ADDITION AND SUBTRACTION OF NUMBERS IN THOUSANDS

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Subject

Mathematics

Prepared By

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Grade Level

3

Overview

This lesson plan covers teaching content for;

1. Adding and Subtracting four-digit numbers according to place value.
2. Using the carry or grouping method for proper addition and subtraction.
3. Word problems and quantitative reasoning.

Objectives

Students should be able to;

1. Understand place value concept better.
2. Add three and four-digit numbers.
3. Subtract three and four-digit numbers using "regroup" or "carry" method.
4. Students discuss how math talks aid in their problem solving ability.

Activity Starter/Instruction

1) Teacher will model 1 addition problem:

   254+183 =

2) Students do math talk with 1 addition problem:

   472 + 423 =

3) Teacher will model 1 subtraction problem:

   983 - 521 =

4) Students do math talk with 1 subtraction problem:

   876 - 521 =

Teacher Guide

Day 1/ Lesson 1: 15 Mins

1. Explain to your students that place value is the position and value of a digit in a number.
2. Come up with a number, such as 14,262, to help the students determine the place and value of a particular number.
3. Explain to your students that the ten thousands place of the number is 1, the thousands place of the number is 4, the hundreds place is 2, the tens place is 6, and the ones place is 2

Materials Required

- White Board
- Blank sheets
- Pencils

Additional Resources

- https://www.education.com/lesson-plan/evaluating-equivalent-fractions/
- https://www.scholastic.com/teachers/sponsored-content/unexpected-math/17-18/how-to-convert-fractions/
- https://www.brighthubeducation.com/homework-math-help/111311-adding-and-subtracting-three-digit-numbers/
- https://study.com/academy/lesson/4-digit-subtraction-with-regrouping.html

Additional Notes

Guided Practice

Day 2/ Lesson 2: 15 Mins

1. Adding four-digit numbers is really just working four simple addition problems

Guided Practice

Day 3/ Lesson 3: 20 Mins

Adding Four Digit Numbers with Regrouping

1. Regrouping is when you add together two numbers in a four-digit addition problem,

Guided Practice

Day 4/ Lesson 4: 25 Mins

1. Now we go to subtraction of four-digit numbers.
2. The teacher gives a model example by saying: If I have 4,865 songs on my phone and I

that are connected together.

2. Follow these steps to work a four-digit addition problem without regrouping:

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  1254
+ 4325
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3. Line up your problem, so the ones (unit) places of each number are together.

4. Make sure the tens places and hundreds places are also lined up.

5. Start with the ones place. Add the two numbers together. In the example above, you would add together 4 + 5 = 9. The ones place answer is 9.

6. Now add together the tens place. The two numerals in the tens place in the example are 5 + 2 = 7. The tens place answer is 7 (which stands for 70).

7. Add together the hundreds place. The numerals in the hundreds place are 2 + 3 = 5 (which stands for 500).

8. Finally add the thousands place. The numerals there are 1 + 4 = 5 (which stands for 5000).

9. So, the answer to the above example of adding

and your sum is a two-digit answer. You have to "regroup" or "carry" to solve the problem.

2. For example:

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  6435
+ 1697
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3. You follow the same steps as you did for the problem above when you were adding four-digit numbers. The only difference is you will have to regroup.

4. First, you add the ones place, which is 5 + 7, and you get 12. You write down the 2 in the ones place, and you have to regroup the 1 (which actually stands for 10) to be with the other tens (i.e. the tens column).

5. When you regroup, you write the number you carried above the other numbers in the tens place.

6. The other tens in this problem are 3 + 9. So, now you are working: 1 + 3 + 9=13 (which is actually 130). You have to regroup again.

7. You write down the 3 as the answer for the tens place, and you carry the 1 to the hundreds place. The next problem you have to work is for the hundreds place. You add 1 + 4 + 6 =11 (which is actually 1100). You still have to regroup again.

8. You write down 1 as the answer to the hundreds place, and you carry the other 1 to the thousands place. We then have 1 + 6 + 1 = 8
   So, your answer is 8132

9. Another great way that doesn't involve manipulatives or drawing models is using "split" addition or subtraction.

delete 3,956 (so that I can have enough space to add new song) songs. How many would I have left?

3. we have to complete a four-digit subtraction equation.

4. Question like this may look scary, But the steps are really just like doing 2 digit or 3-digit subtraction, so if you follow them the problem becomes a whole lot less scary.

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 5865
-3956
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5. When subtracting equation, it is a good idea to start in the far right column of digits, which is called the ones column.

6. In subtraction, if the digit on the bottom is greater than the one on top, regrouping is necessary. On taking a closer look, we realize that 6 is bigger than 5 and we can't subtract 6 from 5, so we have to regroup, or borrow from the column to the left.

7. After borrowing a ten, we are left with a 5 in the tens column, but we can now subtract in the ones/unit columns because now we have 15-6 in that column.

8. After subtracting the first two digits this is what we have:

$$58^5 \cancel{6}^1 5$$
$$-39 \ 5 \ 6$$
$$9$$

9. the next step is to move left to the tens column and subtract those two digits. Here, we could subtract 5 from 5 so we don't need to regroup. So we have **09** thus far (as our result).

four-digit numbers is 5579.	10. Again, students can "see" the place value in each number and can understand the regrouping. Split Addition: 647 --> 600 + 40 + 7 + 285 --> 200 + 80 + 5 800 + 120 + 12 = 932	10. My next step was to keep moving left to the hundreds column and subtract those two digits. 11. Again, the digit in the top row is smaller than the one in the bottom row, so we need to regroup. we borrow from the column to the left and we are left with 18-9= 9 (on the hundreds column). **12.** We subtract and get: **909** 13. Finally, we are down to the last column to subtract, the thousands. 14. When we subtract in the thousands column, we have 4-3 =1. 15. Therefore, our final value is **1909.**
Assessment Activity	Assessment Activity 1. Direct your students to solve 6189 + 3636. 6864 – 4796 9754 + 3497 7482 - 5694 2. Ask your students to write out the problem in place value format. 3. Have one student come up to the board to demonstrate. 4. Monitor the students as they work, making sure the problems are done correctly, in that they are justifying their answers by showing their work in coming up with the answers for adding within 1,000 5. Review it with the class for accuracy.	Assessment Activity
Summary	Review and Closing 1. Remind students on the process of performing additions and subtractions if 4-digit numbers.	

2. Always start from the far right (the ones/unit column).
3. For addition, if you result on each column is greater than 9, add a one to the next column.
4. For Subtraction, if the digit below is greater than the digit above (on the same column), borrow a '10' from the next column and add to the number on top. Now you can easily perform your subtraction.
5. The teacher gives the students review to affirm that they fully understand the topic.