031

PUT TOGETHER / TAKE APART

TOTAL UNKNOWN	036
BOTH ADDENDS UNKNOWN	041
ADDEND UNKNOWN	044

COMPARE

DIFFERENCE UNKNOWN	049
BIGGER UNKNOWN	054
SMALLER UNKNOWN	059

ADDITION AND SUBTRACTION – MIXED

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LITERATURE LINK: BABY GOES TO MARKET	083
LITERATURE LINK: HANDA'S SURPRISE	084

1.OA.A.2

Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g. by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

THREE ADDENDS WORD PROBLEMS	085
THREE ADDENDS UNKNOWN	090
THREE LETTER ADDENDS	094
FIND 3 CARDS.....	095

1.OA.B.3

Apply properties of operations as strategies to add and subtract.

Examples: If $8+3=11$ is known, then $3+8=11$ is also known.

(Commutative property of addition). To add $2+6+4=2+10=12$.

(Associative property of addition).

TURN AROUND TRAINS	096
TURN AROUND DOMINOES	097
DOMINO RELATED FACTS	098
THREE ADDENDS	099

1.OA.B.4

Understand subtraction as an unknown-addend problem. For example,

subtract $10-8$ by finding the number that makes 10 when added to 8.

TEN FRAME SUBTRACTION	100
SUBTRACT FROM TEN	102
THINK ADDITION FOR SUBTRACTION (V.1-4)	104

1.OA.C.5

Relate counting to addition and subtraction

(e.g. by counting on 2 to add 2).

SHOW ONE MORE	114
SHOW ONE LESS	116
SHOW ONE MORE / ONE LESS	118

1. OA. C. 6

Add and subtract within 20, demonstrating fluency for addition and

Subtraction within 10. Use strategies such as counting on; making ten

(e.g. $8+6=8+2+4=10+4=14$); decomposing a number leading to a ten

(e.g. $13-4=13-3-1=10-1=9$); using the relationship between addition and

Subtraction (e.g. knowing that $8+4=12$, one knows $12-8=4$); and creating

Equivalent but easier or known sums (e.g., adding $6+7$ by creating the

known equivalent $6+6+1=12+1=13$).

COUNT ON ONE (V. 1 & 2)	121
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COUNT ON COVER UP (WITHIN 10)	139
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DOUBLES PATH	153
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CUISINAIRE DOUBLES	155
DOUBLES TOWERS	156
DOUBLES PLUS ONE TOWERS	157
DOUBLES PLUS TWO TOWERS	158
FIND TEN	159
SUMS OF TEN	160
MAKE TEN WITH CUISINAIRE RODS	163
MAKE TEN ON THE TEN FRAME	164
MAKE TEN	165

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BUILD A CUISENAIRE HOUSE	212
DOMINO ADDITION.....	219
PART-PART WHOLE CARDS.....	221

WORK WITH ADDITION AND SUBTRACTION EQUATIONS

1.OA.D.7

Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? $6 = 6$, $7 = 8 - 1$, $5 + 2 = 2 + 5$, $4 + 1 = 5 + 2$

TRUE OR FALSE?	257
EQUAL SUMS	263

1.OA.D.8

Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. E.g., determine the unknown number that makes the equation true in each of the equations $8 + ? = 11$, $5 = ? - 3$, $6 + 6 = ?$

FIND THE MISSING NUMBER.....	267
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NUMBER AND OPERATIONS IN BASE TEN

EXTEND THE COUNTING SEQUENCE

1. NBT.A.1

Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

MISSING NUMBER GRIDS (1 – 50)	274
TEN FRAME PATH	294
BASE TEN PATH	297
NUMBER PATH	300
COUNTING CARDS (SET 3)	303
ESTIMATE AND COUNT	310
COUNTING COLLECTIONS (V. 1-2).....	312

UNDERSTAND PLACE VALUE

1.NBT.B.2

Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:

- A. 10 can be thought of as a bundle of ten ones – called a “ten.”
- B. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
- C. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

BUILD A TRAIN	317
TENS AND ONES WITH SNAP CUBES	318
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REPRESENTING TWO-DIGIT NUMBERS.....	324
BASE TEN CONCENTRATION (2 DIGIT)	325
MY DOUBLE TEN FRAME RIDDLE	331

1.NBT.B.3

Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.

COMPARING TWO-DIGIT NUMBERS.....	333
TEN FRAMES COMPARE.....	335
GREATER THAN 50.....	340
SCOOP IT!.....	341
WHO HAS THE GREATER SUM? (V. 1 & 2)	345

USE PLACE VALUE UNDERSTANDING AND PROPERTIES
OF OPERATIONS TO ADD AND SUBTRACT

1.NBT.C.4

Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones, and sometimes it is necessary to compose a ten.

ADDING A 2-DIGIT AND 1-DIGIT NUMBER	349
WHAT NUMBER IS . . . ?	350
ADDING TENS TO A 2-DIGIT NUMBER	353
ADD TEN	355
SUMS OF 90	356
LUCKY SIX	357
ADD TEN ON THE NUMBER LINE	360
SUBTRACT 10 ON THE NUMBER LINE	361
ADDING A MULTIPLE OF 10	362
ADDITION SPLIT (2 DIGIT + MULTIPLE OF 10)	367

1.NBT.C.5

Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

10 MORE	370
RACE AROUND (+10 V.1)	372
RACE AROUND (-10 V.1)	373

1.NBT.C.6

Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawing and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

SUBTRACT TEN	375
SUBTRACT MULTIPLES OF TEN	376

MEASUREMENT AND DATA

MEASURE LENGTHS INDIRECTLY AND BY ITERATING LENGTH UNITS

1.MD.A.1

Order three objects by length; compare the lengths of two objects indirectly by using a third object.

WHICH IS LONGEST?	378
SCOOP AND ORDER	380

1.MD.A.2

Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the numbers of same-size length units that spans it with no gaps or overlaps. Limit to contexts where the object is being measured is spanned by a whole number of length units with no gaps or overlaps.

MEASURING WITH SNAP CUBES	382
MEASURING SHOES	384
MEASURING WITH STICKS	386
MEASURING WITH DOMINOES	388
ORDERING CUISENAIRE RODS	389
WHICH IS LONGER?	391

TELL AND WRITE TIME

1.MD.B.3

Tell and write time in hours and half-hours using analog and digital clocks.

DOMINO CLOCK.....	393
TIME BARRIER GAME	394
FAVORITE TIME OF DAY	397
TIME MATCH (V.1)	398
TIME MATCH (V.2).....	401

REPRESENT AND INTERPRET DATA

1.MD.C.4

Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category; and how many more or less are in one category than another.

WHICH HAS FEWER? (V.1).....	404
WHICH HAS FEWER (V.2)	407
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DRAW A GRAPH (V.3).....	418
LITERATURE LINK: DUCK! RABBIT!.....	419

GEOMETRY

REASON WITH SHAPES AND THEIR ATTRIBUTES

1.G.A.1

Distinguish between defining attributes (e.g. triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.

MY 2D SHAPES BOOK	422
COMPARING SHAPES (ver. 1)	430
COMPARING SHAPES (ver. 2)	431
GEOBOARD SQUARES.....	432
LITERATURE LINK: MOUSE SHAPES	435

1.G.A.2

Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape and compose new shapes from the composite shape.

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TANGRAM TRIANGLES.....	442
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LITERATURE LINK: GRANDFATHER TANG'S STORY	444
LITERATURE LINK: TANGRAM CAT	446

1.G.A.3

Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

EQUAL PARTS OF A SQUARE (V.1)	447
EQUAL PARTS OF A SQUARE (V.2)	448
COLOR A FRACTION	449
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ADDITIONAL RESOURCES

Identify and know the value of coins. Find the value of a collection of coins. Compare values of collections of coins.

COIN BUMP (ver. 3)	456
COIN BUMP (ver. 4)	458
COIN SCOOP (ver. 1).....	460
COIN SCOOP (ver. 2).....	461
COIN SCOOP (ver. 3).....	462
COIN SCOOP (ver. 4).....	463
WHICH IS GREATER?	464

Identify, continue and label patterns. Create patterns using number, shape, size or color.

PATTERN CARDS.....	466
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