

TASK: Subtraction Action:

This task has students subtracting numbers with and without regrouping starting with whole numbers and moving into numbers with thousandths.

Seen Before: Subtracting whole numbers with and without regrouping (decomposition)

Launch Script:

Teacher: How many of you watched the Olympics this summer?

The USA earned 126 medals (Gold, Silver and Bronze) while China earned 90. Who earned more? How many more?

(Set up using open number line)

Many of the competitions in the Olympics are measured to the nearest hundredth of a second or thousandth of a second, showing just how close the competitions were. One that I really liked watching was the women's 400 meter hurdles.

Did you know that a new world-record was set by American Sydney McLaughlin-Levrone of the United States this summer. The previous Olympics world record was 51.49 seconds and the new world record was 50.37 seconds. How much faster did she run the hurdles than the previous record setter?

(Set up in a vertical alignment)

Today, you and your team are each going to compare a variety of scores and data to determine which is more and by how much?

TASK SEQUENCE

Type 1: Subtracting Whole Numbers Without Decomposing

Hints:

- If stacking your numbers, which number should be at the top?
- How can you check that your answer to the subtraction problem is correct?
- How does place value fit in with subtraction?

Which is more and by how much?

| | | | |
|-----------|-------------|-----------------|-------------------|
| 64 and 12 | 158 and 33 | 2,315 and 8,427 | 13,876 and 13,896 |
| 42 and 93 | 232 and 547 | 4,621 and 1,211 | 5,766 and 252 |
| 25 and 57 | 471 and 683 | 3,584 and 1,263 | 3,405 and 305 |

Type 2: Subtracting Decimals with No Regrouping

Hints:

- How does the value of the decimal change if I place 0's after it?
- How do you determine which number is greater?
- How can you check that your subtraction is correct?

Which is more and by how much?

| | | | |
|-------------|----------------|-----------------|------------------------|
| 9.2 and 4.1 | 9.2 and 19.2 | 167.3 and 18.5 | 543.678 and 200.123 |
| 4.7 and 0.6 | 82.45 and 3.12 | 5.567 and 9.668 | 100.200 and 800.500 |

| | | | |
|----------------|------------------|-------------------|-----------------|
| 7.9 and 3.5 | 2.54 and 45.67 | 43.567 and 11.4 | 0.678 and 1.999 |
| 12.9 and 24.2 | 4.56 and 67.89 | 46.08 and 48.98 | 123.4 and 567.8 |
| 14.8 and 7 | 91.20 and 30 | 123.15 and 223.04 | 1.009 and 51 |
| 89.5 and 126.4 | 33.40 and 184.70 | 85.786 and 83.04 | 4.5 and 18.65 |

Type 3: Subtracting Whole Numbers With Decomposing

Hints:

- What happens if you are stacking to subtract, and the bottom number is greater than the top? Can you make the top number greater?
- How can you check that the difference you found is correct?

Which is more and by how much?

| | | | |
|-----------|------------------|-------------|-----------------|
| 50 and 39 | 3, 577 and 3,438 | 751 and 355 | 1995 and 2982 |
| 66 and 47 | 446 and 1555 | 265 and 461 | 1,738 and 4,000 |

| | | | |
|-------------|---------------|-------------|-----------------|
| | | | |
| 409 and 422 | 8872 and 653 | 576 and 189 | 9,000 and 6,758 |
| 367 and 348 | 5993 and 9494 | 685 and 196 | 488 and 6,000 |

Type 4: Subtracting Decimals With Decomposing

Hints:

- What happens if you are stacking to subtract, and the bottom number is greater than the top? Can you make the top number greater?
- When stacking to subtract, how does place value play into that?

Which is more and by how much?

| | | | |
|---------------|----------------|-------------------|-------------------|
| 9.2 and 4.8 | 0.76 and 0.95 | 46.8 and 328.2 | 0.279 and 1.45 |
| 0.8 and 4.7 | 0.37 and 0.09 | 45.350 and 17.028 | 92.005 and 12.675 |
| 3.5 and 7.1 | 0.02 and 0.61 | 24.737 and 15.285 | 50.02 and 19.908 |
| 24.2 and 12.9 | 0.99 and 12.98 | 0.265 and 5.347 | 3.726 and 8.053 |

| | | | |
|----------------|----------------|-----------------|----------------|
| | | | |
| 126.4 and 89.5 | 0.94 and 50 | 58.350 and 0.28 | 3.42 and 8.053 |
| 14.8 and 73 | 81.42 and 0.04 | 0.899 and 0.09 | 0.678 and 5 |

Extension if Needed

SUBTRACTING DECIMALS TO MAKE THEM AS CLOSE TO ONE AS POSSIBLE

Directions: Use the digits 1 to 9, at most one time each, to fill in the boxes to get the difference that is as close to 1 as possible.

$$\boxed{}\boxed{}.\boxed{}\boxed{} - 0.\boxed{}\boxed{}$$

Consolidation Tasks

(Note - If the groups did not get through all the types, you may not be able to do all three of these)

I have written on the board three questions like the ones you just did in your group, but I may have put them in the wrong order/ Turn to your neighbor and discuss what the order should be and why?

- A) $8.765 - 4.329$ (Type3)
- B) $8 - 0.345$ (Type 4)
- C) $46.8 - 12.5$ (Type 2)
- D) $68-21$ (Type 1)

Note: Previous world record was 51.46 - bring in as an oops..at the end of the lesson...

**Teacher doesn't need to check every problem - does the group agree? How do you know if it's correct?

**The goal isn't to be done. Don't rush through, because you will just have more problems to do. The goal is for everyone in your group to understand. Go slow enough that all of you are confident.



Check Your Understanding

NAME: _____

1. Which is more and by how much?

a) 22.6 and 45.9

b) 23.3 and 1.32

c) 13.356 and 28.582

d) 37.2 and 3.1

e) 2.1 and 27.28



Check Your Understanding

NAME: _____

1. Which is more and by how much?

a) 43.1054 and 8.4388

b) 36.9 and 52.7

c) 2.328 and 32.7

d) 0.06 and 423.5

e) 45.15 and 52



Check Your Understanding

NAME: _____

1.



2. Which is more and by how much?

- a) 7.16 and 10
- b) 85 and 0.345
- c) 0.3 and 3
- d) 101.01 and 10.1
- e) 0.005 and 0.030

