Exercise counts

--- What and how do students think?

Reference: Encourage Independent Thinking in Primary Maths

We need to think carefully about the activity that a task will generate, says Mike Askew

What are students asked to do?

$$
\begin{array}{r} 74 \\ -36 \\ \hline \end{array}
\qquad
\begin{array}{r} 67 \\ -49 \\ \hline \end{array}
\qquad
\begin{array}{r} 83 \\ -65 \\ \hline \end{array}
$$

What have students done?

Case 1

$$^6\not{7}\,^1 4$$
$$-\,3\,6$$
$$\overline{3\,8}$$

Case 2

Giving the correct answers without showing any working.

"I can add 4 to 36 to make 40, and from 40 to 74 is another 34. So 4 plus 34 is 38. The answer is 38."

4 | # What does the question expect the students to do?

Mrs Jones bought two boxes of pencils

Miss Smith also bought two
boxes of pencils

Q. Use the answer to the total number of pencils that Mrs Jones bought to work out how many more pencils Miss Smith bought.

5 | This is what the question expected students to do.

35 + 15 = 50

15 + 55 = 15 + 35 + 20 = 50 + 20,

so Miss Smith bought 20 more pencils.

Students create their own problems

Choose a number from each circle to form a subtraction question and answer it.

- Ex.1

Form 9 more subtraction questions in the same way, and answer them.
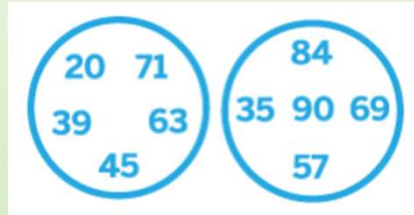
Students create their own problems

- Ex. 2A

Form 5 subtraction questions that you think are easy, which you can answer mentally. Give your answers

- Ex. 2B

Form 5 subtraction questions that you think you need to work out using paper and pencil. Do the calculations.

Students create their own problems

- Ex. 3A

Swap your 10 questions with your partner. Answer your partner's questions.

- Ex. 3B

Swap back and mark the problems you set.

Students create their own problems

Swap your 10 calculations with your partner. Answer your partner's calculations. Swap back and mark the calculations you set.

"Now pupils now get to answer twice as many calculations (thanks to the marking) and everything is also

set up for a productive class dialogue on

what made some subtractions easy,

and what made some harder. "

Open up the target of an exercise

Using 2, 2, 5, 6 in any combination, can you make 154?

- How many multiples of 10 can you make?
- Can you find answers that are multiples of 3 and 5? How can they be made?

Open up the target of an exercise

- Make three different calculations and put the answers in order.

- Can you make two calculations with answers that are consecutive?

- Three consecutive answers?

- How many numbers between 100 and 200 can you make?