Common Core Number and Operations in Base Ten in Bridges, Grades K–2

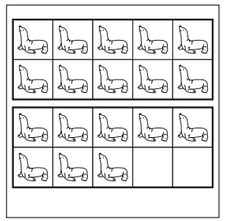
Kindergarten

Instructional Focus:
- Compose and decompose numbers for 11 to 19 into ten ones and some more ones
- Record compositions with drawings or equations
- Understand that teen numbers are composed of ten ones and 1–9 ones

Resources in Bridges:
Bridges: Through out all units
Number Corner: October-May Link a Day, December/January Our Month in School
Supplement Sets: A1

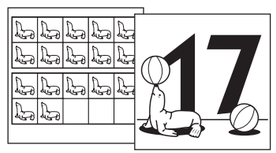
Kindergartners

• Examine and discuss quantities to 20 set into ten-frames.

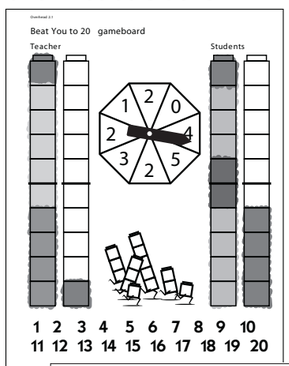


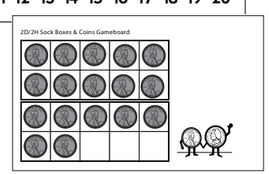
Students *I think it's almost 20.*
If you had 2 more it would be 20.
You can go 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18.
You could go 10—11, 12, 13, 14, 15, 16, 17, 18.

• Match sets and numerals to 20.

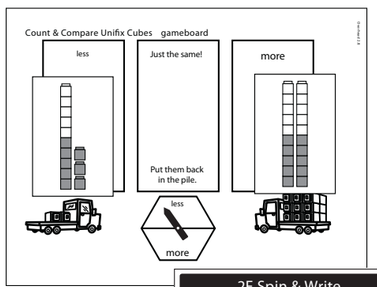


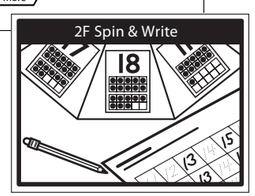
• Play games that involve counting quantities to 20 on ten-frames and in cube stacks.





• Play games that involve reading, writing, and comparing quantities to 20.





Common Core Standards Addressed:
CCSS K.NBT.1, K.CC.1-K.CC.7

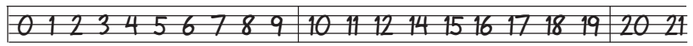
Grade One

Instructional Focus:
- Count, read, write, compare to 120
- Understand place value to 2 digits
- Add a 2-digit and a 1-digit number; add a 2-digit number and a multiple of ten
- Subtract 2-digit multiples of ten from one another (e.g., 90 – 40)

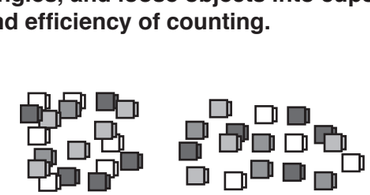
Resources in Bridges:
Bridges: Unit 2, Unit 4, Unit 6
Number Corner: September–May
Supplement Sets: A1, A5

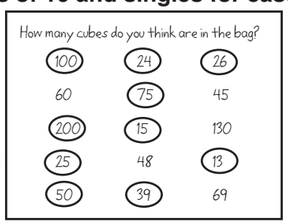
First Graders

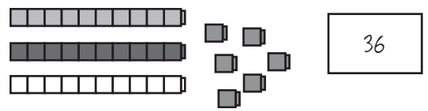
• Count and read numerals, starting at any number, to 120 by tracking the number of days in school on a number line (updated daily).



• Estimate quantities to 120. Organize cubes into trains of 10 and singles, and loose objects into cups of 10 and singles for ease and efficiency of counting.

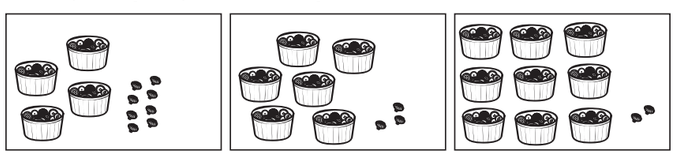






36

• Count, compare, and order quantities to 120.



48 63 92

• Add and subtract 2-digit numbers using Unifix cube trains and singles, coins, and pretend paper bills.

Children *That's hard.*
It's not so hard if you put the 25 with a 5 and that's 30. Then you put the 10 in and that's 40, and then 41, 42, 43, 44, 45.

Common Core Standards Addressed:
CCSS 1.NBT.1 – 1.NBT.6

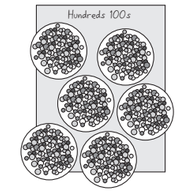
Grade Two

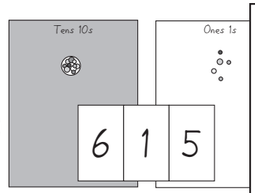
Instructional Focus:
- Count, read, write, compare to 1,000 (numerals, words, expanded form)
- Understand place value to 3 digits
- Fluently add and subtract within 100 using place value strategies
- Add and subtract within 1000, using concrete models, drawings, and place value strategies

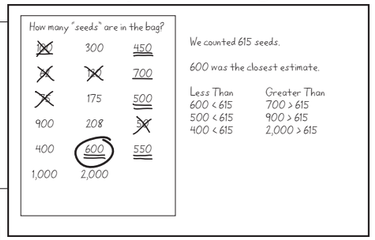
Resources in Bridges:
Bridges: Unit 2, Unit 3(OA), Unit 5, Unit 7
Number Corner: September, October, December, March, April Hundreds Grid; January-April Base Ten Bank(Supp. A5 Act. 4)
Supplement Sets: A4, A5, A7, A9

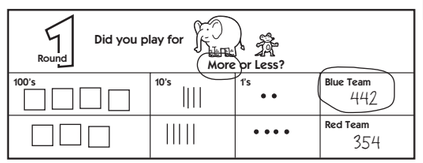
Second Graders

• Estimate quantities to 1,000. Organize objects into groups of hundreds, tens, and ones for ease and efficiency of counting.

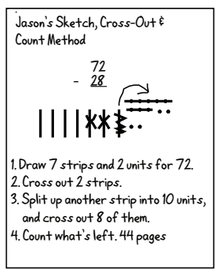


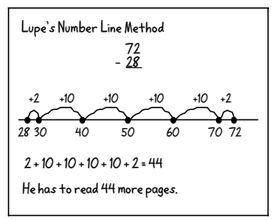






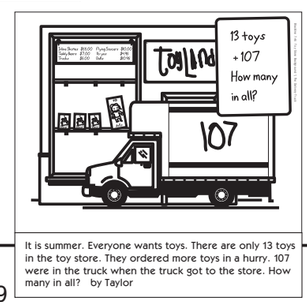
• Count, compare, and order quantities to 1,000.





• Use base ten pieces and the open number line to model and solve 2- and 3-digit addition and subtraction problems. Invent a variety of algorithms (multi-step procedures) to represent their work.

• Pose and solve addition and subtraction story problems involving 2- and 3-digit numbers.



It is summer. Everyone wants toys. There are only 13 toys in the toy store. They ordered more toys in a hurry. 107 were in the truck when the truck got to the store. How many in all? by Taylor

Taylor

Common Core Standards Addressed: CCSS 2.NBT.1 – 2.NBT.9

Adapted from ESNW Resource by Portland Public Schools 11/2013

Common Core Number and Operations in Base Ten in Bridges, Grades 3–5

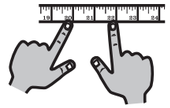
Grade Three

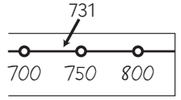
Instructional Focus:
- Round numbers to the nearest 10 or 100
- Fluently add and subtract within 1,000 using place value strategies
- Multiply 1-digit numbers by multiples of 10 in the range of 10–90

Resources in Bridges:
Bridges: Unit 1, Unit 2, Unit 4(OA), Unit 5, Unit 6(NF)
Number Corner: November, December, January, March, May Computational Fluency, Magnetic Board, Numbers Grid, Coins/Clocks/Bills
Supplement Sets: A3, A6, A7

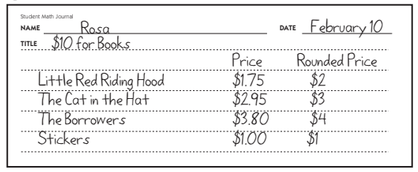
Third Graders

• Use tape measure and number line to model and solve rounding problems.





• Use rounding to estimate the results of computations.


Student Math Journal
NAME Rosa DATE February 10
TITLE $10 for Books

	Price	Rounded Price
Little Red Riding Hood	$1.75	$2
The Cat in the Hat	$2.95	$3
The Borrowers	$3.80	$4
Stickers	$1.00	$1

David's Same Difference Method

327
-118

Add 2 to each number to make the problem easier.

327 + 2 = 329
118 + 2 = 120

329
-120
209 pages

Shari's Start with the 1's Method

3 1 7
-118
209 pages

If you don't use negative numbers, you can't do 7 - 8. Move a 10 over from the 10's column and split it into 1's. Now you have 17 there.

17 - 8 = 9
10 - 10 = 0
300 - 100 = 200
200 + 9 = 209 pages

• Develop increasingly efficient strategies to add and subtract multi-digit numbers.

Ryan's Negative Number Method

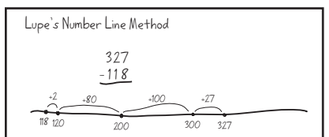
327
-118

300 - 100 = 200
20 - 10 = 10
7 - 8 = -1

200 + 10 - 1 = 209 pages

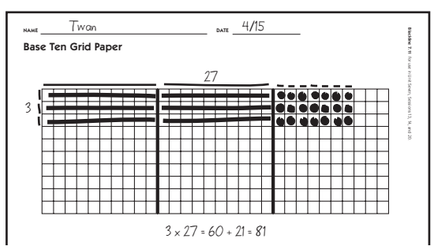
Lupe's Number Line Method

327
-118



2 + 80 + 100 = 182

182
+ 27
209 pages


NAME Twan DATE 4/15
Base Ten Grid Paper
27
3
3 × 27 = 60 + 21 = 81

• Use base ten pieces and sketches on base ten grid paper to model and solve 2-digit by 1-digit multiplication combinations.

Common Core Standards Addressed:
CCSS 3.NBT.1 – 3.NBT.3

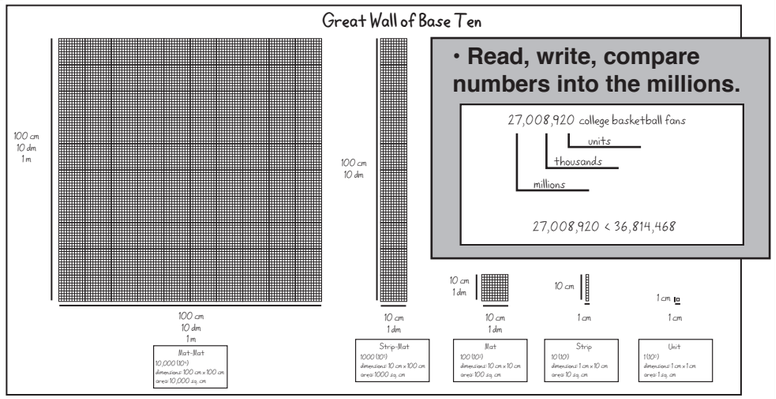
Grade Four

Instructional Focus:
- Read, write, compare multi-digit numbers (numerals, words, exp. form)
- Round multi-digit numbers to any place
- Fluently add & subtract multi-digit numbers using the standard algorithm
- Multiply up to 4 digits by 1 digit, and two 2-digit numbers
- Divide up to 4 digits by 1 digit, including remainders

Resources in Bridges:
Bridges: Unit 1, Unit 2, Unit 3(NF), Unit 5(Replacement), Unit 6(NF)
Number Corner: September-May Calendar Grid, Number Line, Computational Fluency
Supplement Sets: A3, A4, A5

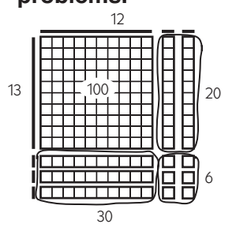
Fourth Graders

• Create a place value wall display. Find, describe and extend patterns in base ten.

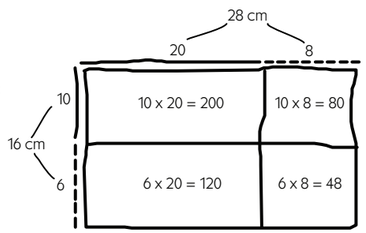


• Read, write, compare numbers into the millions.

• Use base ten pieces, sketches on grid paper, and free-hand sketches to model and solve multi-digit multiplication and division problems.



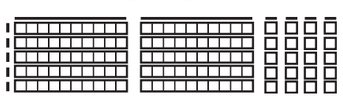
100 + 20 + 30 + 6 = 156

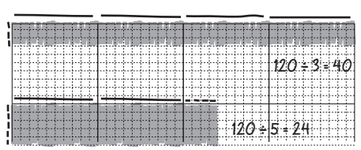


200
80
1 20
+ 48
448 sq cm

28
x 16
448 sq cm

120 ÷ 5 = 24





Common Core Standards Addressed:
CCSS 4.NBT.1 – 4.NBT.6

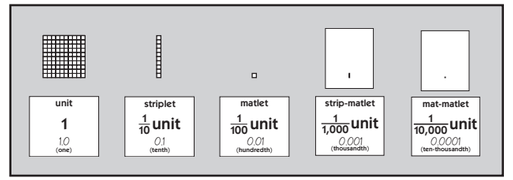
Grade Five

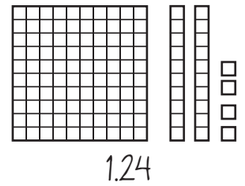
Instructional Focus:
- Understand place value (whole numbers & decimals); use exponents
- Read, write, compare, round decimals to 1/1000's
- Fluently multiply multi-digit numbers using the standard algorithm
- Divide up to 4 digits by 2 digits, including remainders
- Add, subtract, multiply & divide decimals to hundredths

Resources in Bridges:
Bridges: Unit 2, Unit 4, Unit 6, Supp. A9 & A12
Number Corner: November, February Calendar Grid; October-May Computational Fluency
Supplement Sets: A4, A11

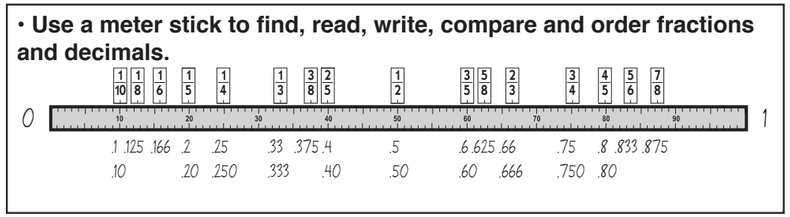
Fifth Graders

• Use base ten pieces to model and understand decimals.



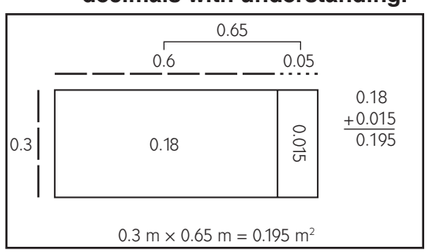


• Use a meter stick to find, read, write, compare and order fractions and decimals.



• Use base ten pieces to model and solve decimal addition and subtraction problems.

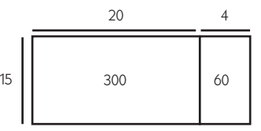
• Use the area model for multiplication to multiply decimals with understanding.



0.18
+0.015
0.195

0.3 m × 0.65 m = 0.195 m²

• Use the area model and a multiplication menu to perform long division.



4
20 24
15 360
- 300
60
- 60
0

10 × 15 = 150
20 × 15 = 300
2 × 15 = 30
4 × 15 = 60

Common Core Standards Addressed:
CCSS 5.NBT.1-5.NBT.7

Adapted from ESNW Resource by Portland Public Schools 11/2013