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Department of Curriculum & Instruction

First Grade Math

Unit	1-7 Three addends
Time Frame	1/6-1/22
Big Ideas	1. Numbers can be grouped in different ways to solve problems with 3 addends. 2. Numerical expressions with different numbers and operation signs can have the same value. If they do, they are called equal. 3. When 2 numerical expressions have the same value, this can be represented by writing an equal sign (=) between the expressions.
Essential Questions	1. How can 3 addends be grouped different ways to solve a problem? 2. How can numerical expressions with different numbers and operation signs have the same value? 3. What are balanced equations?

TEKS / Student Expectations	Skills	Concepts
(Spiraled TEKs)		
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	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	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	Apply Decomposing	Basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10
1.3(F) generate and solve problem situations when given a number sentence involving addition or subtraction of numbers within 20	Generate solve	Problem situations when given a number sentence involving addition or subtraction of numbers within 20
1.5(D) represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences	Represent	Word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences
1.5(E) understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s)	Understand	Equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s)
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	Determine	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

TEKS / Student Expectations	Skills	Concepts
1.5(G) apply properties of operations to add and subtract two or three numbers	apply	Properties of operations to add and subtract two or three numbers
(Process Skill) TEKS		
1.1(A) apply mathematics to problems arising in everyday life, society, and the workplace	Apply	Mathematics to problems arising in everyday life, society, and the workplace
1.1(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	Use	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	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;	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	Create	Representations to organize, record, and communicate mathematical ideas
1.1(F) analyze mathematical relationships to connect and communicate mathematical ideas	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.	Display Explain Justify	Mathematical ideas and arguments using precise mathematical language in written or oral communication.

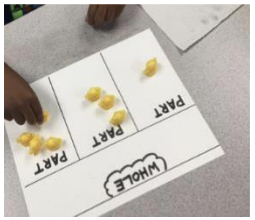
Tier I Instructional Strategies – Classroom Instruction for All Students

- **Pearson Envision** 1,2,4

1.3(C) compose 10 with two or more addends* with and without concrete objects

○ Students can fill a 10-Frame using 3 different colored cubes.

■ In journals, students can record number sentences to match their 10 frames.



○ Introduce a 3-Section PPW Mat (see Image)

Lesson From, The Math Coach's Corner, can adapted to compose 10.

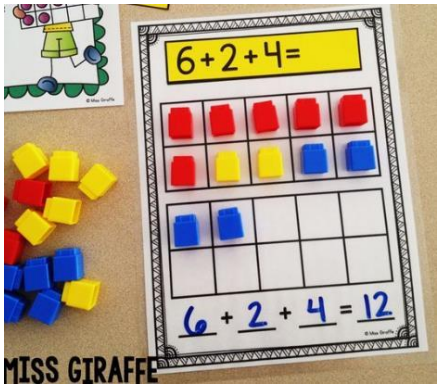
Fill a shaker with 10 counters and use a Shake and Spill with 3 Section PPW Mat

1.5(G) apply properties of operations to add and subtract two or three numbers

● Lessons 6-1 and 6-2 in Envision Text
○ Introduce adding three numbers with a real-life connection

- Randomly pass out strips of red, yellow, or blue paper, and have students write their name. Have students bring their paper to the middle of the carpet, and sort by colors
- Write the number sentence to match the grouping

○ Example- 8 red + 6 yellow + 4 blue =20 Students



- Demonstrate that numbers can be grouped or added in any order and the end result is the same.
- Repeat example using colored counters on a 10 Frame (pictorial model)

Have students recreate and reflect this lesson in their journals with classroom objects (crayons, books, cubes, etc.)

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- Model for students that there are multiple strategies for adding three numbers. (See p.330 in Envision Text)
  - Add three numbers in the order they appear,
  - Use a strategy to quickly add any two numbers first and then count on add any two numbers first
    - Make 10 and count on
    - Make a double/near double and count on
  - The strategy they use can depend on the equation or what they feel most comfortable with
- Continue to model and reteach this concept with real-life problem situations.
  - Tyler went to the zoo and saw 5 pandas, 6 tigers, and 2 snakes. How many animals did he see in all?
- Story Problems for Journals
- **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.**

Example 8+2+__=15 OR 4+5=2+__

** Review TEK 1.5(E) understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s)

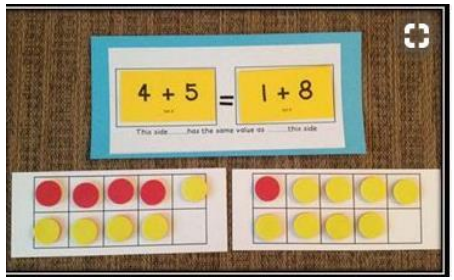
Students can use a variety of strategies to solve. However, these equations are very difficult because they involve multiple steps. Model, reteach, and Spiral back through the CRA model as necessary.

- Strategies for the example: 8+2+__=15
  - *Concrete Objects*- Using a Number Path and 3 different colored cubes (red, yellow, blue) Identify the 15 square. Place red cubes on numbers 1-8. Place yellow cubes on numbers 9-10.

    Ask the students, “How many blue cubes to I need to get to 15?” Repeat using a 10 Frame if necessary.

  - *Pictorial Model*- Draw 8 circles in one color. 2 circles in a different color. Using a third color draw circles to count on to 15. OR use “Think Subtraction to Add” 15 circles since that is the total sum then cross out 8 of them, then cross out 2 of them. The leftover circles is their answer.
  - Add the 2 numbers they *do* know together and then solve it like a normal missing addend problem. For example, they'd add 8+2 to get 10 then solve it as if it were 10+__=15.

- Strategies for the example 4 + 5 = 2 + __
  - ○ Envision Lesson 6-4 and 6-5 Balanced Equations



○ Introduce with manipulatives and a balance. (See image)

  - Math Coach's Corner Blog
  - Include addition, subtraction, and mixed operations

- Independent Practice or Small Group Instruction
  - In journals, students can sort equations into balanced and *unbalanced* or true/false
  - (See Resources) TEA Grade 1 p.212-222 AND p.232-235
  - Balance Template
  - First Grade W.O.W. Party Hat Activity

Fluency-

• Three Addend Number Sentence and Sum Matching Game

Recursive/Practice/Application-

• Balancing Equations.
○ Envision Independent Practice Lesson Topic 6-4 p.349

○ Balancing Equations with Missing Addends
○ Cut and Paste
○ Dice Game
• Three Addends
○ Envision Independent Practice Lesson Topic 6-1 p.331

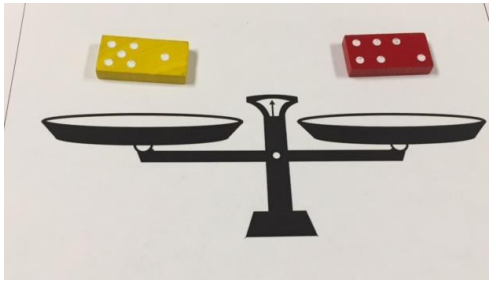
- Adding Three Numbers by Making 10
- Add 3 Numbers Word Problems

Use the minimize function on the copier for journals. For repeated use, laminate or put in sheet protectors

Hands On

- Three Addends
  - Use colored counters and a 3 Addends Mat or double 10 frame to create and record equations with 3 addends

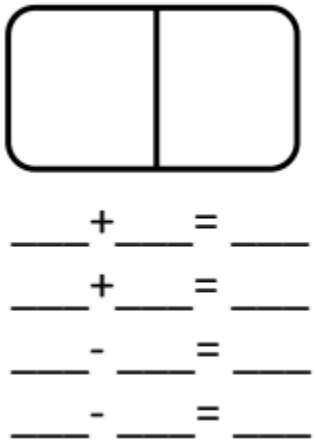
Balancing Equations
- Students can use a balancing mat and dominos to demonstrate an equation with balanced expressions



Strategies for Struggling Students (S3)

1.3(D) apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10

● *Continue to review the Subitizing and Inverse Relationship between addition and subtraction (Fact Families) using manipulatives and PPW. Understanding this concept will help students who are struggling to find the unknown part.*



1.3(C) compose 10 with two or more addends* with and without concrete objects
● To help conceptualize adding with three addends have struggling students practice decomposing numbers into three parts.
- Review composing and decomposing 10 with 2 parts
  - Decomposing 10 Sample Lesson Video

- Using concrete objects begin to transition to composing 10 with 3 objects
  - 10 Frames and 3 different colored counting cubes.

Students can fill their 10-Frame then record a number sentence to match

Vocabulary

numerical expression
addition
addend
subtraction fact
balanced equations
fact family
number sentence
subtraction
sum
related
balance
doubles
equal
value
addition fact
inverse relationship
near doubles

Sample STAAR or STAAR-Like Assessment Items

**The following sample questions are one of many ways to assess the TEKS student expectation.*

Unit Assessment (click link to download)

Resources

**The suggested resources are one of many ways to address the TEKS student expectation.*

TEA Stations and Small Group Activities

1. Grade 1
2. Kindergarten

TEA vertical alignment chart