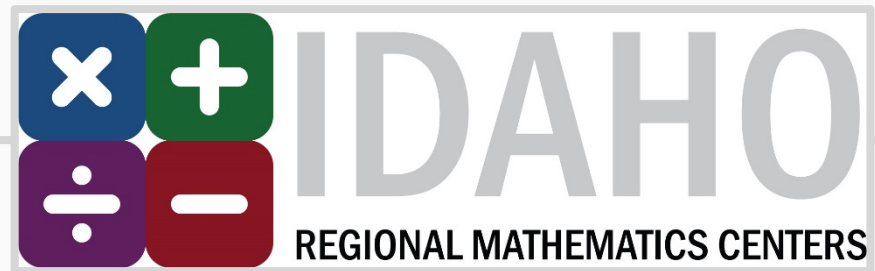


PLACE VALUE: BEYOND THE CHART

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Angie Godfrey
Regional Math Specialist
godfange@isu.edu



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INTRODUCTIONS

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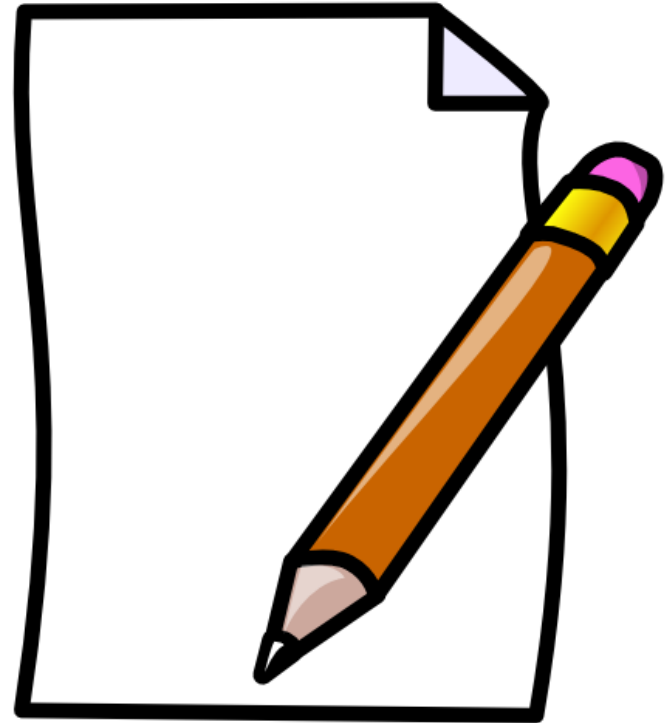
12

20



ESSENTIAL QUESTIONS

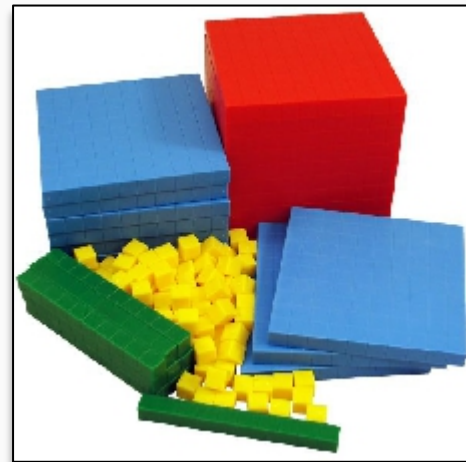
- What is place value?
- Why don't they get it?



BUILD IT

253

- Build the number in as many ways as you can
- Record the ways on the chart
- Record a number sentence that represents your model



CHOOSE & PROVE

- Choose a number sentence that helps you solve the following problems efficiently. (One you have or would have had)
- PROVE why you chose this number sentence, using the blocks or descriptions using place value.

$$253 - 167$$

$$253 + 167$$

$$253 \times 4$$

$$253 \div 12$$

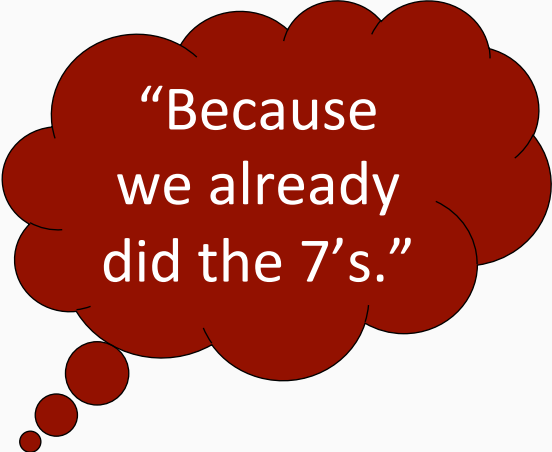


WHAT'S NEXT?

27,37,47,__, __, __

38,48,58,__, __, __

Why?



“Because we already did the 7’s.”

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

- What does this look like if I build it?
- What's the same between the numbers?
- What's different?
- What's changing?
- What's constant?
- How can you record what you're seeing?

INTO THE TEXT

Write the number.

1. $300 + 20 + 4 =$ 324

2. $500 + 40 + 3 =$ 543

3. $800 + 50 + 2 =$ 852

4. $600 + 70 =$ 670

5. $900 + 5 =$ 905

6. $1,000 + 50 =$ 1,050

7. 7 hundreds + 6 tens + 5 ones = 765

8. 3 hundreds + 5 tens + 6 ones = 356

9. 4 hundreds + 3 ones = 403

10. 2 hundreds + 7 tens = 270

11. 6 hundreds + 2 tens = 620

12. 2 thousands + 9 tens + 8 ones = 2,098

What could we ask to help students build relationship understanding?

“**Relationships** cannot be put into children’s heads from sources external to them. **Relationships** must be created by children through their own mental activity.” (Kamii, 1988)

WHAT IS PLACE VALUE?

“They don’t get place value.”

Why??

WHAT'S NEXT?

2.7, 3.7, 4.7, __, __,

3.8, 4.8, 5.8, __, __,

$$25.3 - 167$$

$$25.3 + 167$$

$$25.3 \times 4$$

$$25.3 \div 12$$

CHOOSE & PROVE

- Choose a number sentence that helps you solve the following problems efficiently. (One you have or would have had)
- PROVE why you chose this number sentence, using the blocks or descriptions using place value.

$$253 - 167$$

$$253 + 167$$

$$253 \times 4$$

$$253 \div 12$$



WHAT IS PLACE VALUE?



“I expect you all to be independent, innovative, critical thinkers who will do exactly as I say!”

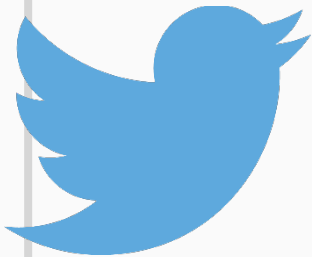
“Number Sense is flexibly thinking about numbers and their relationships.”

Van De Walle, p151

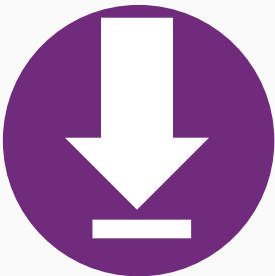


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RESOURCES

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Morin, J., & Samelson, V. (2015). Count On It: Congruent Manipulative Displays. *Teaching Children Mathematics*, 21(6), 362-370. Retrieved from <http://www.nctm.org/Publications/teaching-children-mathematics/2015/Vol21/Issue6/Count-On-It-Congruent-Manipulative-Displays/>