

Building Base-ten Understandings PK – 3

1. Bundling Tens – build with craft sticks – unitary, base-ten, equivalent
 - Participants will be given bags of zip loc bags with craft sticks or coffee stirrers
 - They will be asked to count out the amount and represent the amount with dots or some symbol (Box A)
 - They will be asked to group by 10 and represent in the amount (Box B)
 - They will be asked to make a combination of 10 and ones (Box C)
2. Ten, Ones & Fingers
 - Ask participants to show me 37 fingers,
 - Discuss the implications for operations (i.e. $10 + 10 + 10 + 7$ – decomposing numbers, 4×10 – multiplication, $37 \div 4$ – division)
3. Magnitude of Numbers – 1s, 10, 100s
 - Use graph paper to show a certain amount (i.e. 1, 10, 100 or 3, 30, 300 or 13, 23, 33)
 - What do the configurations look like? Describe them mathematically.
4. Ten Frames – on rings games (on card stock), mental math visualization, bodies
 - Ten-frames as constant and ring with 1, 2, 3, etc.
 - Ten-frame visualizations using SB (after video)
 - I have a number...my number is less than, but more than
5. Base-Ten Riddles
 - Play and make
 - I have 4 tens and 23 ones. Who am I?
 - I have 2 ones and 5 tens. Who am I?
6. Show in Many Ways – decomposing numbers
 - Write number
 - Show in base ten
 - Pictorial Base-10
 - Expanded form and regrouped
7. Regrouping Numbers – Craft Sticks, Dimes & Pennies & Base-ten Blocks
 - Use different materials to show the numbers regrouped as a game
 - Partner says a number...and plays, that is a way, but not my way with the materials given
8. Number Grid Puzzles – counting by tens, tens, hundreds
 - Make up your own.
 - Play online
9. Open Number Lines – using 1s, 10s, 100s
 - (video)
10. Properties of Operation – commutative, associative
 - Identify the property and try out or do another way (Frayer Model diagram)
11. Games
 - Connect 4
 - Tic Tac Toe

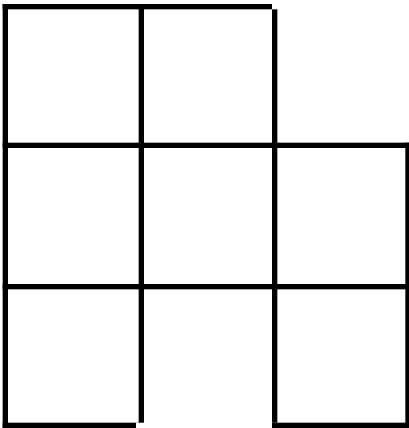
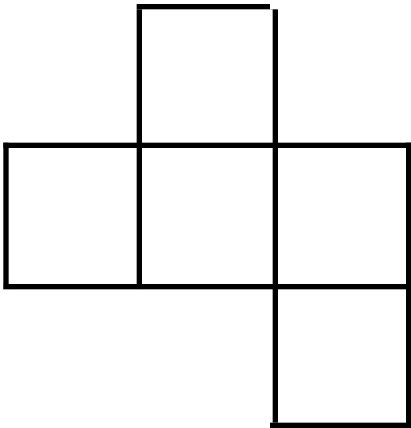
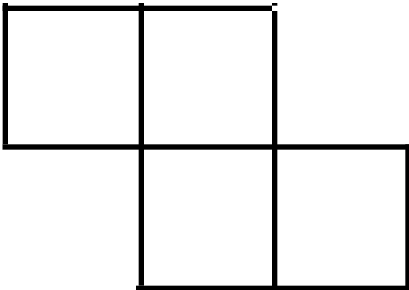
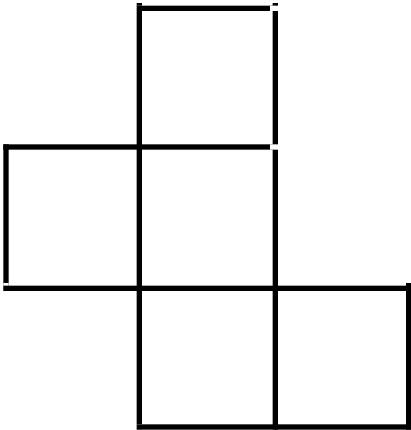
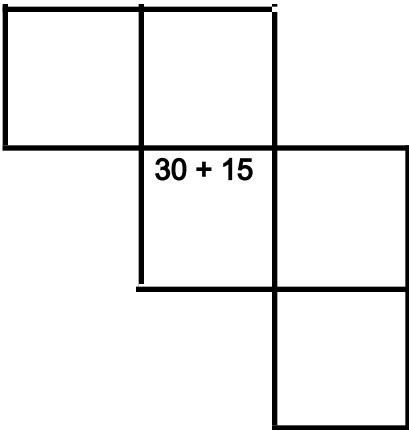
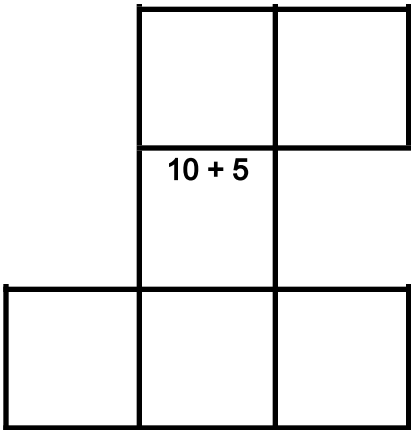
3 Ways to Organize Numbers

By ones

Base-Ten

Regrouped

Number Grid Puzzles



Using Base Ten Understandings with the Properties of Operations

Commutative Property of Addition: $a + b = b + a$

Associative Property of Addition: $(a + b) + c = a + (b + c)$

Problem	Try out the strategy
$562 + 7 = (500 + 60 + 2) + 7$ $= (500 + 60) + (2 + 7)$ $= 560 + 9$ $= 569$	
$762 + 29 = (760 + 2) + 29$ $= 760 + (2 + 29)$ $= 760 + 31$ $= 791$	
$553 + 99 = 553 + (100 - 1)$ $= (553 + 100) - 1$ $= 653 - 1$ $= 652$	
$242 - 5 = (232 + 10) - 5$ $= 232 + (10 - 5)$ $= 232 + 5$ $= 237$	
$365 - 37 = 365 - (35 + 2)$ $= (365 - 35) - 2$ $= 330 - 2$ $= 328$	
$445 - 32 = (440 + 5) - (30 + 2)$ $= (440 - 30) + (5 - 2)$ $= 410 + 3$ $= 413$	