

# Adding & Subtracting

with

## Open Number Lines

and

## Break Apart Method

for the Common Core

*A Guide for Parents*

124

hundreds

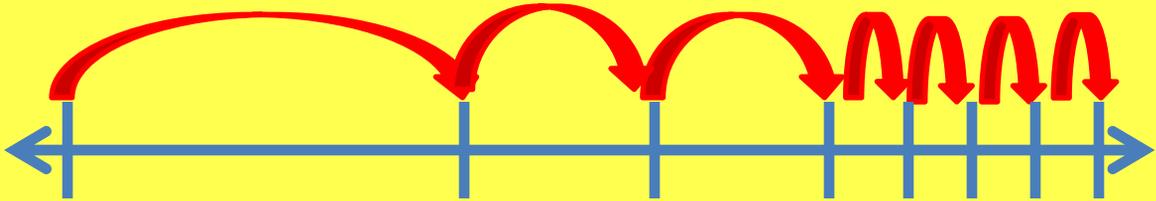
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By Susan Hardin

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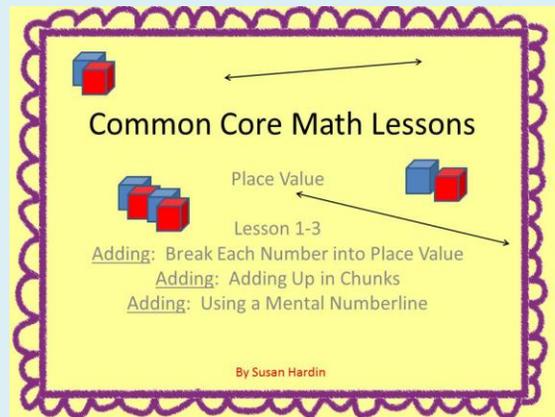
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This product includes **slides** for viewing on  
a Smart board that show **step by step**  
how to add with three different  
strategies. Included is a set of **task**  
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# How to Add on an Open Number Line

## A "How-To" Guide for Parents

There are 165 students at Warner Robins Dance Academy School and 221 students at Kathleen Dance Academy. How many students are in both academies? Write an equation and show your thinking.

Step 1: Determine what the problem is asking and write an equation.

$$165 + 221 = \underline{\hspace{2cm}}$$

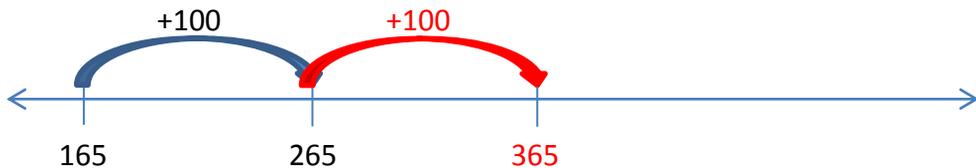
Step 2: Draw a open number line and place the first addend on the left side on the number line.



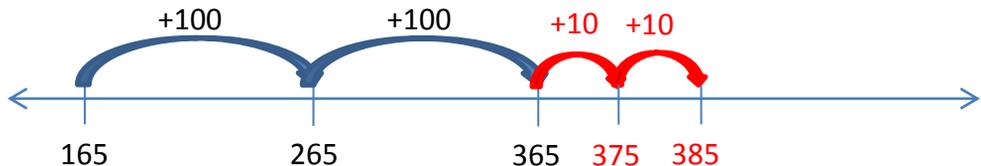
Step 3: Start adding by looking at the number in the hundred's place of the next addend. In this case look at the first 2 in 221. Indicate the addition, with +100 above an arrow. Where the arrow ends, write the sum of 165 + 100, which is 265.



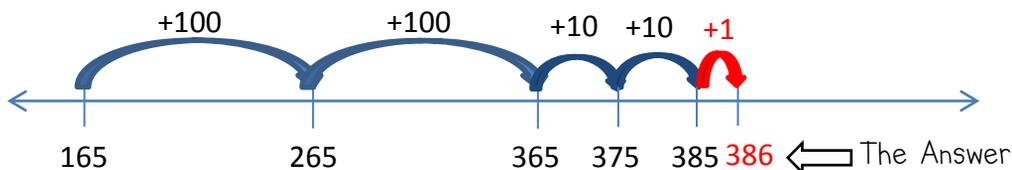
Since the number in the hundred's place is 2, another +100 needs to be added. Where the arrow ends, write the sum of 265+100, which is 365.



Step 4: Next add the number in the ten's place. In this case look at the second 2 in 221. Indicate the addition, with +10 above each arrow. At each point where the arrow ends, write the new sum, the previous number + 10.



Step 5: Next add the number in the one's place. In this case look at the 1 in 221. Indicate the addition, with +1 above an arrow.



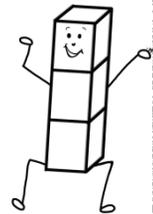
Step 6: Write the new equations with the answer. (Students must not forget to write an answer.)

$$165 + 221 = \underline{386}$$

Name \_\_\_\_\_

## Add Using an Open Number Line

1. Susan had 547 photos in her photo album. She needed to put 218 new pictures in the album. How many total photos will she have in her album? Write an equation and show your thinking.



2. We had 174 red balloons and 213 blue balloons at our Fourth of July party. How many total balloons did we have? Write an equation and show your thinking.



# How to Subtract with an Open Numberline (no trading)

## A "How-To" Guide for Parents

Sue's coloring book has 153 pages. She has colored 132 pages so far. How many pages does Sue have left to color? Write an equation and show your thinking.

Step 1: Determine what the problem is asking and write an equation.

$$153 - 132 = \underline{\quad}$$

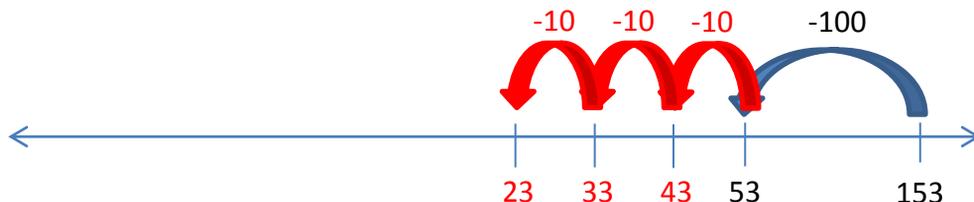
Step 2: Draw an open number line and place the larger number on the right side on the number line.



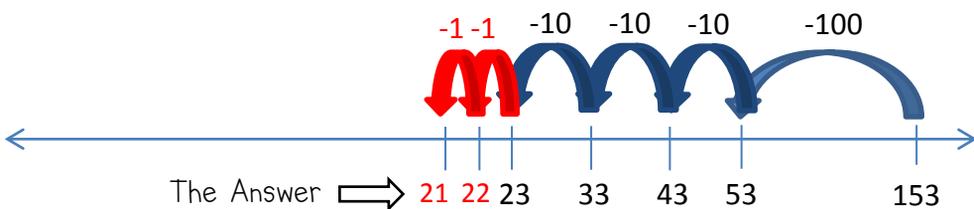
Step 3: Start subtracting by looking at the number in the hundred's place. In this case look at the 1 in 132. Indicate the subtraction, with -100 (minus 100) above an arrow. Where the arrow ends, write the difference from  $153 - 100$ , which is 53.



Step 4: Next subtract the number in the ten's place. In this case look at the second 3 in 132. Indicate the subtraction, with -10 (minus 10) above each arrow. Subtract 3 groups of 10 (30). At each point where the arrow ends, write the new difference.



Step 5: Next subtract the number in the one's place. In this case look at the 2 in 132. Indicate the subtraction, with -1 (minus 1) above each arrow. At each point where the arrow ends, write the new difference.



Step 6: Write the new equation with the answer. (They must not forget to write an answer.)

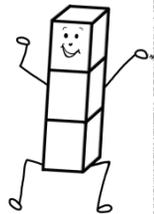
$$153 - 132 = \underline{21}$$

Name \_\_\_\_\_

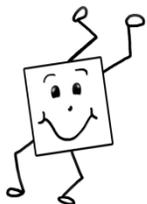


## Subtract using an Open Number Line

1. Jennifer had \$542 in her savings account. She spent \$314 on a new game system. How much money does he have left? *Write an equation and show your thinking.*



2. Dallas had 434 baseball cards in his collection. Hunter had 318 baseball cards in his collection. How many more baseball cards did Dallas have than Hunter? *Write an equation and show your thinking.*



# How to Add using Break Apart Method (expanded form)

## A "How-To" Guide for Parents

Reagan colored 132 pages in her coloring book. Sandy colored 241 pages in her coloring book. How many pages did both girls color altogether? *Write an equation and show your thinking.*

**Step 1:** Determine what the problem is asking and write an equation.

$$132 + 241 = \underline{\hspace{2cm}}$$

**Step 2:** Break apart each number into expanded form.

$$132 = 100 + 30 + 2$$

$$241 = 200 + 40 + 1$$

**Step 3:** Then add within each place value.

Next, add the sums. ( $300+70+3=373$ )

$$\begin{array}{r} 132 = 100 \quad 30 \quad 2 \\ + 200 \quad + 40 \quad + 1 \\ \hline \end{array}$$

The Answer  $\Rightarrow$   $300 + 70 + 3$

**Step 4:** Write the new equation with the answer.

$$132 + 241 = \underline{373}$$

# How to Subtract using Break Apart Method (expanded form)

## A "How-To" Guide for Parents

Lisa had 124 stuffed animals. She gave her younger sister 13. How many stuffed animals does Lisa have left? *Write an equation and show your thinking.*

**Step 1:** Determine what the problem is asking and write an equation.

$$124 - 13 = \underline{\hspace{2cm}}$$

**Step 2:** Break apart each number into expanded form.

$$124 = 100 + 20 + 4$$

$$13 = 10 + 3$$

**Step 3:** Then subtract within each place value.

Next, add the differences ( $100+10+1=111$ )

$$\begin{array}{r} 124 = 100 \quad 20 \quad 4 \\ 13 = - \quad - 10 \quad - 3 \\ \hline \end{array}$$

The Answer  $\Rightarrow$   $100 + 10 + 1$

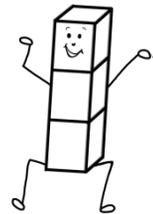
**Step 4:** Write the new equation with the answer.

$$124 - 13 = \underline{111}$$

Name \_\_\_\_\_

## Add & Subtract using Break Apart Method (expanded form)

1. There were 126 people at the ballpark on Saturday. On Sunday there were 231. How many people were at the ballpark on both days? Write an equation and show your thinking.



2. Our class collected 583 pennies for charity. The class next door collected 360 pennies? How many more pennies did we collect than the class next door? Write an equation and show your thinking.

