

Dear Parents,

We will begin our next unit of study in math soon. The information below will serve as an overview of the unit as you work to support your child at home. If you have any questions, please feel free to contact me. I appreciate your ongoing support.

Sincerely,  
Your Child's Teacher

**Unit Name: Building a Conceptual Understanding of Addition and Subtraction**

**North Carolina Content State Standards:**

**NC.1.OA.1** Represent and solve addition and subtraction word problems, within 20, with unknowns, by using objects, drawings, ~~and equations with a symbol for the unknown number to represent the problem~~, when solving:

- Add to/Take from-Change Unknown
- Put together/Take Apart-Addend Unknown
- ~~Compare-Difference Unknown~~

**NC.1.OA.3** Apply the commutative and associative properties as strategies for solving addition problems.

**NC.1.OA.6** Add and subtract, within 20, using strategies such as:

- Counting on
- Making ten
- Decomposing a number leading to a ten
- Using the relationship between addition and subtraction
- Using a number line
- Creating equivalent but simpler or known sums

**NC.1.OA.7** Apply understanding of the equal sign to determine if equations involving addition and subtraction are true.

**NC.1.OA.9** Demonstrate fluency with addition and subtraction within 10.

**Math Language:**

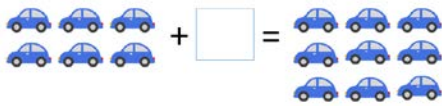





- |                            |                                |                       |                    |
|----------------------------|--------------------------------|-----------------------|--------------------|
| • Counting Up              | • Counting On                  | • Compose             | • Subtrahend       |
| • Unknown Partner          | • Counting Back                | • Decompose           | • Minuend          |
| • Unknown Addend           | • Addition                     | • Break Apart         | • Double           |
| • Story Problem            | • Subtraction                  | • Total               | • Doubles          |
| • Label                    | • Add                          | • Combine             | • Pips             |
| • Equation                 | • Subtract                     | • Group               | • Partners         |
| • Greater                  | • Take Away                    | • Number Line         | • Equal            |
| • Take from Result Unknown | • Put Together – Total Unknown | • Make a Ten Strategy | • Double Ten Frame |
| • Add to Change Unknown    | • Subtracting Down to Ten      | • Doubles Plus One    | • Think Addition   |

**Unit Overview:**

This unit will focus on adding and subtracting within 20, using equations and story problems. It will begin with adding and subtracting within 10, then moving to within 20. Students will begin building conceptual understanding of addition and subtraction through the use of manipulatives and drawings to help represent problems. Then, students will develop and use a variety of strategies for adding and subtracting whole numbers based on number sense understandings.

## Skills/Strategies:

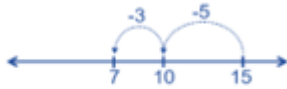
- Solve a variety of word problems involving addition and subtraction within 20, focusing on the following problem types:

Type of Problem	Example
Add To Change Unknown	Justin had six toy cars. His brother gave him some more. Now Justin has nine toy cars. How many toy cars did his brother give him? 
Take From Change Unknown	Ten birds were in a tree. Some of them flew away. Now there are five birds in the tree. How many birds flew away? 
Put Together/Take Apart Addend Unknown	Mackenzie put eight seashells in a bucket. Five are black and the rest are white. How many seashells are white? $8 - 5 = \square$ or $5 + \square = 8$
Add To Result Unknown (Review from Kindergarten)	Justin had six toy cars. His brother gave him three more. How many toy cars does Justin have now? 
Take From Result Unknown (Review from Kindergarten)	Ten birds were in a tree. Five flew away. How many are in the tree now? 
Put Together/Take Apart Total Unknown (Review from Kindergarten)	Mackenzie put five black seashells and five white seashells in a bucket. How many seashells are in the bucket? 
Put Together/Take Apart Both Addends Unknown (Review from Kindergarten)	Chris has seven muffins. Some are blueberry and some are chocolate chip. How many of each could he have?  $6 + 1$ $5 + 2$ $4 + 3$ $3 + 4$ $2 + 5$ $1 + 6$

- Use strategies to solve addition and subtraction word problems and/or equations

○ Number Lines

Example:  
 $15 - 8$



Here, the student first subtracts 5 to get to 10, then he subtracts the remaining 3.

○ Counting On

- $15 + 2 = \underline{\quad}$ ; I can hold 15 in my head and count up two more by holding up one finger and saying 16, then holding up another finger and saying 17. I know that 15 plus 2 is 17.

- Another example:

Example:  $15 + \underline{\quad} = 18$

"I put 15 in my head and counted on until I got to 18. I said 3 numbers so I know the missing part is 3."



○ Ten Frame

- $4 + 8 = \underline{\quad}$



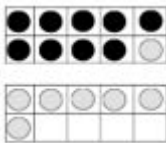
○ Making a Ten

- If I have the problem  $9 + 6 = \underline{\quad}$ , I would first decompose the 6 into 1 and 5. Then I could add  $9 + 1 = 10$  and add 5 more to make 15.

$$\begin{array}{c} 9 + 6 \\ \quad \wedge \\ (9 + 1) + 5 \end{array}$$

○ Subtracting Down to 10

- $16 - 7 = \square$ ; First, I will start with 16 and take off 6. That makes 10. I'll take one more off and that makes 9.  $16 - 7 = 9$ .



○ Think Addition

- $10 - 2 = \square$
- First, I think about 2 and what make 10?  $2 + \square = 10$ . Then, I know 8 and 2 make 10. So,  $10 - 2 = 8$ .
- $2 + \square = 10$

○ Doubles Plus One

- $8 + 7 = \underline{\quad}$
- I'm going to decompose/break up 8 into 7 and 1. Then I will add  $7 + 7$  because I know my double addition facts.  $7 + 7$  equals 14. Now I have 1 more left, so I add 1 more to get 15.

• Fluently add and subtraction numbers within 10

- Through repeated practice with adding and subtracting within 10 using strategies, students will come to understand and internalize the relationships that exist between and among numbers. This leads to fluency of their basic facts within 10.

## **Video Support:**

Video support can be found on The WCPSS Academics YouTube Channel.

<http://tinyurl.com/WCPSSAcademicsYouTube>

- [ES 1 Math Addition & Subtraction within 20 Counting On](#)
- [ES 1 Math Addition & Subtraction within 20 Making Ten Method](#)
- [ES 1 Math Addition & Subtraction within 20 Subtraction - Number Lines](#)

## **Additional Resources:**

- [NCDPI Additional Resources](#)
- <http://www.abcya.com/addition.htm>
- <http://illuminations.nctm.org/Activity.aspx?id=3566>
- <http://mathwire.com/games/addsubgames.html>

## **Questions to Ask When Helping Your Child with Math Homework**

Keep in mind that homework in elementary schools is designed as practice. If your child is having problems, please let the classroom teacher know. When helping your child with his/her math homework, you don't have to know all the answers! Instead, we encourage you to ask probing questions so your child can work through the challenges independently. Some examples may include the following:

- What is the problem you're working on?
- What do the directions say?
- What do you already know that can help you solve the problem?
- What have you done so far and where are you stuck?
- Where can we find help in your notes?
- Are there manipulatives, pictures, or models that would help?
- Can you explain what you did in class today?
- Did your teacher work examples that you could use?
- Can you go onto another problem & come back to this one later?
- Can you mark this problem so you can ask the teacher for an explanation tomorrow?