OPERATIONS AND ALGEBRAIC THINKING

REPRESENT AND SOLVE PROBLEMS INVOLVING ADDITION AND SUBTRACTION

ADD AND SUBTRACT WITHIN 20

WORK WITH EQUAL GROUPS OF OBJECTS TO GAIN FOUNDATIONS FOR MULTIPLICATION

NUMBER AND OPERATIONS IN BASE TEN

UNDERSTAND PLACE VALUE

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

MEASUREMENT AND DATA

MEASURE AND ESTIMATE LENGTHS IN STANDARD UNITS

RELATE ADDITION AND SUBTRACTION TO LENGTH

WORK WITH TIME AND MONEY

REPRESENT AND INTERPRET DATA

GEOMETRY

REASON WITH SHAPES AND THEIR ATTRIBUTES

USER LICENSE
OPERATIONS AND ALGEBRAIC THINKING

REPRESENT AND SOLVE PROBLEMS INVOLVING ADDITION AND SUBTRACTION

2.OA.A.1
Use addition and subtraction within 100 to solve one and two step 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 100)
ADD TO
RESULT UNKNOWN ................................................................. 005
CHANGE UNKNOWN ................................................................. 010
START UNKNOWN ................................................................. 015
PUT TOGETHER / TAKE APART
TOTAL UNKNOWN ................................................................. 020
ADDEND UNKNOWN ............................................................... 025
TAKE FROM
RESULT UNKNOWN ................................................................. 030
CHANGE UNKNOWN ................................................................. 035
START UNKNOWN ................................................................. 040
COMPARE
DIFFERENCE UNKNOWN ........................................................ 045
BIGGER UNKNOWN ................................................................. 050
SMALLER UNKNOWN ............................................................. 055
TWO STEP WORD PROBLEMS .................................................. 060
LITERATURE LINK TASK CARDS:
TWO OF EVERYTHING ............................................................ 064
THE NAPPING HOUSE ............................................................ 065
P.BEAR’S NEW YEAR’S EVE PARTY ........................................... 066
NIGHT NOISES ....................................................................... 067
THE SHOPPING BASKET .......................................................... 068
COUNTING CROCODILES ......................................................... 069
MY LITTLE SISTER ATE ONE HARE ........................................ 070

ADD AND SUBTRACT WITHIN 20

2.OA.A.2
Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.

DOUBLES BUMP ....................................................................... 073
DOUBLES MEMORY ................................................................. 075
DOUBLES COVER UP (V. 1 & 2) ................................................. 081
DOUBLES PLUS ONE (V. 1) ......................................................... 085
DOUBLES PLUS TWO (V. 1) ......................................................... 089
DOUBLES MINUS ONE (V. 1) ....................................................... 093
DOUBLES MINUS TWO (V. 1) ...................................................... 097
FIND TEN .................................................................................. 101
MAKE A TEN (V. 1-3) ............................................................... 102
MAKE A TEN PATH (V. 1) ......................................................... 111
THE DIFFERENCE GAME (V. 1-4) ............................................ 113
FOUR IN A ROW SUBTRACTION ............................................ 121
WORK WITH EQUAL GROUPS OF OBJECTS TO GAIN FOUNDATIONS FOR MULTIPLICATION

2.OA.C.3
Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.

EVEN ODD SCOOP .................................................................................. 142
EVEN SLAP .................................................................................................. 144
ODD AND EVEN CHASE ........................................................................... 146
LITERATURE LINK TASK CARD:
   EVEN STEVEN AND ODD TODD .......................................................... 149

2.OA.C.4
Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.

ROLL A RECTANGULAR ARRAY ................................................................. 151
MAKING DIFFERENT Sized SQUARES ..................................................... 152
MAKING RECTANGULAR ARRAYS .......................................................... 153
ARRAY CARDS .......................................................................................... 154
ARRAY MATCH .......................................................................................... 160
NUMBERS AND OPERATIONS IN BASE TEN

UNDERSTAND PLACE VALUE

2. NBT. A. 1
Understand that the three digits of a three-digit number represent amounts of hundreds, tens and ones. Understand the following as special cases:

A 100 can be thought of as a bundle of ten tens - called a “hundred.”

B The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, nine hundreds (and 0 tens and 0 ones.)

MAKE TEN BUNDLES ........................................................................ 168
REPRESENTING MULTIPLES OF 100 ................................................. 170
RACE TO 100 ..................................................................................... 172
RACE TO ZERO .................................................................................. 175
BASE TEN CONCENTRATION (V. 2) ................................................. 177
FIVE WAYS ......................................................................................... 183
REPRESENTING NUMBERS WITH 4 BLOCKS .................................. 184

2. NBT. A. 2
Count within 1000; skip count by 2s, 5s, 10s, and 100s.

COUNTING COLLECTIONS (V. 1 & 2) ............................................... 185
MY SKIP COUNTING PATTERNS BOOK ........................................... 190
SKIP COUNTING CARDS .................................................................. 193
COUNT BY TENS (V. 1 - 4) ................................................................. 208
COUNT BY FIVES (V. 1 - 4) ............................................................... 221
SKIP COUNTING PATTERNS (V. 1 - 2) .............................................. 234
SKIP COUNTING SEQUENCES ......................................................... 238
SKIP COUNTING TOWERS ................................................................. 239
LITERATURE LINK TASK CARD: TWO WAYS TO COUNT TO TEN ............... 241

2. NBT. A. 3
Read and write numbers to 100 using base-ten notation, number names, and expanded form.

MAKE SIX NUMBERS ....................................................................... 242
NUMBER WORD CONCENTRATION .................................................. 243
ROLL THREE DIGITS ....................................................................... 246
NUMERAL WRITING BARRIER GAME ................................................. 247

2. NBT. A. 4
Compare two three-digit numbers based on meanings of the hundreds, tens and ones digits, using >, = and < symbols.

BUILD AND COMPARE .................................................................... 250
COMPARING 3-DIGIT NUMBERS ....................................................... 252
PLACE VALUE CHALLENGE (V. 1) .................................................... 254
PLACE VALUE TRIANGLE (V. 1) ....................................................... 257
ORDER UP .......................................................................................... 259
2. NBT. A. 5
Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

2-DIGIT ADDITION TRAINS (V. 1 & 2) ................................................................. 261
NUMBER WHEEL SPIN (V. 2) ................................................................. 263
DOUBLES PATH (V. 2 & 3) ................................................................. 267
NEAR DOUBLES PATH (V. 2 & 3) ................................................................. 269
DOUBLES PLUS ONE (V. 2) ................................................................. 271
DOUBLES PLUS TWO (V. 2) ................................................................. 275
DOUBLES MINUS ONE (V. 2) ................................................................. 279
DOUBLES MINUS TWO (V. 2) ................................................................. 283
FOUR IN A ROW WITH NEAR DOUBLES ................................................................. 287
MAKE A TEN COVER UP (V. 2) ................................................................. 290
MAKE A TEN PATH (V. 2) ................................................................. 296
2-DIGIT ADDITION
ON AN OPEN NUMBER LINE (V. 1) ................................................................. 298
ON AN OPEN NUMBER LINE (V. 2) ................................................................. 302
2-DIGIT SUBTRACTION
ON AN OPEN NUMBER LINE (V. 1) ................................................................. 305
ON AN OPEN NUMBER LINE (V. 2) ................................................................. 308
ON AN OPEN NUMBER LINE (V. 3) ................................................................. 311
2-DIGIT ADDITION SPLIT ................................................................. 314
2-DIGIT SUBTRACTION SPLIT ................................................................. 317
KEEP ON DOUBLING ................................................................. 320
CLOSE TO 100 .................................................................................. 321
CLOSE TO ZERO .................................................................................. 322

2. NBT. B. 6
Add up to four two-digit numbers using strategies based on place value and properties of operations.

ADD THREE ADDENDS ................................................................. 323
ADD FOUR ADDENDS ................................................................. 326
MAKE 100 .................................................................................. 329
THREE ADDEND WORD PROBLEMS ................................................................. 332

2. NBT. B. 7
Add and subtract within 1000, 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. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.

BASE TEN BAG – ADDITION ................................................................. 336
BASE TEN BAG – SUBTRACTION ................................................................. 338
BASE TEN BUILDINGS .......................................................................... 340
BASE TEN PICTURES .......................................................................... 342
2. NBT. B. 8
Mentally add 10 or 100 to a given number 100-900 and mentally subtract 10 or 100 from a given number 100-900.

ADD 10 ON A NUMBER LINE ............................................................................. 371
SUBTRACT 10 ON A NUMBER LINE ................................................................. 372
ADD 100 ON A NUMBER LINE ......................................................................... 373
SUBTRACT 100 ON A NUMBER LINE ............................................................... 374
ADD 10 NUMBER PATHS ..................................................................................... 375
SUBTRACT 10 NUMBER PATHS ......................................................................... 378
RACE AROUND (+10) (V. 3) ............................................................................. 380
RACE AROUND (-10) (V. 2) ............................................................................... 381
RACE AROUND (-10) (V. 3) ............................................................................... 382
ADD 10 AND 100 ............................................................................................... 383
SUBTRACT 10 AND 100 ..................................................................................... 385

2. NBT. B. 9
Explain why addition and subtraction strategies work,
Using place value and the properties of operations.

EXPLAINING ADDITION AND SUBTRACTION STRATEGIES ..................................... 387
MEASUREMENT AND DATA

MEASURE AND ESTIMATE LENGTHS IN STANDARD UNITS

2.MD.A.1
Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

MEASURING PATHS .................................................................400
MEASURING WITH A METER STICK ........................................405
MEASURING STRIPS .................................................................407

2.MD.A.2
Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.

LITERATURE LINK TASK CARD:
HOW BIG IS A FOOT? ..................................................................410
MEASURING WITH TWO UNITS ...............................................413
MEASURE IT TWICE ....................................................................414
MEASURING IN INCHES AND FEET ........................................416
MEASURING IN CENTIMETERS AND METERS ..........................418

2.MD.A.3
Estimate lengths using units of inches, feet, centimeters, and meters.

ESTIMATING LENGTH .................................................................420
ESTIMATING CENTIMETER MEASURES ....................................421
ESTIMATING METER MEASURES ...............................................422

2.MD.A.4
Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

ARE YOU A SQUARE OR A RECTANGLE? ..............................424
COMPARING LENGTHS IN CENTIMETERS ...............................425
COMPARING LENGTHS IN METERS ..........................................427
HOW FAR CAN YOU JUMP? ......................................................429
GUMMY WORM STRETCH! .........................................................431
MEASURING CUISINEAIRE RODS .............................................433

RELATE ADDITION AND SUBTRACTION TO LENGTH

2.MD.B.5
Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.

LENGTH WORD PROBLEMS ......................................................435
2.MD.B.6
Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2 ... and represent whole-number sums and differences within 100 on a number line diagram.

JUMPING FROGS (V. 1) ................................................................. 440
JUMPING FROGS (V. 2) ................................................................. 444

WORK WITH TIME AND MONEY

2.MD.C.7
Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.

TIME MATCH (V. 3) ....................................................................... 448
TIME MATCH (V. 4) ....................................................................... 451
TIME BUMP (V. 1) ......................................................................... 454
TIME BUMP (V. 2) ......................................................................... 456
TIME BUMP (V. 3) ......................................................................... 458
TIME BARRIER GAME ..................................................................... 460
ONE HOUR EARLIER, ONE HOUR LATER ........................................... 463
A.M. OR P.M.? ................................................................................ 464

2.MD.C.8
Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies using $ and cent symbols appropriately. Example: if you have 2 dimes and 3 pennies, how many cents do you have?

COIN SORT ..................................................................................... 467
COIN BARRIER GAME ..................................................................... 469
COIN SCOOP (V. 1) ......................................................................... 473
COIN SCOOP (V. 2) ......................................................................... 474
COIN SCOOP (V. 3) ......................................................................... 475
MAKE ONE DOLLAR ....................................................................... 476
MONEY BOARD ................................................................................. 477
JOE'S FRUIT AND VEGETABLE STORE ........................................... 480
MONEY WORD PROBLEMS ............................................................... 483
WHICH HAS THE GREATER VALUE? .................................................. 488
LITERATURE LINK TASK CARDS:
A QUARTER FROM THE TOOTH FAIRY ......................................... 489
A CHAIR FOR MY MOTHER .............................................................. 490
REPRESENT AND INTERPRET DATA

2.MD.D.9
Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.

STRAW PLOT ................................................................. 491
PENCIL PLOT .............................................................. 494
MEASUREMENT LINE PLOT ............................................. 497

2.MD.D.10
Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.

BUTTON BAR GRAPH ....................................................... 499
BUTTON PICTURE GRAPH .................................................. 500
COLLECTING AND REPRESENTING DATA ............................ 501
GEOMETRY

REASON WITH SHAPES AND THEIR ATTRIBUTES

2.G.A.1
Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

MY SHAPE RIDDLE .......................................................... 506
CONSTRUCTING 2-D SHAPES ........................................... 508
DESCRIBING 3-D SHAPES ................................................. 509
COMPARING 3-D SHAPES .................................................. 510
GEOBOARD QUADRILATERALS ........................................... 511
GEOBOARD TRIANGLES .................................................... 512
FLIP, SLIDE, TURN ......................................................... 513
TANGRAM SHAPES .......................................................... 514
NETS FOR A CUBE ........................................................... 515
SKELETAL MODELS ........................................................... 517
LITERATURE LINK TASK CARD:
   THE GREEDY TRIANGLE .................................................. 518

2.G.A.2
Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.

COVER A RECTANGLE ......................................................... 520
COMPLETE THE RECTANGLE ............................................... 523

2.G.A.3
Partition circles and rectangles into two, three, or four equal shares, describes the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.

GEOBOARD HALVES .......................................................... 530
GEOBOARD FOURTHS ......................................................... 531
FRACTION BARRIER GAME ................................................... 532
MR. ZED’S CAKES .............................................................. 534