

# Vocabulary:

Previously Taught:

separating

sum

unknown number

unknown quantity

comparing

difference

distance

fact family

joining

New to 3<sup>rd</sup> Graders

No new TEKS specific  
vocabulary

# Addition & Subtraction Strategies:

Base Ten

Expanded or

Front End

Number Line

Standard Algorithm

(not required at mastery  
level until 4<sup>th</sup> grade)

Please see Parent

Addition and/or

Subtraction Brochure

for further explanation

# 3<sup>rd</sup> Grade Addition & Subtraction Overview

## Direct Instruction:

9/13-10/1

Concept will continue to  
be spiraled throughout  
the school year.

# Expectations:

## (Texas Knowledge and Skills)

3.4A (R) Solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction.

3.5A (R) Represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations.

# Building Blocks:

## (Previously Taught Skills)

### Kinder

Modeled the action of joining to represent addition and the action of separating to represent subtraction. Explained how they solved problems using spoken words, concrete or pictorial models and number sentences. Solved problems using objects and drawings to find sums and differences within 10.

### First

Used objects and pictorial models to solve word problems involving joining and separating within 20. Explained strategies used to solve addition and subtraction problems within 20 using spoken words, objects, pictorial models, and number sentences. Applied basic fact strategies to add and subtract within 20 including making a 10 and decomposing a number leading to a 10. Used concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99. Generated and solved problem situation when given a number sentence involving addition and subtraction within 20. Represented word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial

### Second

Added up to four two digits numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations. Solved one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms. Generated and solved problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000. Represented and solved addition and subtraction word problems where unknowns may be any one of the terms in the problem.

# Mastery Level Understanding:

There are 297 peach trees on a farm. There are 615 peach trees on a different farm. What is the difference between the numbers of peach trees on these farms?

Elisha listed the amounts she paid for guitar lessons for three months.

- February: \$78
- March: \$90
- April: \$156

What is the amount Elisha paid for guitar lessons for these three months?

- A** \$314  
**B** \$324  
**C** \$114  
**D** \$325

Tyrese had 572 baseball cards. He sold some of the baseball cards and then had 98 baseball cards left.

Which equation could NOT be used to find the number of baseball cards Tyrese sold?

- F**  $572 - \square = 98$   
**G**  $572 - 98 = \square$   
**H**  $98 + \square = 572$   
**J**  $98 + 572 = \square$

There are a total of 294 restaurants in a city.

- Of these restaurants, 196 are along the highways, and 49 are downtown.
- The rest of the restaurants are in shopping malls.

Which model can be used to find the number of restaurants in the city that are in shopping malls?

**F**

?		
294	196	49

**G**

294		
196	49	?

**H**

196		
294	49	?

**J**

49		
294	196	?

# ADDITION STRATEGIES

## Base 10

Addition:  $172+141$

Step 1: Draw a T-chart and draw base 10 blocks for the first number



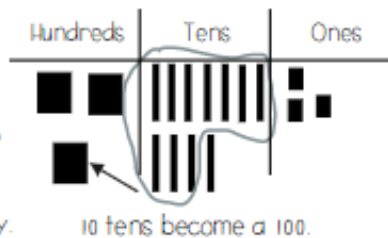
Step 2: Add the second number to the chart adding the base 10 blocks to the blocks already there.



Step 3: Count each group



Step 4: If no regrouping is necessary you are done. If needed, regroup by circling and moving to the correct category.



Step 5: Once you regroup then count each group again.



Answer:

$$172+141=313$$

## Expanded Form

Addition:  $419+223$

Step 1: Write each number in expanded form.

$$\begin{array}{r} 400 + 10 + 9 \\ + 200 + 20 + 3 \\ \hline \end{array}$$

Step 2: Add each starting from the right.

$$\begin{array}{r} 400 + 10 + 9 \\ + 200 + 20 + 3 \\ \hline 600 + 40 + 12 \end{array}$$

Step 3: Make sure to regroup as you go. In this problem  $9+3=12$ . 12 has a ten so it has to go in the tens column. Put the 10 in the tens and the 2 stays in the ones column.

$$\begin{array}{r} 10 \\ 400 + 10 + 9 \\ + 200 + 20 + 3 \\ \hline 600 + 40 + 2 \end{array}$$

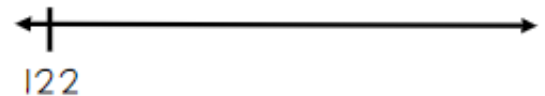
Answer:

$$419+223=642$$

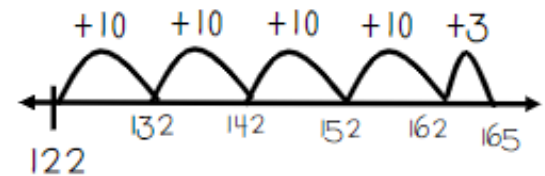
## Number Line

Addition:  $122+43$

Step 1: Draw a number line with the starting point of the first number.



Step 2: Break up the second number however you would like. For example-  $10+10+10+10+3$  then add each to the first number by drawing "hops" Write the hop amount at the top and the number you get to at the bottom.



Step 3 The number you get to is your answer.

Answer:

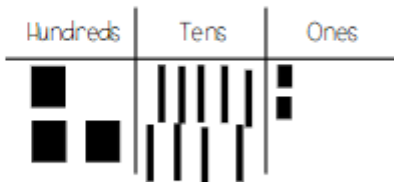
$$122+43=165$$

# SUBTRACTION STRATEGIES

## Base 10

Subtraction:  $392 - 178$

**Step 1:** Draw a T-chart and draw base 10 blocks for the first number



**Step 2:** Start with the ones column and cross off the amount from the second number. If needed borrow from the tens by taking a ten and making it into ones.



1 ten becomes 10 ones. Then you are left with 1 ten and 12 ones. Now you can subtract by crossing off. You are left with 3 ones

**Step 2:** Move to the tens column and cross off the amount from the second number from what is left. If needed borrow from the hundreds column.



**Step 2:** Cross off the amount from the second number in the hundreds column then count what is left.



**answer:**

$$392 - 178 = 214$$

## Expanded Form

Subtraction:  $715 - 567$

**Step 1:** Write each number in expanded form.

$$\begin{array}{r} 700 + 10 + 5 \\ + \\ 500 + 60 + 7 \end{array}$$

**Step 2:** Subtract each starting from the right.  
**Step 3:** Make sure to borrow as you go if the top number is smaller than the bottom number.

$$\begin{array}{r} 100 \\ 600 \phantom{+ 10 + 5} \\ - 700 + 10 + 5 \\ \hline 500 + 60 + 7 \\ \hline 100 + 40 + 8 \end{array}$$

In this problem you cannot subtract  $5 - 7$  so go to the tens and take 1 ten. The tens place is left with 0 tens and the ones place has the ten from the tens place and five ones- 15 total ones.  $15 - 7$  is 8. Then since you have 0 tens you need to borrow from the hundreds. Take one hundred from 700 and you are left with 600 and move that 100 to the tens column.  $100 - 60 = 40$ . Then subtract the hundreds that are left  $600 - 500 = 100$ .

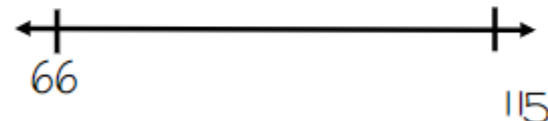
**answer:**

$$715 - 567 = 148$$

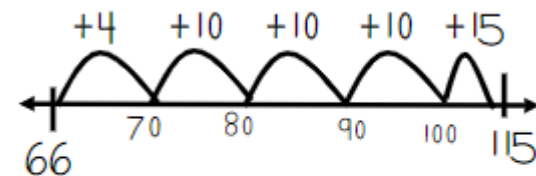
## Number Line

Subtraction:  $115 - 66$

**Step 1:** Draw a number line with the starting point of the second number and an ending point of the first number.



**Step 2:** Find the difference between the two by counting up from 66 to 115. Break up your counting into "hops" Then add up your hops to find the difference.



**Tip:** Start with getting to a friendly number- with a 5 or a 0 in the ones place. Here we added 4 to get to 70 to make the hops easier.

**Step 3** Add up your hops to find the difference between the two numbers which is your answer:  $4 + 10 + 10 + 10 + 15$

**answer:**

$$115 - 66 = 49$$