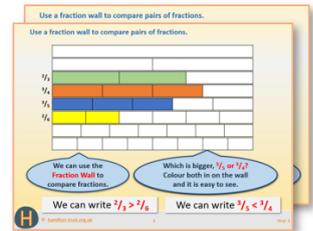


Week 10, Day 1

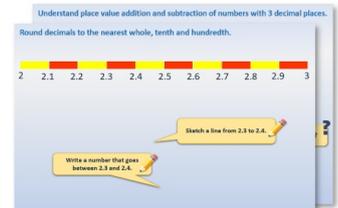
Use expanded column subtraction to subtract 3-digit numbers

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

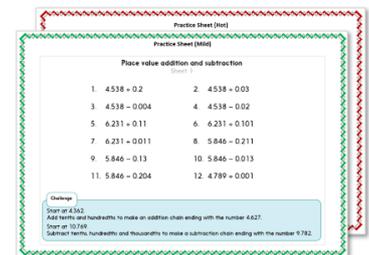
1. If possible, watch the **PowerPoint presentation** with a teacher or another grown-up.



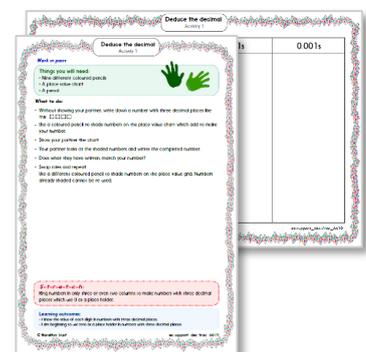
OR start by carefully reading through the **Learning Reminders**.



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



3. Finding it tricky? That's OK... have a go with a grown-up at **A Bit Stuck?**



4. Think you've cracked it? Whizzed through the Practice Sheets? Have a go at the **Investigation...**

Learning Reminders

Use expanded column subtraction to subtract 3-digit numbers.

In 'expanded' column subtraction, we partition the numbers.
Partitioning is separating a number's parts according to **place value**.

e.g. $753 = 700 + 50 + 3$

When we use expanded column subtraction we will also be **recombining** numbers which is the opposite of partitioning.

e.g. $500 + 20 + 7 = 527$

Learning Reminders

Use expanded column subtraction to subtract 3-digit numbers.

We can use expanded column subtraction to find $782 - 467$. Follow the steps 1-5.

1. **Partition** the numbers and set them out neatly.

2. Start with the 1s.
7 is larger than 2 so take one of the 10s and move it to the 1s.
Then subtract 7 from 12.

$$\begin{array}{r} 70 \ 12 \\ 700 \ \cancel{80} \ \cancel{2} \\ - 400 \ 60 \ 7 \\ \hline 300 \ 10 \ 5 \end{array}$$

3. Next subtract the 10s. $70 - 60 = 10$

4. Subtract the 100s.
 $700 - 400 = 300$

5. Finally **recombine** 300, 10 and 5.
 $782 - 467 = 315$

Learning Reminders

Use expanded column subtraction to subtract 3-digit numbers.

Now let's try $425 - 283$.

$$\begin{array}{r} 300 \ 120 \\ \cancel{400} \ \cancel{20} \ 5 \\ - 200 \ 80 \ 3 \\ \hline 100 \ 40 \ 2 \end{array}$$

1. **Partition** the numbers and set them out neatly.

2. Subtract the 1s.
 $5 - 3 = 2$

3. 80 is bigger than 20 so take 100 from 400 and add it to the 10s. Now subtract the 10s.
 $120 - 80 = 40$

4. Subtract the 100s.
 $300 - 200 = 100$

5. Finally recombine 100, 40 and 2.
 $425 - 283 = 142$

Practice Sheet Mild

Expanded column subtraction

Use expanded column subtraction to complete the questions below,

e.g. $463 - 127$ $50 \ 13$

$$\begin{array}{r} 400 \ \cancel{60} \ \cancel{3} \\ - 100 \ 20 \ 7 \\ \hline 300 \ 30 \ 6 \end{array}$$

$$463 - 127 = 336$$

$$963 - 428$$

$$751 - 226$$

$$824 - 552$$

$$615 - 361$$

$$793 - 437$$

$$850 - 628$$

Practice Sheet Hot

Expanded column subtraction

Use expanded column subtraction:

$$963 - 428$$

$$751 - 226$$

$$824 - 552$$

$$615 - 361$$

$$793 - 437$$

$$850 - 628$$

$$628 - 465$$

$$926 - 873$$

Challenge

Find two 3-digit – 3-digit subtractions where you will have to exchange between 100s and 10s and 10s and 1s.

Practice Sheet Answers

Expanded column subtraction (mild)

$$963 - 428 = 535$$

$$751 - 226 = 525$$

$$824 - 552 = 272$$

$$615 - 361 = 254$$

$$793 - 437 = 356$$

$$850 - 628 = 222$$

Expanded column subtraction (hot)

$$963 - 428 = 535$$

$$751 - 226 = 525$$

$$824 - 552 = 272$$

$$615 - 361 = 254$$

$$793 - 437 = 356$$

$$850 - 628 = 222$$

$$628 - 465 = 163$$

$$926 - 873 = 53$$

