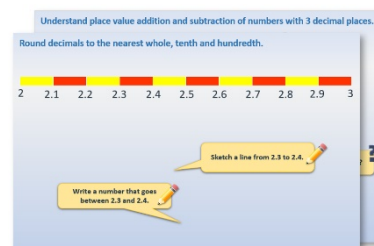


Week 1 Day 2

Each day covers one maths topic. It should take you about 1 hour or just a little more.

1. Start by reading through the **Learning Reminders**. They come from our *PowerPoint* slides.



2. Tackle the questions on the **Practice Sheet**.
There might be a choice of either **Mild** (easier) or **Hot** (harder)!
Check the answers.

Practice Sheet (Mild)

Place value addition and subtraction

Sheet 1

1. $4538 + 02$	2. $4538 + 003$
4. $4538 - 0004$	4. $4538 - 002$
6. $6231 - 011$	6. $6231 - 0101$
7. $6231 + 0011$	8. $5846 - 0211$
9. $5846 - 013$	10. $5846 - 0013$
11. $5846 - 0204$	12. $4789 - 0001$

Challenge

Start at 532

Add tens and hundreds to make an addition chain ending with the number 4627.

Start at 10789

Subtract tens, hundreds and thousands to make a subtraction chain ending with the number 9762.

3. Finding it tricky? That's OK... have a go with a grown-up at [A Bit Stuck?](#)

[illegible]

4. Have I mastered the topic? A few questions to **Check your understanding**.
Fold the page to hide the answers!

Identify the value of the '4' in the following numbers:

- (a) 3.407
- (b) 4.821
- (c) 0.043
- (d) 5.104
- (e) 48,739

How many times must Dan multiply 0.048 by 10 to get 48,000?

Learning Reminders

Use counting up (Frog) to subtract from multiples of 1000 (a mental strategy with jottings)

A group of people are cycling 4000 miles across America to raise money for charity.
So far they have travelled 2658 miles, so over half way.

How much further do
they have to go?

$$= 4000 - 2658$$

Use Frog to count up to
find the difference!

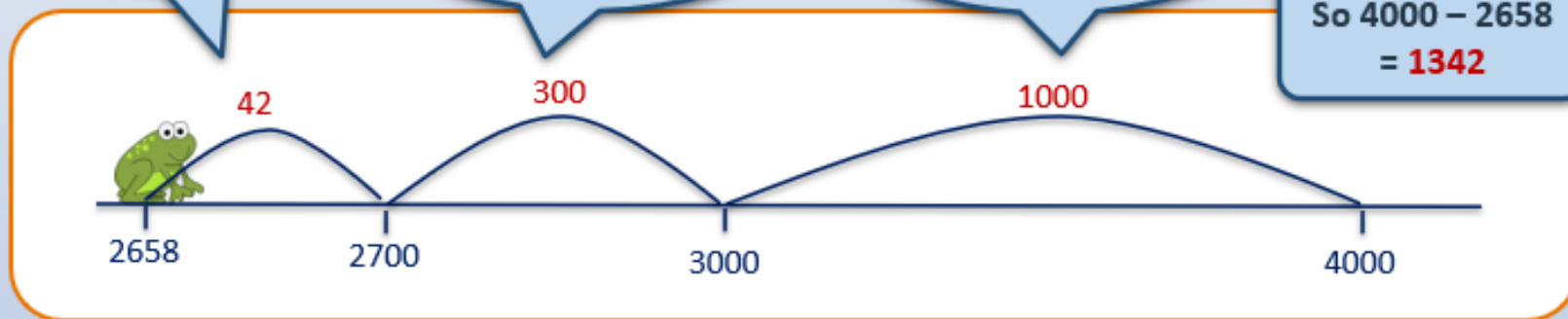


Frog hops **42**
to 2700...

... and another
300 to jump to
3000...

... then **1000** to
jump to 4000.

So $4000 - 2658$
 $= \mathbf{1342}$



Learning Reminders

Written subtraction.

Calculate: $64,783 - 35,327$

Let's remind ourselves how to use both **expanded** and **compact** column subtraction (decomposition).

First subtract the 1s, then 10s, then 100s, then 1000s, then 10,000s.

50,000	14,000		70	13
60,000	4000	700	80	3
- 30,000	5000	300	20	7
<hr/>				
20,000	9000	400	50	6
<u>29,456</u>				

5	14		7	13
6	4	7	8	3
- 3	5	3	2	7
<hr/>				
2	9	4	5	6

Learning Reminders

Written subtraction.

Use either expanded or compact decomposition to calculate $72,846 - 47,063$.



$$\begin{array}{r} 70,000 \quad 2000 \quad 800 \quad 40 \quad 6 \\ - 40,000 \quad 7000 \quad 0 \quad 60 \quad 3 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \quad 2 \quad 8 \quad 4 \quad 6 \\ - 4 \quad 7 \quad 0 \quad 6 \quad 3 \\ \hline \end{array}$$

Answers here:

$$\begin{array}{r} 2 \quad 5 \quad 7 \quad 8 \quad 3 \\ - 4 \quad 7 \quad 0 \quad 6 \quad 3 \\ \hline 6 \quad 12 \quad 7 \quad 14 \end{array}$$

$$\begin{array}{r} 25,783 \\ 20,000 \quad 5000 \quad 700 \quad 80 \quad 3 \\ - 40,000 \quad 7000 \quad 0 \quad 60 \quad 3 \\ \hline 60,000 \quad 12,000 \quad 700 \quad 140 \end{array}$$

Practice Sheet Mild

Multiples of 1000

Draw number lines to show Frog solving these problems:

1. $1000 - 573$
2. $2000 - 1958$
3. $6000 - 5839$
4. $4000 - 2748$
5. $5000 - 2349$
6. $9000 - 4275$
7. $8000 - 5624$
8. $7000 - 3453$
9. $3000 - 2222$
10. $6000 - 3333$

Challenge

Look at your number lines. Can you find some ways to solve the problems with fewer jumps?

Practice Sheet Mild

Subtracting 4-digit numbers

Complete each subtraction.

1. $4582 - 2317$
2. $9635 - 2381$
3. $5056 - 3214$
4. $8264 - 2327$
5. $6523 - 3289$
6. $8236 - 5460$
7. $4562 - 1684$
8. $9450 - 5728$

Choose two of your subtractions to check with addition.

Challenge

Find the missing digits in this subtraction:

$$\square 4 1 \square - 1 \square 3 6 = 7 0 \square 7$$

Practice Sheet Hot

Subtraction practice

1. $64,784 - 21,529$
2. $75,548 - 43,273$
3. $86,347 - 33,720$
4. $72,583 - 45,251$
5. $56,421 - 24,175$
6. $92,765 - 48,308$
7. 45,287 people live in South Oaktown. 38,145 people live in North Oaktown. What is the difference between their populations?
8. The odometer on a six-year old car shows 63,564 miles. In the first five years it had driven 52,382 miles. How many miles were driven last year?

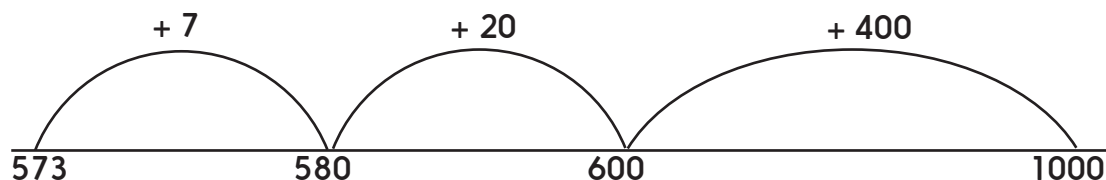
Challenge

Write a word problem which involves subtracting 45,875 from 50,005. Then explain how you would do the subtraction if you were solving your own word problem!

Practice Sheet Answers

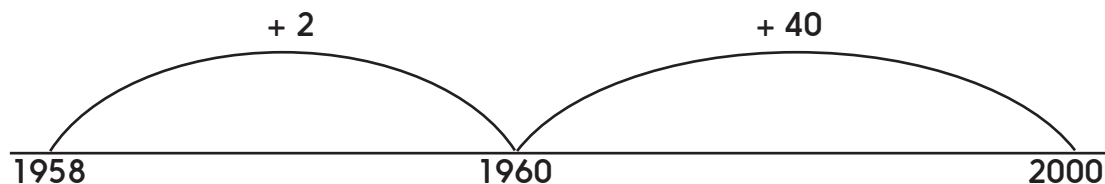
Multiples of 1000 (mild)

1. $1000 - 573$



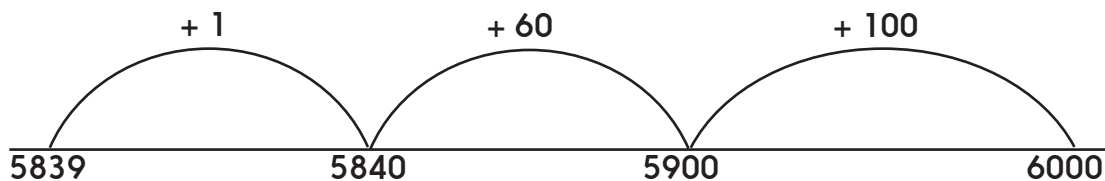
Add the hops: $400 + 20 + 7 = 427$

2. $2000 - 1958$



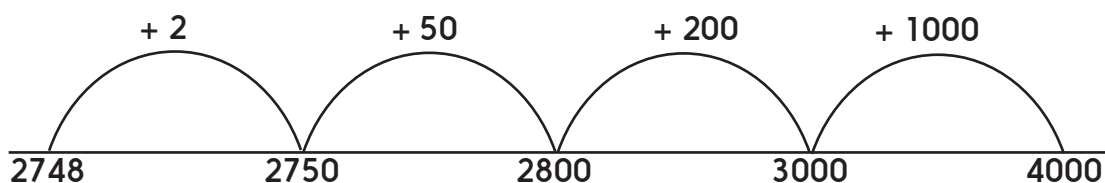
Add the hops: $40 + 2 = 42$

3. $6000 - 5839$



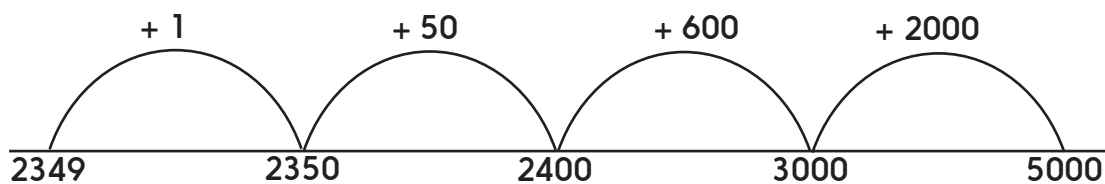
Add the hops: $100 + 60 + 1 = 161$

4. $4000 - 2748$



Add the hops: $1000 + 200 + 50 + 2 = 1252$

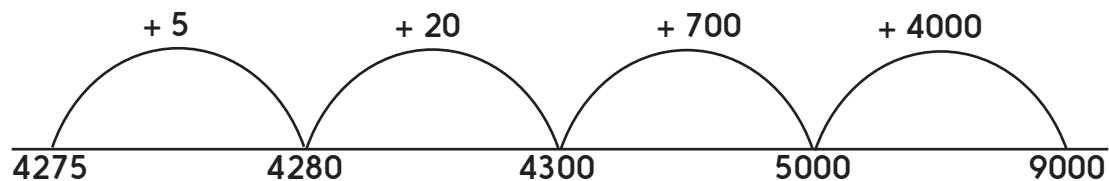
5. $5000 - 2349$



Add the hops: $2000 + 600 + 50 + 1 = 2651$

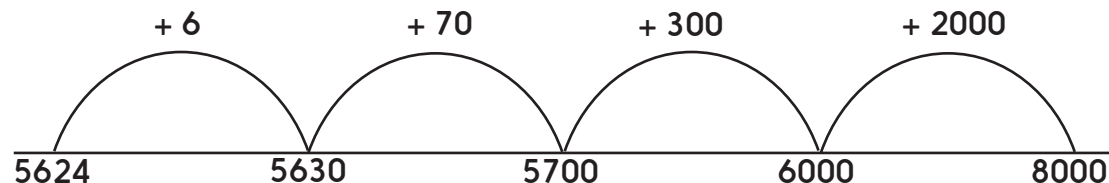
Multiples of 1000 (mild) continued

6. $9000 - 4275$



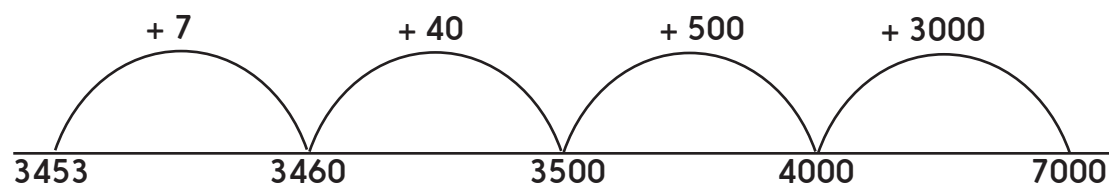
Add the hops: $4000 + 700 + 20 + 5 = 4725$

7. $8000 - 5624$



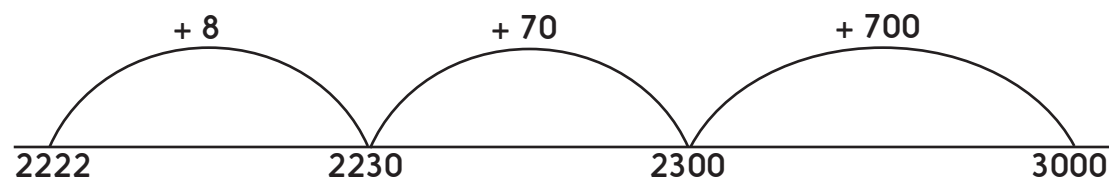
Add the hops: $2000 + 300 + 70 + 6 = 2376$

8. $7000 - 3453$



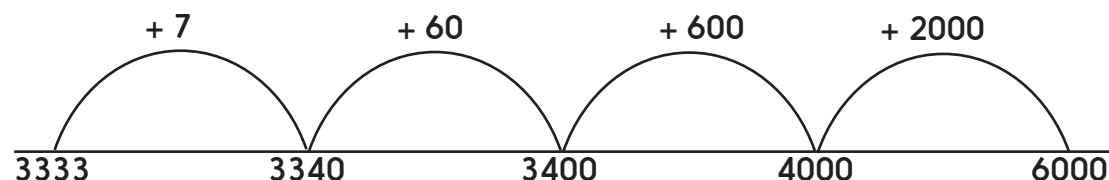
Add the hops: $3000 + 500 + 40 + 7 = 3547$

9. $3000 - 2222$



Add the hops: $700 + 70 + 8 = 778$

10. $6000 - 3333$



Add the hops: $2000 + 600 + 60 + 7 = 2667$

Subtracting 4-digit numbers (mild)

1. $4582 - 2317 = 2265$
2. $9635 - 2381 = 7254$
3. $5056 - 3214 = 1842$
4. $8264 - 2327 = 5937$
5. $6523 - 3289 = 3234$
6. $8236 - 5460 = 2776$
7. $4562 - 1684 = 2878$
8. $9450 - 5728 = 3722$

Challenge

$$8413 - 1336 - 7077$$

Subtraction practice (hot)

1. $64,784 - 21,529 = 43,255$
2. $75,548 - 43,273 = 32,275$
3. $86,347 - 33,720 = 52,627$
4. $72,583 - 45,251 = 27,332$
5. $56,421 - 24,175 = 32,246$
6. $92,765 - 48,308 = 44,457$
7. $45,287 - 38,145 = 7142$. There is a difference of 7142 between their populations.
8. $63,564 - 52,382 = 11,182$. The car drove 11,182 miles in the last year.

Challenge

There are many possible answers here.

A Bit Stuck?

Hops, skips and jumps

Things you will need:

- A pencil



What to do:

- Choose at least four subtractions to work out.
Draw a line from the smaller number to the bigger number.
Use Frog to work out the difference between the two numbers.
- Remember to add up your hops and jumps at the end!

$$6000 - 5642$$

$$6002 - 6938$$

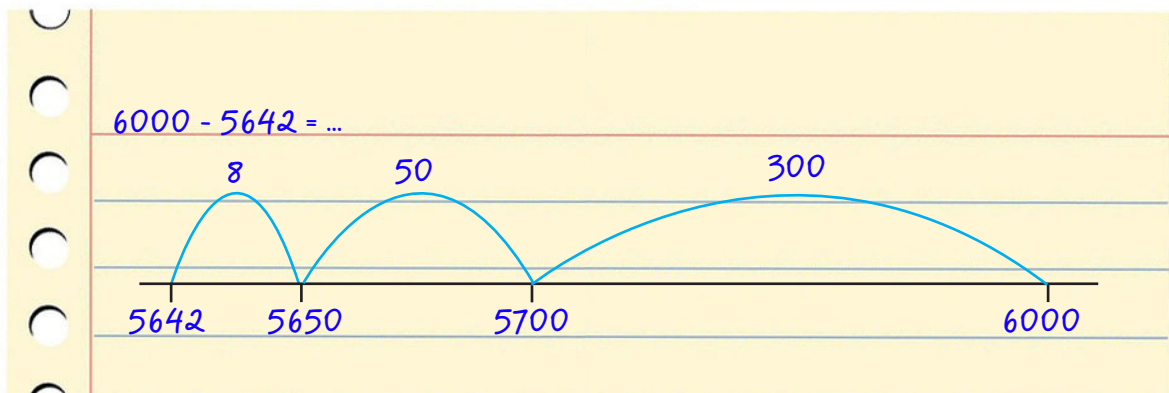
$$5000 - 3981$$

$$4005 - 3964$$

$$9000 - 4567$$

$$6001 - 4983$$

$$3004 - 2572$$



S-t-r-e-t-c-h:

Work out the answers to $6003 - 4579$ and $5010 - 3678$.
Frog needs to work a bit harder for these!

Learning outcomes:

- I can use Frog to subtract 4-digit numbers from multiples of 1000 (e.g. $4000 - 3786$).
- I can use Frog to subtract 4-digit numbers when the larger number has zeros (e.g. $4002 - 3987$).
- I am beginning to use Frog to subtract pairs of 4-digit numbers which are further apart from each other.

A Bit Stuck?

Hop to hundreds, and beyond!

Work in pairs

Things you will need:

- A pencil

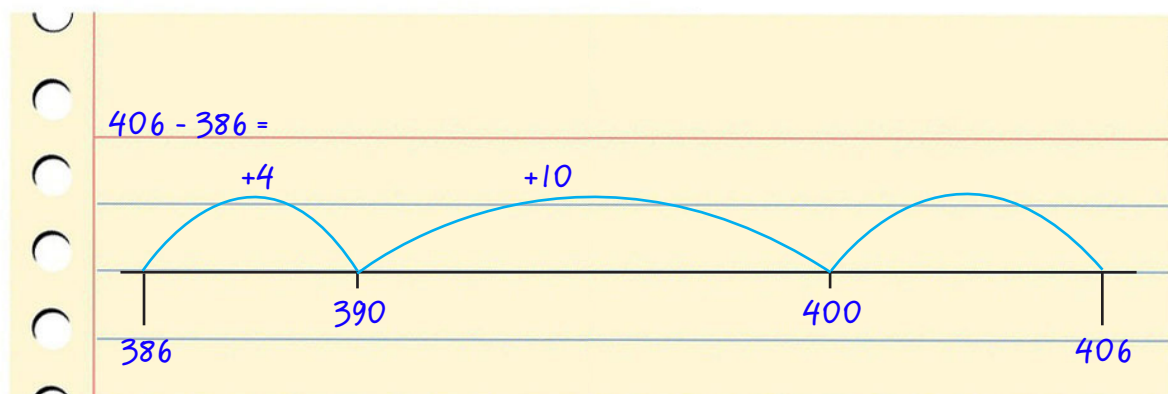


What to do:

- Take it in turns to be the teacher and to be the Frog.
Choose a subtraction.
Tell your partner, one step at a time, how to work out the answer to the subtraction.
- Work out as many subtractions as you can.

Hop, hop
 $305 - 298$
 $802 - 794$
 $603 - 597$
 $506 - 495$

Hop, jump, hop
 $406 - 386$
 $203 - 175$
 $501 - 468$
 $604 - 559$



S-t-r-e-t-c-h:

Choose two subtractions from the hop, hop section to check using addition.

Learning outcomes:

- I can use counting up (Frog) to subtract 3-digit numbers either side of a multiple of 100, e.g. $304 - 297$, then $304 - 267$.
- I am beginning to use addition to check subtraction.

Check your understanding

Questions

Use just the digits 4 and 5 to create a 5-digit – 5-digit subtraction to give an answer with at least two 9s.

Can you get 9091?

What is the smallest answer you can get?

What is the largest?

Explain why it would be sensible to choose different methods to solve (a) and (b) below.

(a) $67,493 - 21,561$

(b) $50,005 - 44,878$

Find the missing numbers in this subtraction:

$$\begin{array}{r} 12 \star 62 \\ - 93 \blacksquare 8 \\ \hline 311 \blacktriangle \end{array}$$

Fold here to hide answers:

Check your understanding

Answers

Use just the digits 4 and 5 to create a 5-digit – 5-digit subtraction to give an answer with at least two 9s.
e.g. $55,544 - 44,555$. Other answers are possible; the key is to have 4s in the first number in the same place as 5s in the second.

Can you get 9091? $54,545 - 45,454$.

What is the smallest answer you can get? $55,555 - 55,554 = 1$.

What is the largest? $55,555 - 44,444 = 11,111$

Explain why it would be sensible to choose different methods to solve (a) and (b) below.

(a) $67,493 - 21,561$ 45,932. Probably best by column subtraction, since neither number is close to 10,000s and exchanges between columns are needed.

(b) $50,005 - 44,878$ 5127. Since 50,005 is just over 50,000 this can be solved by counting up (Frog) from 44,878

Find the missing numbers in this subtraction:

$$\begin{array}{r} 512 \\ 12462 \\ - 9348 \\ \hline 3114 \end{array}$$