Year 5 maths – Summer 2 Week beginning: 29.6.20

Theme	Lesson 1 of 2 Roman Numerals To write Roman numerals to 1000	Lesson 2 of 2 Roman Numerals To write thousands numbers in Roman numerals	Lesson 1 of 12 CONSOLIDATION LESSON Formal methods Addition within 1,000,000	Lesson 2 of 12 CONSOLIDATION LESSON Formal methods Addition and subtraction	Lesson 3 of 12 CONSOLIDATION LESSON Word problems To solve addition and subtraction word problems
Factual fluency (to aid fluency)	**Practise comparing numbers using multiplication activity**	**Practise choosing multiples activity**	**Practise multiplication patterns activity**	**Practise estimating products activity**	**Practise estimating products activity**
Problem/ activity of the day **Remember, just like in class, you can still show the depth of your knowledge** **LINK**	**(Lesson 1 resources below)** **MAKING LINKS:** Last week we solved problems involving volume. Today we will be writing Roman numerals up to 1000. **THINK: (support below)** Can you help me with this problem? My friend says all Roman numerals are based around just seven symbols, I, V, L, X, C, D and M. Is that true? Our problem is in the textbook on page 268. Look at it now. **SEE: (model below)** Check the solution on pages 268-269 of your textbook. **DO:** Use what you have learnt today to solve: PART 1: Do the questions on page 270 of the textbook Check your answers below before moving on to: PART 2: Complete worksheet 1, Chapter 14, page 181 of your workbook. If you would like further practice try these: https://www.knowtheromans.co.uk/roman-numerals/quiz/	**(Lesson 2 resources below)** **MAKING LINKS:** Yesterday we wrote Roman numerals up to 1000.Today we will be writing 1000s using Roman numerals. **THINK: (support below)** Can you help me with this problem? We sometimes see Roman numerals on buildings to show the year they were built. My friend saw this number, MDCCCXXV. Can you help him work out what year it shows? Our problem is in the textbook on page 271. Look at it now. **SEE: (model below)** Check the solutions for both methods on pages 271-272 of your textbook. **DO:** PART 1: Do questions on page 272-273 of the textbook. Check your answers below before moving on to: PART 2: Complete worksheet 2, Chapter 14, pages 182 - 183 of the workbook. If you would like further practice try these: https://www.knowtheromans.co.uk/roman-numerals/quiz/	**(Lesson 3 resources below)** **MAKING LINKS:** Earlier in the year we worked with formal addition methods. Today we will be continuing with that. **THINK: (support below)** Can you help me with this problem? My friend has digit cards: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9. She makes two 5-digit numbers. What is the greatest sum, or total, she could make? What is the smallest total? *If you have online parent access this lesson is based on Year 5 textbook 5A, chapter 2, lesson 8.* **SEE: (model below)** Before you begin, watch the formal method from year 5 for addition. **DO:** PART 1: Complete the questions below. Remember to round each amount before you start. This will help you check that your answers make sense. Check your answers below before moving on to: PART 2: Complete the calculations below.	**(Lesson 4 resources below)** **MAKING LINKS:** Yesterday we worked with formal addition methods. Today we will be continuing with that. **THINK: (support below)** Can you help me with this problem? My friend has digit cards: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9. He makes two 5-digit numbers. What is the smallest difference he can make? *If you have online parent access this lesson is based on Year 5 textbook 5A, chapter 2, lesson 10.* **SEE: (model below)** Before you begin, watch the formal method from year 5 for subtraction. **DO:** PART 1: Complete the questions below. Remember to round each amount before you start. This will help you check that your answers make sense. Check your answers below before moving on to: PART 2: Complete the calculations below.	**(Lesson 5 resources below)** **MAKING LINKS:** This week we worked with formal addition and subtraction methods. Today we will be using these to solve word problems **THINK: (support below)** Can you help me with this problem? Look at the chart below. The amounts are written in yen which is Japan's currency. After paying for rent and food, how much of her salary does Holly have remaining? *If you have online parent access this lesson is based on Year 5 textbook 5A, chapter 2, lesson 7.* **SEE: (model below)** Remind yourself of the formal methods from year 5 for addition and subtraction. **DO:** PART 1: Complete the questions below. Remember to round each amount before you start. This will help you check that your answers make sense. Check your answers below before moving on to: PART 2: Complete the calculations below.
Methods, tips, clues & checks	**Day 1 resources and answers (below)**	**Day 2 resources and answers (below)**	**Day 3 resources and answers (below)**	**Day 4 resources and answers (below)**	**Day 5 resources and answers (below)**

See below for resources to support you to THINK-SEE-DO

DAY 1 RESOURCES:

THINK: Our problem is on textbook page 268.

My friend says all Roman numerals are based around just seven symbols, I, V, X, L, C, D and M.

Is that true?

DO: Use what you have learnt today to solve:

PART 1: Do the questions on page 270 of the textbook

Check your answers below before moving on to:
PART 2: Complete worksheet 1, Chapter 14, page 181 of your workbook.

If you would like further practice try these:
https://www.knowtheromans.co.uk/roman-numerals/quiz/

SEE: Look at the different ways to solve the problem on page 268-269 of your textbook.

I = 1, V = 5, X = 10, L = 50, C = 100, D = 500, M = 1000

For these numbers you just have to repeat the symbols for 1, 10 or 100 as many times as needed. So, 30 = XXX because 3 is 3 × 10, or 3 tens.
1, 2, 3 = I, II, III
10, 20, 30 = X, XX, XXX
100, 200, 300 = C, CC, CCC

Something different happens when you write numbers above 3, 30 and 300.
To write 4 you need to write 1 less than 5. The symbol for 1 goes before the 5 to show it is 1 less than 5.
The same idea applies to 40 and 400 but it would be 10 or 100 less than 50 or 500.
4 is 1 less than 5 so **4 = IV**
40 is 10 less than 50 so **40 = XL**
400 is 100 less than 500 so **400 = CD**

To write numbers above 5, 50, 500 we combine the amounts to make the number. So, 700 = 500 + 100 + 100 and using Roman numerals that would be D + C + C = DCC
6, 7, 8 = VI, VII, VIII
60, 70, 80 = LX, LXX, LXXX
600, 700, 800 = DC, DCC, DCCC

To write 9, 90 and 900 we have to do something similar to how we write 4, 40 and 400. For these numbers we have to write the number as 1, 10 and 100 less than 10, 100 and 1000. So, 90 is 10 less than 100 and using Roman numerals that would be XC (X less than C).
9 = IX
90 = XC
900 = CM

Roman Numerals from 1 to 100:

I	II	III	IV	V	VI	VII	VIII	IX	X
1	2	3	4	5	6	7	8	9	10
XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX
11	12	13	14	15	16	17	18	19	20
XXI	XXII	XXIII	XXIV	XXV	XXVI	XXVII	XXVIII	XXIX	XXX
21	22	23	24	25	26	27	28	29	30
XXXI	XXXII	XXXIII	XXXIV	XXXV	XXXVI	XXXVII	XXXVIII	XXXIX	XL
31	32	33	34	35	36	37	38	39	40
XLI	XLII	XLIII	XLIV	XLV	XLVI	XLVII	XLVIII	XLIX	L
41	42	43	44	45	46	47	48	49	50
LI	LII	LIII	LIV	LV	LVI	LVII	LVIII	LIX	LX
51	52	53	54	55	56	57	58	59	60
LXI	LXII	LXIII	LXIV	LXV	LXVI	LXVII	LXVIII	LXIX	LXX
61	62	63	64	65	66	67	68	69	70
LXXI	LXXII	LXXIII	LXXIV	LXXV	LXXVI	LXXVII	LXXVIII	LXXIX	LXXX
71	72	73	74	75	76	77	78	79	80
LXXXI	LXXXII	LXXXIII	LXXXIV	LXXXV	LXXXVI	LXXXVII	LXXXVIII	LXXXIX	XC
81	82	83	84	85	86	87	88	89	90
XCI	XCII	XCIII	XCIV	XCV	XCVI	XCVII	XCVIII	XCIX	C
91	92	93	94	95	96	97	98	99	100

For numbers to 1000:
https://romannumerals.site/roman-numerals-1-to-1000/

DAY 2 RESOURCES:

THINK: Our problem is in the textbook on page 271.

We sometimes see Roman numerals on buildings to show the year they were built.
My friend saw this number, MDCCCXXV. Can you help him work out what year it shows?

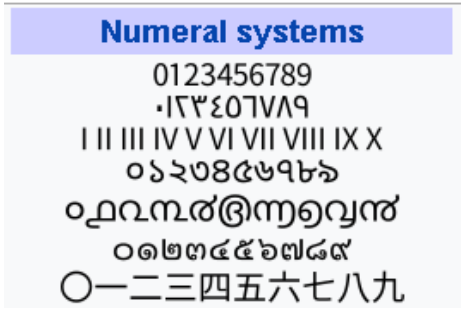
Note: We call the digits we use nowadays, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, Arabic numerals (or Hindu-Arabic numerals).

DO: Use what you have learnt today to solve:

PART 1: Do questions on page 272-273 of the textbook.

Check your answers below before moving on to:
PART 2: Complete worksheet 2, Chapter 14, pages 182 - 183 of the workbook.

Interesting!
You might find it interesting to see different numeral systems:



They are Arabic numerals, Eastern Arabic numerals, Roman numerals, Bengali–Assamese numerals, Malayalam numerals, Thai numerals and Chinese numerals.

SEE: Check the solution on pages 271-272 of your textbook.

Can you remember the symbols for these amounts in Roman numerals? Check on yesterday's resource page if you need a reminder.

1, 2, 3, 4, 5, 6, 7, 8, 9
10, 20, 30, 40, 50, 60, 70, 80, 90
100, 200, 300, 400, 500, 600, 700, 800, 900

Remember the 7 symbols:

I = 1, V = 5, X = 10, L = 50, C = 100, D = 500, M = 1000

To convert between Arabic numerals (digits 0, 1, 2, 3, 4, 5, 6, 7, 8, 9) and Roman numerals we partition the number, breaking it up into thousands, hundreds (including 500s and 100s), tens (including 50s and 10s) and ones (including 5s and 1s).
1888 = 1000 + 800 + 80 + 8
= 1000 + 500+100+100+100 + 50+10+10+10 + 5+1+1+1

Then we make each of those amounts with the correct combination of the 7 Roman numeral symbols.
= M + D + C + C + C + L + X + X + X + V + I + I + I
= MDCCCLXXXVII

We can create a 'Roman numeral place value chart' to convert between Roman numerals and Arabic numerals:

Thousands	Hundreds		Tens		Ones	
M = 1000	D = 500	C = 100	L = 50	X = 10	V = 5	I = 1
M	D	CCC	L	XXX	V	III
1000	500	100+100+100	50	10+10+10	5	1+1+1

0	1	2	3	4
5	6	7	8	9

On day 3 and 4 you may prefer to use these digit cards.

DAY 3 RESOURCES:

THINK: *If you have online parent access this lesson is based on textbook 5A, chapter 2, lesson 8.*

My friend has digit cards: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9. She makes two 5-digit numbers.

What is the greatest sum, or total, she could make?

What is the smallest total?

DO: Complete these:

PART 1:

a) 98642 + 17530 =
b) 90357 + 12 468 =
c) 70258 + 31469 =
d) 53 026 + 47 189 =

Check your answers below before moving on. Remember to estimate first.

PART 2:

68589 + 40968	24651 + 79654	76159 + 31553	24841 + 17161
35323 + 12298	79088 + 90079	70568 + 71530	70967 + 31178
73893 + 32815	88075 + 82081	19289 + 54768	80817 + 72618
78732 + 85614	81396 + 31369	47651 + 37183	23284 + 79185

SEE: **Before you begin and any time you want to check that you are working correctly, check this link for the formal method from year 5 for addition.**

First, make two 5-digit numbers:

98,765 + 43,210

Then, estimate the total of the two numbers:

98,765 + 43,210 = 100,000 + 40,000 = 140,000

Next, calculate the sum using the formal method of addition:

```
  1 1
  98765
+ 43210
 141975
```

Add the ones.
Add the tens.
Add the hundreds.
Add the thousands.
Add the ten thousands.

If the total in the ones, tens, hundreds, thousands or 10 thousands place is 10 or more rename it in the next highest place.

NOTE: Your parents may say 'carry the one' instead of saying 'rename'!

Try this one:

```
  97531
+ 86420
```

Now check your answer:

```
  1 1
  97531
+ 86420
 183951
```

DAY 4 RESOURCES:

THINK: *If you have online parent access this lesson is based on textbook 5A, chapter 2, lesson 10.*

My friend has digit cards: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9.
He makes two 5-digit numbers.
What is the smallest difference he can make?

Note: Estimating the difference before calculating will give us a really good idea of how small our answer will be.

DO: Complete these:

PART 1:

41 837 – 29 058 =

41 837 – 10 939 =

341 837 – 19 605 =

341 837 – 124 519 =

Check your answers below before moving on. Remember to estimate.

PART 2:

93159 - 41141	48357 - 45558	61714 - 53133	50876 - 40050
60819 - 31197	49128 - 18365	97177 - 78952	73336 - 29185
84635 - 77408	90736 - 79306	52951 - 25337	93485 - 23053
60830 - 20601	70964 - 56224	80843 - 33703	46398 - 31910

SEE: Before you begin and any time you want to check that you are working correctly, check this link for the formal method from year 5 for subtraction.

First, make two 5-digit numbers: **70,123 – 69,854 =**

Then, estimate the difference between the two numbers:

70,123 – 69,854 = 70,000 - 70,000 = 0

We know zero cannot be correct as we are not subtracting the same amount that we started with but it does tell us the answer is very small. In this case, we might decide the best way to calculate the answer is to count on rather than to formally subtract!

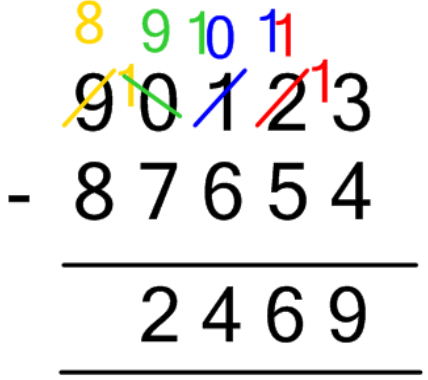
Let's try these amounts:

90,123 – 87,654 =

Then, estimate the difference between the two numbers:

90,123 – 87,654 = 90,000 – 88,000 = 2,000

Next, calculate the sum using the formal method of subtraction:



Subtract the ones.
Subtract the tens, the hundreds, the thousands and the10 thousands.
When there isn't enough to take from we must take and rename from the next higher place.
We need more ones so we **take and rename a ten**, leaving 1 ten left.
We need more tens so we **take and rename a hundred**, leaving 0 hundreds.
We need more hundreds so we try to **take and rename a thousand**. BUT we don't have any thousands to take and rename so we must **take a ten thousand and rename it as thousands.** Now we have enough thousands to **take and rename a thousand**, leaving 9 thousands left.
Finally we subtract our 10 thousands.

DAY 5 RESOURCES:

THINK: *If you have online parent access this lesson is based on textbook 5A, chapter 2, lesson 7.*

Look at the chart below. The amounts are written in yen which is Japan's currency.

After paying for rent and food, how much of her salary does Holly have remaining?

	Sam	Holly
 rent / month	225 000 yen	280 000 yen
 utilities / month	30 000 yen	Included in rent
 food / month	80 000 yen	65 000 yen
 salary / month	550 000 yen	600 000 yen

SEE: Refer to resources from day 3 and 4 to see our addition and subtraction methods.

Remember also our strategies for solving word problems:
1. Read and understand the problem, first.
2. Plan a way to reach an answer, including what calculations you will need to do to find the answer.
3. Do the calculations.
4. Check the answer makes sense in the context of the questions. Writing our answering sentence or statement helps us to check that our calculation has answered the problem!

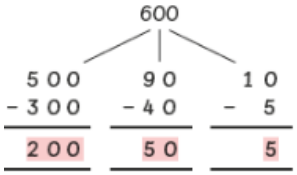
Remind yourself of the formal methods from year 5 for addition and subtraction.

```
  280  000
+  65  000
-------------
  345  000
-------------
```

Holly spent 345,000 yen on food and rent.

600 000 – 345 000 =

Holly had 255,000 yen remaining.
You could use column subtraction.
Or you could subtract 10s, 100s, 1000s like this.



DO: PART 1:

99706 - 23064	26594 + 42181	24205 - 12152	25908 + 15280
57500 - 26428	31771 + 71161	36119 + 10264	92819 - 21706

(**DO** continued)
Check your answers below before moving on to:
PART 2: Complete the word problems:

1. Brandon runs his own baking company. This morning, Brandon's workers baked 18,546 blueberry pies. They also baked some more after lunch. In total, they baked 26,039 blueberry pies. How many blueberry pies did Brandon's workers bake after lunch?

2. Claudia decided to close her comic book store, so she is selling some of her 61,002 comic books. She now has 2,948 comic books left. How many comic books has Claudia sold?

3. So far, an orchard has sold a combined total of 20,001 kilograms of fresh and frozen fruit this season. If they have sold 5,942 kilograms of frozen fruit, how many kilograms of fresh fruit have been sold so far?

ANSWERS – part 1:

Day 1

Part 1:
Q.1: a) XXVII, b) CDXXVII

Q.2: CXXV

Q.3: 168

Day 2

Part 1:
Q.1: 2016
Q.2: a) 1454, b) 36 years old
Q.3 :

1908	4th MCMVIII
1948	14th MCMXLVIII
2012	30th MMXII

Day 3

Part 1:
a) 116 172
b) 102 825
c) 101 727
d) 100 215

Day 4

Part 1:

41 837 – 29 058 =	12 779
41 837 – 10 939 =	30 898
341 837 – 19 605 =	322 232
341 837 – 124 519 =	217 318

Day 5

Part 1:

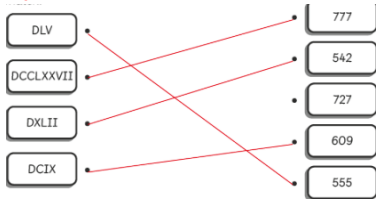
99706	26594	24205	25908
- 23064	+ 42181	- 12152	+ 15280
76642	68775	12053	41188
57500	31771	36119	92819
- 26428	+ 71161	+ 10264	- 21706
31072	102932	46383	71113

ANSWERS – part 2:

Day 1

Part 2: Workbook,
Q.1:
a) XXVI, b) XXXIX, c) LIII,
d) LXXXVIII, e) CCL, f) CDXLIV,
g) DVII, h) DCXXI, i) DCCLXV,
j) CMXCIX.

Q.2:



Day 2

Part 2: Workbook,
Q.1:
Newton = MDCXLII – MDCCXXVII
Einstein = MDCCCLXXIX – MCMLV
Piaget = MDCCCXCVI – MCMLXXX
Nash – MCMXXVIII - MMXV

Q.2:
In order:

Year of independence in Roman numerals
MCCXXXVIII
MDLXXXI
MDCCLXXVI
MCMI
MCMXLVII
MCMLXIII
MCMLXV
MMVI

Day 3

Part 2:

68589 + 40968 = 109557	24651 + 79654 = 104305	76159 + 31553 = 107712	24841 + 17161 = 42002
35323 + 12298 = 47621	79088 + 90079 = 169167	70568 + 71530 = 142098	70967 + 31178 = 102145
73893 + 32815 = 106708	88075 + 82081 = 170156	19289 + 54768 = 74057	80817 + 72618 = 153435
78732 + 85614 = 164346	81396 + 31369 = 112765	47651 + 37183 = 84834	23284 + 79185 = 102469

Day 4

Part 2:

93159 - 41141 = 52018	48357 - 45558 = 2799	61714 - 53133 = 8581	50876 - 40050 = 10826
60819 - 31197 = 29622	49128 - 18365 = 30763	97177 - 78952 = 18225	73336 - 29185 = 44151
84635 - 77408 = 7227	90736 - 79306 = 11430	52951 - 25337 = 27614	93485 - 23053 = 70432
60830 - 20601 = 40229	70964 - 56224 = 14740	80843 - 33703 = 47140	46398 - 31910 = 14488

Day 5

Part 2:
1. 7, 493 pies were baked after lunch.
2. Claudia has sold 58,054 comic books.
3. 14,059 kilograms of fresh fruit have been sold so far.