HPISD First Grade Math

Unit Name	Estimated Duration	9 Weeks			
UNIT 6- MORE ADDITION AND SUBTRACTION	**2 WEEKS**	**1**	**2**	**3**	**4**

Unit Overview

Students will deepen their understanding of addition and subtraction strategies and apply their knowledge of number relationships to solve related facts.

Enduring Understandings

The student will understand that:	• Three numbers can be grouped and added in any order. • Numbers can be grouped in different ways to solve word problems with 3 addends. • Addition and subtraction have an inverse relationship. The inverse relationship between addition and subtraction can be used to find subtraction facts; every subtraction fact has a related addition fact. • Numerical expressions with different numbers and operation signs can have the same value. If they do, they are called equal. • When 2 numerical expressions have the same value, this can be represented by writing an equal sign (=) between the expressions.

Concepts

Operation Meanings and Relationships	There are multiple interpretations of addition, subtraction, multiplication, and division of rational numbers, and each operation is related to other operations.
Properties	For a given set of numbers there are relationships that are always true, called properties, and these are the rules that govern arithmetic and algebra.
Basic Facts and Algorithms	There is more than one algorithm for each of the operations with rational numbers. Some strategies for basic facts and most algorithms for operations with rational numbers, both mental math and paper and pencil, use equivalence to transform calculations into simpler ones.
Patterns, Relations, and Functions	Relationships can be described and generalizations made for mathematical situations that have numbers or objects that repeat in predictable ways. For some relationships, mathematical expressions and equations can be used to describe how members of one set are related to members of a second set.
Practices, Processes, and Proficiencies	Mathematics content and processes can be applied to solve problems.

Guiding/Essential Questions	
What are some ways to think about adding 3 numbers?	
Learning Targets & Prerequisites	**Progressions**
Prerequisite: ● Recall addition and subtraction facts 0-20 **Learning Target:** ● The student will create 10 when adding three numbers. **Second Grade connection:** ● Create 10 when adding three numbers with efficiency and accuracy	● Use objects and pictorial models to solve addition and subtraction word problems with unknowns in any position. ● Apply properties of operations to add three numbers. ● Find the unknown number in an addition sentence with 3 addends.
Prerequisite: ● Recall addition and subtraction facts 0-20 ● Understand what the equal sign means in a number sentence **Learning Target:** ● The student will understand the equal sign represents that the expressions on each side or equal. **Second Grade connection:** ● 2.7 (C) represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem.	● Equality can be shown by using different ways to make the same number. ● The properties of addition allow you to add numbers in any order. ● Identify the unknown in an equation in order to balance both sides of the equal sign. (Example: 10+___=9+8)
Prerequisite: ● Recall addition combinations to make 10	● Find the unknown number in an addition or subtraction sentence.

Learning Target: ● The student will apply the basic fact strategy of making 10 to add for sums to 20. **Second Grade connection:** ● 2.4 (A) recall basic facts to add and subtract within 20 with automaticity.	● Write a number sentence to represent problems for sums with 3 addends. ● Write a fact family given one or two numbers. ● Apply properties of operations to subtract.
Formative Assessments	**Summative Assessments**
TEKS: Readiness Standards	**TEKS: Supporting Standards**
***1.3 B Use objects and pictorial models to solve word problems involving joining, separating, and comparing sets within 20 and unknowns as any one of the terms in the problem such as 2+4=___; 3+___=7; and 5= ___ -3**	***1.3 C Compose 10 with two or more addends with and without concrete objects** 1.3 D Apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10. 1.5 E Understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same values. 1.5 F Determine the unknown whole number in an addition or subtraction equation when the unknown may be any one of the three or four terms in the equation. ***1.5 G Apply properties of operations to add and subtract two or three numbers**
TEKS Process Standards	
1.1 (A) Apply mathematics to problems arising in everyday life, society, and the workplace. 1.2 (B) Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution. 1.1 (C) Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.	

1.1 (D) Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.

1.1 (E) Create and use representations to organize, record, and communicate mathematical ideas.

1.1 (F) Analyze mathematical relationships to connect and communicate mathematical ideas.

1.1 (G) Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

Processes and Skills: **What students should be able to DO**	**Facts:** **What students should KNOW**
● Identify the unknown in an equation in order to balance both sides of the equal sign. (Example: 10+___=9+8) ● Apply properties of operations to add three numbers. ● Make 10 when adding three numbers. ● Apply properties of operations to add three numbers. ● Make 10 when adding three numbers. ● Write a number sentence to represent problems for sums with 3 addends. ● Write a fact family given one or two numbers.	● The properties of addition allow you to add numbers in any order. ● Numbers can be broken into parts and combined with other numbers to make numbers easier to add or subtract. ● The equal sign represents a relationship where expressions on each side of the equal sign represent the same values. ● Basic facts can be used to add three numbers. o Example: Cara has 3 pencils. Nick has 2 pencils. Dan has 4 pencils. How many pencils do Cara, Nick, and Dan have in all? 3+2+4=9; the children have 9 pencils in all. ● Missing numbers can be found to complete a number sentence. o Example: 3+4+ ____= 8; the missing number is 1. ● Equality can be shown by using different ways to make the same number. o Example: 4+2=3+3 ● Models can be used to help solve problems and write number sentences. o Example: Ryan's family has a plate of 12 crackers. Jenny has 4 crackers. Ryan's mom has 3 crackers. How many crackers does Ryan have? 4+3+___=12 (Students can use counters to make a model of the number sentence)

Topics	
Envision Topic 6	
Language of Instruction	
balance equal sign equation scale	
State Assessment Connections	**National Assessment Connections**
Resources	
Envision Topic 6	