

Common Next Steps – Exemplification

Subject: Maths

Next Step: To extract calculations from worded problems

Exemplification

A top tip is to check if the questions have a total. If they do, you will be subtracting or dividing. If they do not, you will be adding or multiplying. There are some key words and phrases to the right which give some clues.

Example:

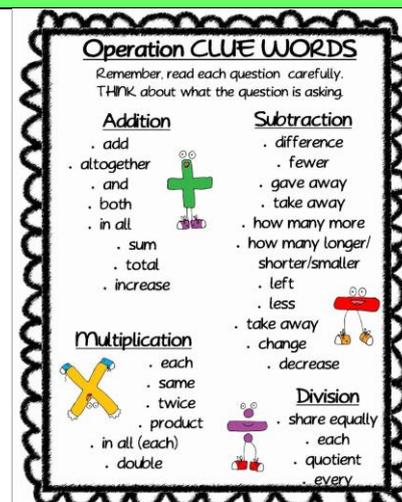
Josh has scored 14 goals this year. Paul has scored twice as many as Josh. How many have they scored altogether?

The word 'altogether' suggests there is going to be some adding involved. The phrase 'as many as Josh' suggests there is going to be a multiplication calculation linked to Josh's amount.

$$14 \times 2 = 28$$

$$28 + 14 = 42$$

Josh and Paul have scored 42 goals altogether.



Subject: Maths

Next Step: To use reasoning to check answers

Exemplification

Once an answer is reached, children need to check back over to see whether they think it is reasonable.

Example 1: $11 \times 4 = 37$

This is not a reasonable answer as 10×4 is 40, so it needs to be more than 40 or all numbers in the 4 times table are even so 37 can't be correct.

Example 2: $10 \times 4.5 = 40.5$

This answer cannot be correct as 10×0.5 would be 5 ones.

This answer cannot be correct as digits move up and down place value columns when multiplied and divided by 10/100/100. The 5 tenths has not moved.

Example 3: $7.6\text{kg} = 760\text{g}$

This cannot be correct as every kg has 1000g in so the answer would have at least 7000g.

Subject: Maths

Next Step: To use inverse knowledge to support calculating

Exemplification

To use the inverse means to us the opposing operation to 'undo what has been done'. The inverse of \times is \div and the inverse of $+$ is $-$ and vice versa.

If $6 \times 7 = 42$ then $42 \div 7 = 6$. This knowledge helps with missing number problems. $4 \times \underline{\quad} = 12$. To solve this you would do $12 \div 4 = \underline{\quad}$.

If $56 + 235 = 291$ then $291 - 56 = 235$. Therefore, you could solve $\underline{\quad} + 680 = 925$ by doing $925 - 680 = \underline{\quad}$.

Be careful to check whether you already have the total (largest number) as this will help you decide which calculation type you need to be doing.

Subject: Maths

Next Step: To use the formal methods of addition and subtraction

Exemplification

Addition:

4732
+ 1254

5986

START WITH THE ONES!

ANSWER GOES HERE

3469
+ 623

4092

START WITH THE ONES

(9+3=12 so we have 2 ones and 1 new ten.)

400 + 600 = 1000 so you have no hundreds but 1 new thousand!

PUT THE NEW CARRIED AMOUNT BELOW. DON'T FORGET TO ADD IT ON!

Subtraction:

Be careful with place holders!

3406
- 1534

2537

START WITH THE ONES

If there are not enough to take away from, you need to exchange. Borrow a ten and make it ten ones. 11-4=7

7893
- 2567

5436

START WITH THE ONES

Here, you need to exchange along. Make sure they only pass to the PV column next to it - NO FURTHER!