Y3/4 Addition and subtraction Unit 3 (34190)

Additional teacher instructions for practice sheets
These notes indicate which practice sheets are most appropriate for which groups.

Day 1 Y3 Subtraction by counting up Sheet 1
Working towards ARE / Working at ARE / Greater Depth
Working towards ARE do section A and try some of section B, using landmarked lines to help.
Working at ARE complete sections A and B, drawing their own empty number line jottings.
Greater Depth complete sections B and C.

Day 1 Y4 Counting up to subtract Sheet 2
Working towards ARE

Day 1 Y4 Counting up to subtract Sheet 3
Working at ARE / Greater Depth

Day 2 Y3 Subtraction by counting up Sheet 1
Working towards ARE / Working at ARE / Greater Depth
Working towards ARE complete section A and try some of section B, using landmarked lines to help.
Working at ARE complete section B and try some of C drawing their own empty number line jottings.
Greater Depth complete sections B and C. They may not need to draw jottings.

Day 2 Y4 Frog or counting back? Sheet 2
Working towards ARE

Day 2 Y4 Frog or counting back? Sheet 3
Working at ARE / Greater Depth

Day 3 Y3 Subtracting 2-digit numbers from 3-digit numbers Sheet 1
Working towards ARE / Working at ARE / Greater Depth
Working towards ARE complete Set A using a 0-100 beaded line for reference (see resources), then complete Set B.
Working at ARE complete Set B then the first four questions of Set C.
Greater Depth complete Set B then Set C.
Teacher Note: The final 2 questions of Set C have an answer greater than 20 but less than 30.

Day 3 Y4 Subtracting 3-digit numbers Sheet 2
Working towards ARE / Working at ARE / Greater Depth
Working towards ARE complete Bronze and Challenge.
Working at ARE complete Bronze, Silver and Challenge.
Greater Depth complete 3 from Bronze, 3 from Silver and all of Gold and both Challenges.

Day 4 Y3 Subtracting 2-digit numbers from 3-digit numbers Sheet 1
Working towards ARE / Working at ARE / Greater Depth
Working towards ARE complete Set A and some of Set B (if they can). Children sketch empty number lines and hops as appropriate.
Working at ARE complete Set B then the first four questions of Set C.
Greater Depth complete Set B then Set C.
(Teacher Note: The final 2 questions of Set C have an answer greater than 40 but less than 50.)

Day 4 Y4 Using addition to check subtraction Sheet 2
Working towards ARE

Day 4 Y4 Using addition to check subtraction Sheet 3
Working at ARE / Greater Depth

Subtraction by counting up
Sheet 1

Use Maths Frog to calculate these subtractions.

Set A

60 – 45 = ☐   40 – 26 = ☐   30 – 13 = ☐

50 – 31 = ☐   70 – 52 = ☐   80 – 64 = ☐

Set B

31 – 18 = ☐   86 – 69 = ☐   65 – 47 = ☐

43 – 26 = ☐   34 – 15 = ☐   52 – 34 = ☐

Set C

45 – 28 = ☐   35 – 17 = ☐   72 – 54 = ☐

93 – 76 = ☐   61 – 33 = ☐   54 – 27 = ☐

Challenge

34 – 15 = 19. 57 – 38 = 19. 82 – 63 = 19.
Find three other pairs of numbers with a difference of 19. Write a statement about their ones digits.

Counting up to subtract
Sheet 2

Sketch number lines to help Maths Frog find these differences:

30 – 18 =

70 – 55 =

40 – 27 =

85 – 79 =

53 – 45 =

92 – 78 =

63 – 46 =

95 – 59 =

Challenge

Find the difference between each of these pairs: 23 and 32, 34 and 43 and 45 and 54.
What do you notice?
Write another similar pair.

Counting up to subtract
Sheet 3

Sketch number lines to help Maths Frog find these differences:

33 – 18 =

72 – 55 =

53 – 27 =

65 – 36 =

81 – 45 =

74 – 39 =

95 – 76 =

67 – 38 =

Challenge

Sally writes a 2-digit number and then a smaller 2-digit number. She finds the difference. She notices that the difference has the same digits as the smaller number but in reverse. Write three pairs of numbers that could be Sally's starting numbers. What do you notice about the larger number in each case?

Subtraction by counting up
Sheet 1

Use Maths Frog to help you work out these subtractions.

Set A

30 – 18 = ☐   80 – 66 = ☐   40 – 23 = ☐

90 – 75 = ☐   60 – 43 = ☐   70 – 54 = ☐

Set B

42 – 24 = ☐   94 – 78 = ☐   45 – 29 = ☐

91 – 76 = ☐   54 – 26 = ☐   83 – 45 = ☐

Set C

74 – 58 = ☐   65 – 37 = ☐   82 – 46 = ☐

53 – 28 = ☐   81 – 47 = ☐   95 – 66 = ☐

Challenge

■ – ● =

Frog does a hop of 6 and then a jump of 20. Write three pairs of 2-digit numbers which could be his subtraction.

Frog or counting back?
Sheet 2

Decide whether to use Frog or counting back to solve each of these calculations.
Can you explain your choice of strategy for each question?

50 – 25   60 – 56

100 – 75   78 – 52

72 – 65   84 – 21

43 – 37   102 – 95

Challenge

Write a subtraction for a friend which you would expect them to solve using Frog.

Frog or counting back?

Decide whether to use Frog or counting back to solve each of these calculations.
Can you explain your choice of strategy for each question?

102 – 75   78 – 52

132 – 48   163 – 82

132 – 91   146 – 77

155 – 75   123 – 61

118 – 59   115 – 56

Challenge

Write three subtractions for a friend. One that is probably best done using Frog, one that is straightforward to do by counting back, and one that could be efficiently solved using either method.

Subtracting 2-digit numbers from 3-digit numbers
Sheet 1

Set A

100 – 82 = ☐   100 – 73 = ☐   100 – 57 = ☐

100 – 44 = ☐   100 – 68 = ☐   100 – 71 = ☐

Set B

103 – 94 = ☐   102 – 96 = ☐   104 – 95 = ☐

105 – 97 = ☐   106 – 98 = ☐   103 – 94 = ☐

Set C

104 – 86 = ☐   108 – 89 = ☐   112 – 94 = ☐

114 – 98 = ☐   114 – 85 = ☐   112 – 88 = ☐

Challenge

The 'baby' number has a 1s digit that is 1 more than the 1s digit of the big number. The 1s digit in the answer is always the same. What is it?

Suppose the 'baby' number has a 1s digit that is 2 more than the 1s digit of the big number? What is the 1s digit in the answer then?

Subtracting 3-digit numbers
Sheet 2

Use Frog to help you count up to solve these subtractions.

Bronze

500 – 457	700 – 621
800 – 783	900 – 842
300 – 218	600 – 596

Challenge

Use the answer to 500 – 457 to say the answer to 501 – 457 <u>without</u> drawing another Frog line.
Use answer to 800 – 783 to say the answer to 802 – 783.
What about 303 – 218?

Silver

216 – 164	805 – 765
303 – 286	519 – 483
417 – 379	702 – 691

Gold

623 – 571	516 – 465
941 – 865	725 – 682
319 – 293	834 – 798

Challenge

Try 567 – 476, then 523 – 432, then 578 – 487, then 545 – 454.
Can you describe what these have in common (other than being between 400 and 600)?
Can you write another subtraction that follows the same pattern?

Subtracting 2-digit numbers from 3-digit numbers
Sheet 1

Set A

101 – 82 = ☐   107 – 93 = ☐   105 – 87 = ☐

113 – 94 = ☐   114 – 96 = ☐   112 – 92 = ☐

Set B

113 – 84 = ☐   106 – 79 = ☐   127 – 98 = ☐

115 – 89 = ☐   124 – 97 = ☐   118 – 78 = ☐

Set C

104 – 76 = ☐   108 – 69 = ☐   122 – 84 = ☐

111 – 73 = ☐   119 – 75 = ☐   138 – 93 = ☐

Challenge

Use the digits 9, 8, 1, 2 and 3. Create a subtraction which looks like this:
☐☐☐ – ☐☐. It must have the largest possible answer.
Now create one using the same digits that has the smallest possible answer.

Using addition to check subtraction
Sheet 2

Be the teacher!
Use addition to check these subtractions.
If you find a wrong answer use Frog to help you find the right answer.

69 – 61 = 8

69	
61	*8*

105 – 95 = 10

105	
95	*10*

200 – 188 = 12

200	
188	*12*

400 – 390 = 15

400	
390	*15*

207 – 198 = 9

207	
198	*9*

312 – 295 = 17

312	
295	*17*

311 – 296 = 20

311	
296	*20*

425 – 398 = 27

425	
398	*27*

Using addition to check subtraction
Sheet 3

Use Frog to find the differences, then check your answers with addition.

69
61

69 – 61 =

105
95

105 – 95 =

200
188

200 – 188 =

400
390

400 – 390 =

207
198

207 – 198 =

312
295

312 – 295 =

311
296

311 – 296 =

425
398

425 – 398 =

Challenge

Use these digits: 5, 6 and 7 to create two 3-digit numbers.
You must use all three digits in each number.
Find the difference between your two numbers.

Repeat, but this time, create the two numbers which will give you the largest difference possible. Are you certain this is the largest difference?

Now create the two numbers that will give you the smallest difference possible.

Addition and subtraction
Answers

Day 1 Y3 Subtraction by counting up Sheet 1

Set A

15	14	17
19	18	16

Set B

13	17	18
17	19	18

Set C

17	18	18
17	28	27

> **Challenge**
> Many possible answers. The ones digits are always consecutive numbers when the answer to the subtraction is 19, e.g. 6<u>3</u> – 4<u>4</u>, 7<u>8</u> – 5<u>9</u>, etc..

Day 1 Y4 Counting up to subtract Sheet 2

30 – 18 = **12**   53 – 45 = **8**
70 – 55 = **15**   92 – 78 = **14**
40 – 27 = **13**   63 – 46 = **17**
85 – 79 = **6**   95 – 59 = **36**

> **Challenge**
> The difference between each pair of numbers is 9.
>
> Other examples: **12 and 21, 56 and 65.**

Day 1 Y4 Counting up to subtract Sheet 3

33 – 18 = **15**   81 – 45 = **36**
72 – 55 = **17**   74 – 39 = **35**
53 – 27 = **26**   95 – 76 = **19**
65 – 36 = **29**   67 – 38 = **29**

> **Challenge**
> Sally's starting numbers could be:
> 55 and 32 (55 – 32 = 23)
> 33 and 21 (33 – 21 = 12)
> 99 and 54 (99 – 54 = 45)
> The 10s and 1s digits are the same in the larger starting number.

Day 2 Y3 Subtracting by counting up Sheet 1

Set A

12	14	17
15	17	16

Set B

18	16	16
15	28	38

Set C

16	28	36
25	34	29

> **Challenge**
> Frog does a hop of 6 and then a hop of 20. Write three pairs of 2-digit numbers which could be his subtraction.
> For example: **50 – 24, 40 – 14, 60 – 34.**

Day 2 Y4 Frog or counting back? Sheet 2

50 – 25 = **25**   60 – 56 = **4**
100 – 75 = **25**   78 – 52 = **26**
72 – 65 = **7**   84 – 21 = **63**
43 – 37 = **6**   102 – 95 = **7**

Day 2 Y4 Frog or counting back? Sheet 3

102 – 75 = **27**   78 – 52 = **26**
132 – 48 = **84**   163 – 82 = **81**
132 – 91 = **41**   146 – 77 = **69**
155 – 75 = **80**   123 – 61 = **62**
118 – 59 = **59**   115 – 56 = **59**

Addition and subtraction
Answers

Day 3 Y3 Subtracting 2-digit numbers from 3-digit numbers Sheet 1

Set A
Set B
Set C

| 18 | 27 | 43 | | 9 | 6 | 9 | | 18 | 19 | 18 |
| 56 | 32 | 29 | | 8 | 8 | 9 | | 16 | 29 | 24 |

Challenge

The ones digit in the answer will always be 9. If the baby number digit is 2 more then the answer ones digit will always be 8.

Day 3 Y4 Subtracting 3-digit numbers Sheet 2

Bronze
500 – 457 = 43
800 – 783 = 17
300 – 218 = 82
700 – 621 = 79
900 – 842 = 58
600 – 596 = 4

Challenge

501 - 457 = 44 (one more than 500 - 457)
802 - 783 = 19 (two more than 800 - 783)
303 - 218 = 85 (three more than 300 - 218)

Silver
216 – 164 = 52
303 – 286 = 17
417 – 379 = 38
805 – 765 = 40
519 – 483 = 36
702 – 691 = 11

Challenge

567 – 476 = 91
523 – 432 = 91
578 – 487 = 91
545 – 454.= 91

They all equal 91.

Another example is 589 - 498 or 712 - 621.

Gold
623 – 571 = 52
941 – 865 = 76
319 – 293 = 26
516 – 465 = 51
725 – 682 = 43
834 – 798 = 36

Addition and subtraction
Answers

Day 4 Y3 Subtracting 2-digit numbers from 3-digit numbers Sheet 1

Set A

19	14	18
19	18	20

Set B

29	27	29
26	27	40

Set C

28	39	38
38	44	45

Challenge

The largest difference $983 - 12 = 971$
The smallest difference $123 - 98 = 25$

Day 4 Y4 Using addition to check subtraction Sheet 2

$69 - 61 = 8$ Correct
$105 - 95 = 10$ Correct
$200 - 188 = 12$ Correct
$400 - 390 = 15$ Incorrect. The correct answer is 10.
$207 - 198 = 9$ Correct
$312 - 295 = 17$ Correct
$311 - 296 = 20$ Incorrect. The correct answer is 15.
$425 - 398 = 27$ Correct

Day 4 Y4 Using addition to check subtraction Sheet 3

$69 - 61 = 8$
$105 - 95 = 10$
$200 - 188 = 12$
$400 - 390 = 10$
$207 - 198 = 9$
$312 - 295 = 17$
$311 - 296 = 15$
$425 - 398 = 27$

Challenge

$657 - 576 = 81$ $765 - 567 = 198$ (largest diference)
$657 - 567 = 90$
$675 - 576 = 99$ $576 - 567 = 9$ (smallest difference)
$675 - 567 = 108$
$756 - 576 = 180$