

Reasoning and Problem Solving

Step 2: Numbers to 1,000

National Curriculum Objectives:

Mathematics Year 3: (3N2a) [Read and write numbers up to 1000 in numerals and in words](#)
Mathematics Year 3: (3N4) [Identify, represent and estimate numbers using different representations](#)

Differentiation:

Questions 1, 4 and 7 (Problem Solving)

Developing Make three 3-digit numbers with no zero place holder using the digit cards.

Expected Make as many 3-digit numbers as you can using the three digit cards with the use of zero as a place.

Greater Depth Make as many 3-digit numbers as you can using the four digit cards with the use of zero as a place holder.

Questions 2, 5 and 8 (Reasoning)

Developing Explain whether you agree with a statement about a number up to 1,000, represented with Base 10 with no zero place holder.

Expected Explain whether you agree with a statement about a number up to 1,000, represented with Base 10 with a zero place holder.

Greater Depth Explain whether you agree with a statement about a number up to 1,000, represented abstractly with a zero place holder.

Questions 3, 6 and 9 (Reasoning)

Developing Explain whether two part-whole models with no zero place holder, are the same when presented with Base 10 representations.

Expected Explain whether two part-whole models with a zero place holder, are the same when presented with Base 10 representations. Answer can be found through knowledge that 1 ten is the same as 10 ones.

Greater Depth Explain whether two part-whole models with at least one zero place holder, are the same when presented with Base 10 representations. Answer can be found through knowledge that 10 tens are the same as 1 hundred and that 1 ten is the same as 10 ones.

More [Year 3 Place Value](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

Numbers to 1,000

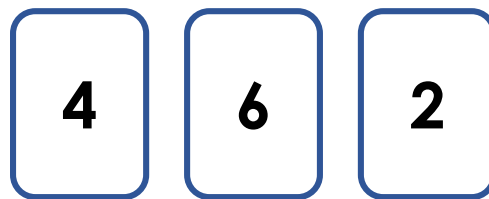
Numbers to 1,000

1a. Make three different numbers using the digit cards.



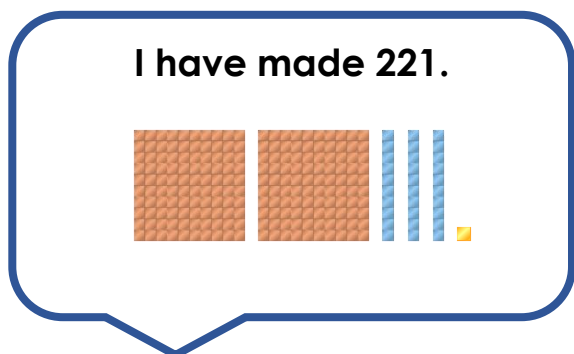
PS

1b. Make three different numbers using the digit cards.



PS

2a. Sulaiman says,

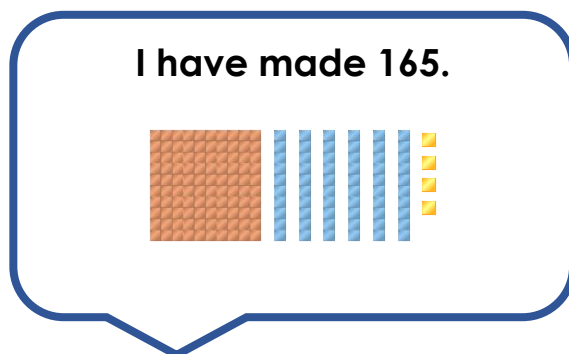


Do you agree? Explain your answer.



R

2b. Sara says,

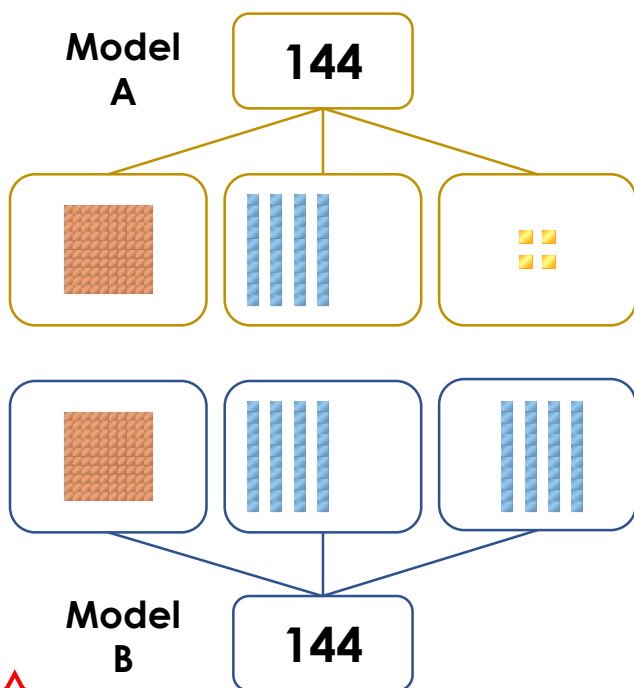


Do you agree? Explain your answer.



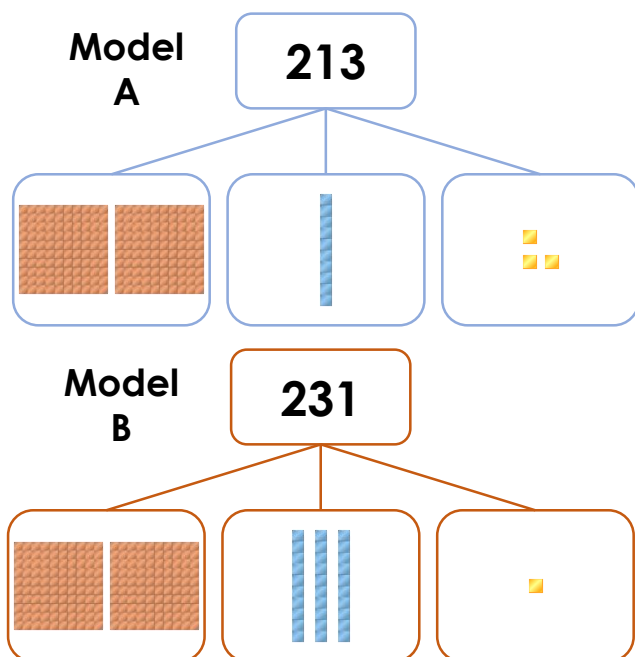
R

3a. Model A is the same as Model B. Do you agree? Explain why.



R

3b. Model A is the same as Model B. Do you agree? Explain why.



R

Numbers to 1,000

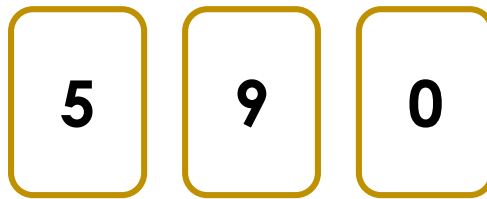
Numbers to 1,000

4a. Write as many 3-digit numbers as you can using these digit cards.



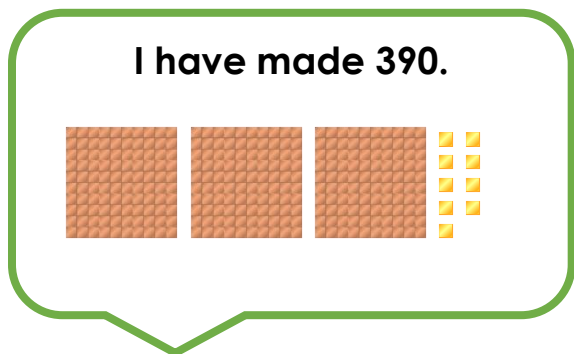
PS

4b. Write as many 3-digit numbers as you can using these digit cards.



PS

5a. Sam says,

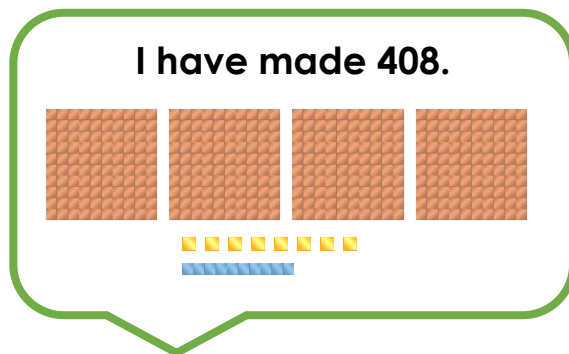


Do you agree? Explain your answer.



R

5b. Shabana says,

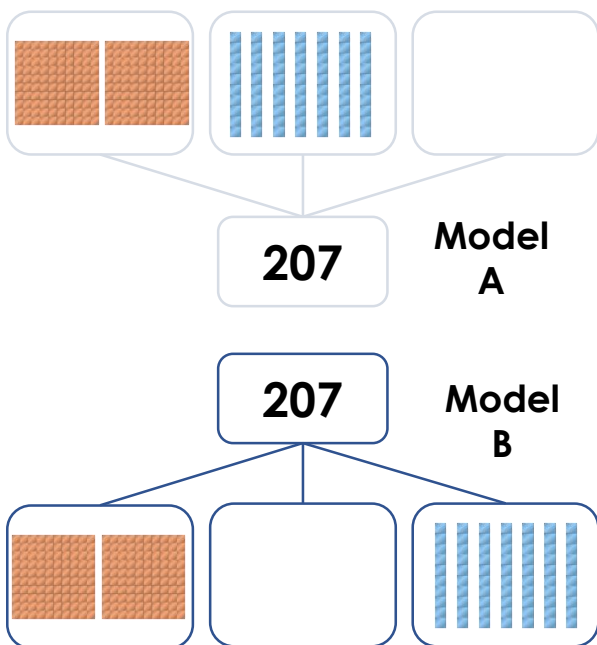


Do you agree? Explain your answer.



R

6a. Model A is the same as Model B. Do you agree? Explain why.

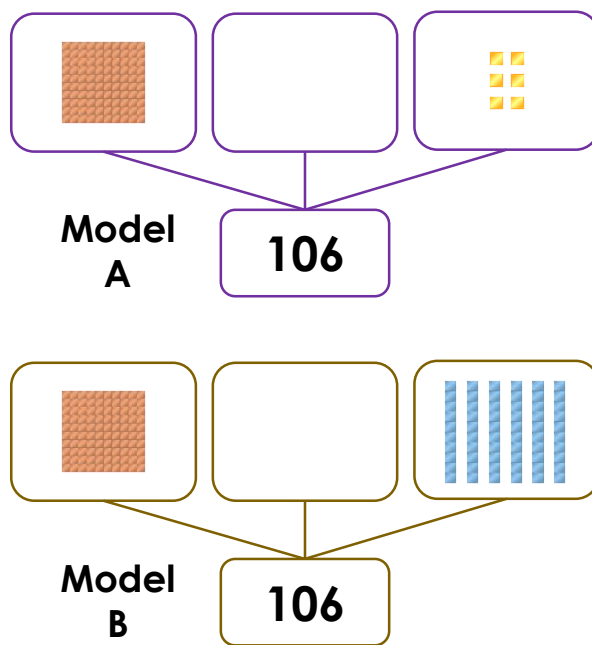


Is either model correct?



R

6b. Model A is the same as Model B. Do you agree? Explain why.



Is either model correct?

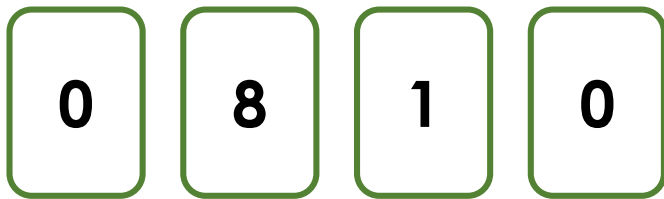


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Numbers to 1,000

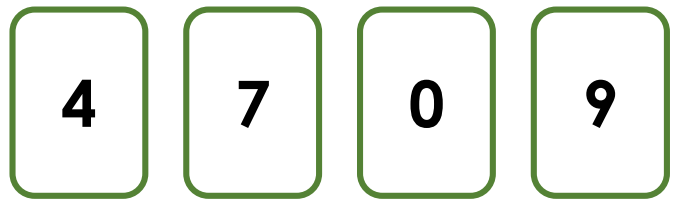
Numbers to 1,000

7a. Write as many 3-digit numbers as you can using these digit cards.



PS

7b. Write as many 3-digit numbers as you can using these digit cards.



PS

8a. Salma says,

I have 15 tens and 7 hundreds. I have made 805.

Do you agree? Explain your answer.



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8b. Shaun says,

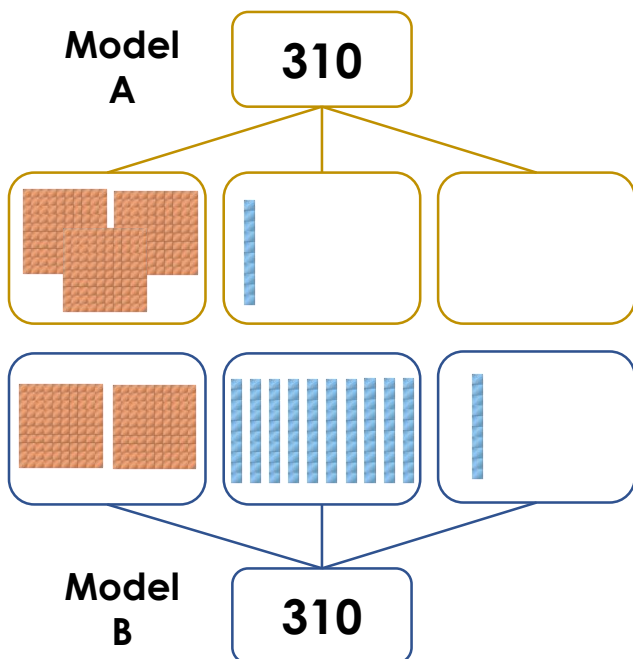
I have 22 ones, 5 tens and 6 hundreds. I have made 627.

Do you agree? Explain your answer.



R

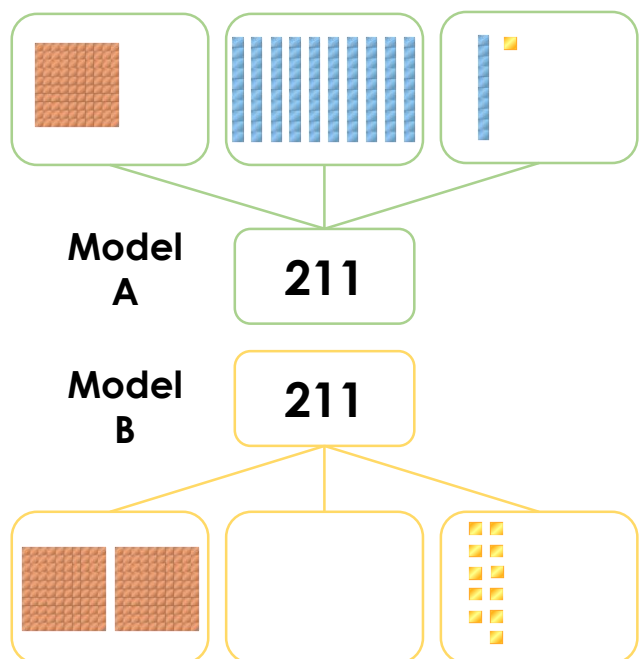
9a. Model A is the same as Model B. Do you agree? Explain why.



Is either model correct?

R

9b. Model A is the same as Model B. Do you agree? Explain why.



Is either model correct?

R

Varied Fluency Numbers to 1,000

Developing

- 1a. Various answers, for example: 358; 385; 538; 583; 835; 853
- 2a. No because Sulaiman has 2 hundreds and 3 tens and 1 ones which make 231.
- 3a. Various answers, for example: No because Model A has 1 hundred, 4 tens and 4 ones = 144 whereas Model B has 1 hundred, 4 tens and 4 tens = 180.

Expected

- 4a. 307; 370; 703; 730
- 5a. No because Sam has used 9 ones instead of 9 tens. He only has 309, not 390.
- 6a. No because Model A has 2 hundreds and, 7 tens and 0 ones = 270. Model B has 2 hundreds, 0 tens and 7 tens instead of ones. Neither model is correct.

Greater Depth

- 11a. 801; 810; 800; 108; 180; 100
- 12a. No because Salama has 15 tens which equals 150 not 105 and $700 + 150 = 850$.
- 13a. Various answers, for example: Yes because both models show 310 but the number is represented in different ways. No because Model A uses one block of 100 but Model B uses 10 tens. Both models are correct.

Varied Fluency Numbers to 1,000

Developing

- 1b. Various answers, for example: 246; 264; 426; 462; 624; 642
- 2b. Yes because Sara has 1 hundred, 6 tens and 5 ones which make 165.
- 3b. Various answers, for example: No because Model has 2 hundreds, 1 ten and 3 ones = 213 whereas Model B has 2 hundreds, 3 tens and 1 one = 231.

Expected

- 4b. 509; 590; 905; 950
- 5b. No because Shabana has used 4 hundreds, 1 ten and 8 ones. She has 418, not 408.
- 6b. No because Model A has 1 hundred and 6 ones = 106 whereas Model B has 1 hundred and 6 tens = 160. Model A is correct.

Greater Depth

- 11b. 470; 407; 409; 490; 479; 497; 709; 790; 704; 740; 749; 794; 907; 970; 904; 940; 974; 947
- 12b. No because 22 ones and 5 tens = 72 and $600 + 72 = 672$. She has counted the tens as ones.
- 13b. Various answers, for example: Yes because both models show 211 but the number is represented in different ways. No because Model A uses 1 hundred, 11 tens and 1 one to show 211, but Model B uses 2 hundreds and 11 ones. Both models are correct.