Reasoning and Problem Solving
Step 9: Ordering Numbers

National Curriculum Objectives:

Mathematics Year 3: (3N2a) Compare and order numbers up to 1000
Mathematics Year 3: (3N3) Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)
Mathematics Year 3: (3N4) Identify, represent and estimate numbers using different representations
Mathematics Year 3: (3N2a) Read and write numbers up to 1000 in numerals and in words

Differentiation:

Questions 1, 4 and 7 (Problem Solving)
Developing Find the possible routes for moving across multiples of 10 in ascending order through a number maze. Ordering three numbers. Numerals used only.
Expected Find the possible routes for moving in ascending or descending order through a number maze. Ordering up to six numbers up to 1,000. Numerals used only.
Greater Depth Find the possible routes for moving in ascending or descending order through a number maze. Ordering up to six numbers up to 1,000. Numerals, words and some examples of unconventional partitioning are used.

Questions 2, 5 and 8 (Reasoning)
Developing Decide if two statements are correct or not using knowledge of ordering numbers up to 1,000. Includes ordering three multiples of ten. Numerals used only.
Expected Decide if two statements are correct or not using knowledge of ordering numbers up to 1,000. Includes ordering six numbers in ascending and descending order. Numerals only.
Greater Depth Decide if two statements are correct or not using knowledge of ordering numbers up to 1,000. Includes ordering six numbers in ascending and descending order. Numerals, words and some examples of unconventional partitioning are used.

Questions 3, 6 and 9 (Problem Solving)
Developing Use place value counters to create and order three different 3-digit numbers in ascending order. Includes multiples of ten and pictorial support. Numerals used only.
Expected Use place value counters to create and order four different 3-digit numbers in ascending or descending order. Some use of pictorial support. Numerals used only.
Greater Depth Use place value counters to create and order up to six different 3-digit numbers in ascending or descending order. Some use of mixed pictorial representations. Numerals, words and some examples of unconventional partitioning are used.

More Year 3 Place Value resources.

Did you like this resource? Don't forget to review it on our website.

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Ordering Numbers

1a. Phoenix the parrot wants to reach the peach. He can only go through the maze by stepping on ascending numbers.

240	250	
→ 220	230	260
210	290	240

How many routes can he take?

D PS

Ordering Numbers

1b. Oka the panda wants to reach the plant. She can only go through the maze by stepping on ascending numbers.

→ 470	500	480
490	570	540
530		520

How many routes can she take?

D PS

2a. Luke and Gavin are placing numbers in ascending order.

Gavin

630	670	710

Luke

280	410	380

Who is correct? Prove it.

D R

2b. Leila and Evie are placing numbers in ascending order.

Leila

930	960	950

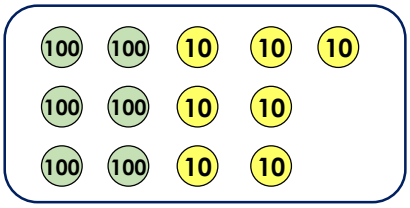
Evie

530	550	580

Who is correct? Prove it.

D PS

3a. Choose between 5 and 10 place value counters each time to create 3 different 3-digit numbers.

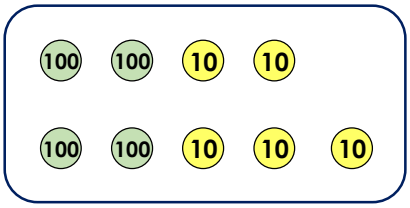


Write the numbers that you have created below in ascending order.

_____ , _____ , _____

D PS

3b. Choose between 5 and 10 place value counters each time to create 3 different 3-digit numbers.



Write the numbers you have created below in ascending order.

_____ , _____ , _____

D R

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Ordering Numbers

4a. Jerry the giraffe wants to reach the apple. He can only go through the maze by stepping on ascending numbers.

715	716	718	721
719	721	724	730 →
716	720	722	727
→ 715	716	718	719

How many routes can he take?

E PS

Ordering Numbers

4b. Elsie the elephant wants to reach the pear. She can only go through the maze by stepping on descending numbers.

323	319	318	311 →
330	335	329	309
→ 336	332	330	352
341	368	355	310

How many routes can she take?

E PS

5a. Nuha and Pete are placing numbers in descending order.

Nuha

300	200	100	350	250	150

Pete

650	600	550	500	450	400

Who is correct? Prove it.

E R

5b. Hunter and Willow are placing numbers in ascending order.

Hunter

150	250	200	350	400	450

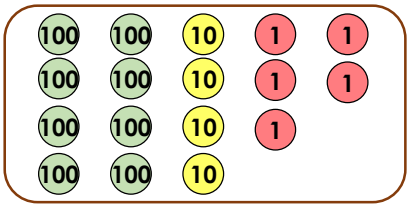
Willow

150	300	450	600	750	900

Who is correct? Prove it.

E PS

6a. Choose between 5 and 10 place value counters each time to create four 3-digit numbers.

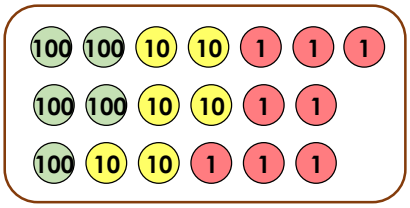


Write the numbers that you have created below in ascending order.

_____ , _____ , _____ , _____

E PS

6b. Using the place value counters below, create four different 3-digit numbers. You can reuse counters for each new number.



Write the numbers you have created below in descending order.

_____ , _____ , _____ , _____

E R

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Ordering Numbers

7a. Rigby the racoon wants to reach the cherries. He can only travel in the maze by finding up to 6 ascending numbers.

806	800 + thirteen	700 + 139	868
7 hundreds, 9 tens and 22 ones	83 tens and 1 one	838	664 + 200
810 + 44	nine hundred and twenty	900 + seventeen	nine hundred and three
8 hundreds, 10 tens and 21 ones	917	6 hundreds, 33 tens and 9 ones	

GD

How many routes can he take?

PS

7b. Binky the rabbit wants to reach the carrot. She can only travel in the maze by finding up to 6 descending numbers.

322	300 + 15	three hundred and thirty	200 + 171
350 + 35	363	three hundred and forty	32 tens and 5 ones
2 hundreds, 10 tens and 71 ones	300 + 68	352	
200 + 186	372	1 hundred, 21 tens and 9 ones	300 + 8

GD

How many routes can she take?

PS

8a. Leon and Toria are placing numbers in descending order.

Leon

500 + 163	418	400 and two ones	200 + 60 + 138	300 + ninety ones	200 + 19 tens + 1

Toria

298	100 + 18 tens + 7 ones	210 + 43	200 + 3 tens + 19 ones	172	100 + 50

Who is correct? Prove it.

GD

R

8b. Alessia and Kieran are placing numbers in ascending order.

Alessia

500 + fifty-seven	521 + 40	568	400 + 182 ones	57 tens and 9 ones	500 + 90

Kieran

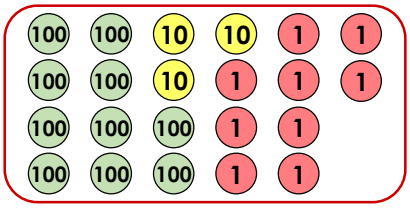
173	200 + 10 tens	481 + 100	300 + 39 tens + 2 ones	690 + 20	949

Who is correct? Prove it.

GD

PS

9a. Choose between 5 and 10 place value counters each time to create six 3-digit numbers.



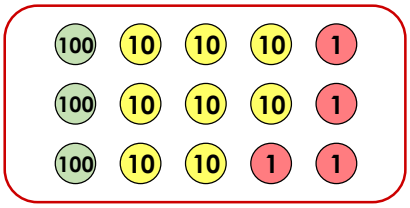
Write the numbers that you have created below in ascending order.

_____, _____, _____, _____, _____, _____

GD

PS

9b. Choose between 5 and 10 place value counters each time to create six 3-digit numbers.



Write the numbers you have created below in descending order.

_____, _____, _____, _____, _____, _____

GD

R

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Reasoning and Problem Solving
Ordering Numbers

Developing

1a. Various answers, for example:

240	250 →	
220	230	260
210	290	240

240	250	
220	230	260
210	290	240

2a. Gavin is correct because his numbers are all in ascending order. Luke is incorrect because 410 is greater than 380.

3a. Various answers, for example: 340, 460 and 520 or 210, 430 and 550.

Expected

4a. Various answers, for example:

715	716	718	721
719	721	724	730
716	720	722	727
715	716	718	719

715	716	718	721
719	721	724	730
716	720	722	727
715	716	718	719

5a. Pete is correct because his numbers are all in descending order. Nuha has counted backwards in hundreds first and then fifties.

6a. Various answers, for example: 134, 312, 425 and 641 or 241, 333, 522 and 714.

Greater Depth

7a. Various answers, for example:

806	813	839	868
812	831	838	864
854	920	917	903
921	917	939	

8a. Toria is correct as her numbers are all descending. Leon's final number is incorrect because 391 is greater than 390.

9a. Various answers, for example: 227, 319, 423, 436, 526 and 538 or 333, 425, 432, 615, 817 and 924.

Reasoning and Problem Solving
Ordering Numbers

Developing

1b. Various answers, for example:

470	500	480
490	570	540
530 →		520

470	500	480
490	570	540
530		520

2b. Evie is correct because her numbers are all in ascending order. Leila is incorrect because 950 is less than 960.

3b. Various answers, for example: 130, 320 and 450 or 330, 340 and 420.

Expected

4b. Various answers, for example:

323	319	318	311
330	335	329	309
336	332	330	352
341	368	355	310

323	319	318	311
330	335	329	309
336	332	330	352
341	368	355	310

5b. Willow is correct because her numbers are all in ascending order. Hunter is incorrect because 200 is less than 250.

6b. Various answers, for example: 531, 526, 314 and 243 or 444, 353, 325 and 138.

Greater Depth

7b. Various answers, for example:

322	315	330	371
385	363	340	325
371	368	352	
→ 386	372	319	308

8b. Kieran is correct as his numbers are all in ascending order (173, 300, 581, 692, 710 and 949). Alessia is incorrect because 579 is less than 582.

9b. Various answers, for example: 364, 252, 241, 224, 181 and 173 or 331, 282, 231, 173, 142 and 114.

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