What We Do Here Shapes the World

Mathematics Curriculum 3rd Grade

Created: 2019 **[Revised:]**

TABLE OF CONTENTS

District Mission and Goals

Profile of a Graduate

Content Vision and Characteristics

Course Overview Documents

Year-at-a-Glance (YAG)

Scope and Sequence

Instructional Units

- Unit 1: Numbers and Operations
  - Subunit 1: Place Value of Whole Numbers
    - Module 1: Represent Numbers
    - Module 2: Compare Numbers
    - Module 3: Round Numbers
  - Subunit 2: Computations
    - Module 1: Addition
    - Module 2: Subtraction
    - Module 3: Even and Odd
    - Module 4: Multiplication
    - Module 5: Division
  - Subunit 3: Fractions
    - Module 1: Represent, Compose, and Decompose
    - Module 2: Equivalent Fractions
    - Module 3: Compare Fractions
- Unit 2: Algebraic Relationships and Data Analysis
  - Subunit 1: Pattern Relationships
    - Module 1: Pairs in a Table
  - Subunit 2: Data
    - Module 1: Frequency Table

TABLE OF CONTENTS

Module 2: Dot Plots

Module 3: Pictographs

Module 4: Bar Graphs

Unit 3: Geometry and Measurement

Subunit 1: Perimeter

Module 1: Determine Perimeter

Module 2: Missing Length - Perimeter

Subunit 2: Area

Module 1: Determine Area

Module 2: Area of Combined Rectangles

Subunit 3: Attributes

Module 1: Two-Dimensional Figures

Module 2: Three-Dimensional Figures

Subunit 4: Time

Module 1: Intervals of Time

Module 2: Elapsed Time

Subunit 5: Customary and Metric

Module 1: Appropriate Tools of Weight and Capacity

Module 2: Measure of Weight and Capacity

Unit 4: Financial Literacy

Subunit 1: Money

Module 1: Determine Value

Subunit 2: Financial Resources

Module 1: Human Capitol/Labor and Income

Module 2: Available Resources

Module 3: Credit

Module 4: Saving

Appendix

DISTRICT MISSION AND GOALS

District Mission:

"Our mission is to provide a quality educational experience that results in the development of socially responsible life-long learners."

District Goals:

Goal 1: Environment and Culture

The District will maintain a safe and positive school environment where students, parents, employees, and community members feel welcomed and engaged.

Goal 2: Academics

The District's academic programs will take the learning experience beyond state and federal standards in an effort to provide college and career readiness for all students.

Goal 3: Professional Learning

The District will provide professional learning opportunities that allow staff to achieve a higher level of proficiency.

Goal 4: Resources and Operations

The District will effectively manage its resources and operations to maximize the learning potential for all students.

PROFILE OF A GRADUATE

LOS FRESNOS CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

PROFILE of a GRADUATE

Future-ready innovative thinkers and leaders

- Evaluate various sources of information and use sound reasoning when making decisions.
- Solve problems using logic, critical thinking, and deductive reasoning.
- Collaborate with others to build consensus and solve problems.
- Demonstrate perseverance and resilience.
- Embrace technology and creative solutions to everyday problems.

Effective communicators

- Listen and respond respectfully and empathetically.
- Confidently adapt their communication style to the audience.
- Use various medias to engage in productive and positive dialogue.
- Collaborate with others to engage in courageous conversations.

Conscientious citizens

- Exhibit self-discipline, honesty, kindness, and integrity.
- Serve the community as role models and through volunteerism.
- Embrace diversity and cultural awareness.
- Value and participate in the democratic process.

Life-long learners

- Commit to continuous improvement.
- Demonstrate mastery of required curriculum and skills.
- Prepare for college and workforce opportunities.
- Develop personal and professional goals that lead to a healthy, balanced lifestyle.

CONTENT VISION AND CHARACTERISTICS

Content Vision:

At Los Fresnos CISD, our vision is to work in unison and be committed toward providing students with equitable, purposeful, rigorous, and engaging math instruction that will prepare them for the workforce. Ambitious expectations exist for all students, with accommodations for those who need it. The LFCISD Mathematics Curriculum will prepare students to be confident and self-motivated problem-solvers who can collaborate in an ethical manner in order to successfully apply mathematics in their personal and professional life. It is mathematically rich, offering students opportunities to learn important mathematical concepts and procedures with understanding. Both teacher and student value mathematics and actively engage in learning it.

Content Characteristics:

Teacher Behaviors: Teachers demonstrate acceptance of students' divergent ideas and challenge students to think deeply about the problems they are solving, reaching beyond the solutions and algorithms required to solve the problem. By doing this, the teacher ensures that students are explaining both how they found their solution and why they chose a particular method. Teachers influence learning by posing challenging and interesting questions that not only stimulate students' innate curiosity but also encourage them to investigate further.

Teachers instruct for conceptual understanding, developing children's procedural literacy, and promoting strategic competence through meaningful problem-solving investigations.

Teachers present topics in a sequence and manner appropriate for the developmental level of the students.

The teacher constantly builds students' sense of efficacy and instills in his or her students a belief that the goal of "doing mathematics" is attainable and that they are personally capable of reaching that goal.

CONTENT VISION AND CHARACTERISTICS

The teacher differentiates instruction through the use of tiered assignments and varying question levels. Scaffolding is practiced to make connections to concepts, procedures, and understanding as well as using students' experiences and prior knowledge to build new knowledge.

Student Behaviors: Students are actively engaged in doing mathematics. They are metaphorically rolling up their sleeves and "doing mathematics" themselves, not watching others do the mathematics for them or in front of them.

Students are solving challenging problems. They are investigating meaningful real-world problems whenever possible. Mathematics is not a stagnant field of textbook problems; rather, it is a dynamic way of constructing meaning about the world around us, generating new knowledge and understanding about the real world every day.

Students are making interdisciplinary connections. Mathematics is not a field that exists in isolation. They learn best when they connect mathematics to other disciplines, including art, architecture, science, health, and literature. Such connections help students develop an understanding of the academic vocabulary required to "do mathematics" and connect the language of mathematical ideas with numerical representations.

SOLVE PROBLE**M**S
AN**A**LYZE DATA
EXPLAIN THEIR **T**HINKING
CHECK T**H**EIR WORK
P**E**RSEVERE
MAKE **M**ODELS
USE APPROPRI**A**TE TOOLS
THINK ABS**T**RACTLY
MAKE CONNECT**I**ONS
ATTEND TO PRE**C**ISION
THINK CR**I**TICALLY
FIND P**A**TTERNS
APPLY PRIOR K**N**OWLEDGE
E**S**TIMATE

Students are sharing mathematical ideas. It is essential that they have the opportunity to discuss mathematics with one another, refining and critiquing each other's ideas and understandings. Communication can occur through paired work, small group work, or class presentations.

CONTENT VISION AND CHARACTERISTICS

Students are using multiple representations to communicate mathematical ideas. They should have multiple opportunities to use a variety of representations to communicate their mathematical ideas, including drawing a picture, writing in a journal, or engaging in meaningful whole-class discussions.

Students are using manipulatives and other tools. In the beginning stages of a new concept, they are just beginning to develop their sense of abstract reasoning. Concrete models, such as manipulatives, can provide them with a way to bridge from the concrete understandings of mathematics to the abstract understandings that will be required of them as they further explore the mathematical concepts.

Environment: The math classrooms have goals defined for students. The daily objectives are listed in the classroom along with the teachers explaining the expectations for the day's learning to let students know what they need to learn for the day. In the math classroom, students are aware of daily routines and expectations.

The math classrooms have students working in different types of groups and individually. The classroom setup is flexible enough to allow students to work with the teacher for instruction or with a partner playing a game. Places set up in the classroom for individual work as well as group work are important.

The teacher circulates in the classroom as the children work together on cooperative problems and games or work individually on concepts and math fluency to help promote an effective and safe environment. Many voices are part of the conversation, and every student feels that they have something unique to contribute. Thorough and detailed feedback is rich with both positive commendations and recommendations. Mistakes are embraced and treated as rich learning opportunities. A growth mindset permeates the atmosphere.

COURSE OVERVIEW DOCUMENTS

Course Overview: The primary focal areas in Grade 3 are place value, operations of whole numbers, and understanding fractional units. These focal areas are supported throughout the mathematical strands of number and operations, algebraic reasoning, geometry and measurement, and data analysis. In Grades 3-5, the number set is limited to positive rational numbers. In number and operations, students will focus on applying place value, comparing and ordering whole numbers, connecting multiplication and division, and understanding and representing fractions as numbers and equivalent fractions. In algebraic reasoning, students will use multiple representations of problem situations, determine missing values in number sentences, and represent real-world relationships using number pairs in a table and verbal descriptions. In geometry and measurement, students will identify and classify two-dimensional figures according to common attributes, decompose composite figures formed by rectangles to determine area, determine the perimeter of polygons, solve problems involving time, and measure liquid volume (capacity) or weight. In data analysis, students will represent and interpret data.

TEA Documents:

- **TEA Texas Essential Knowledge and Skills (TEKS)**: This TEA webpage provides information on the state standards for what students should know and be able to do for this course.
- **TEA Vertical Alignment Document**: This TEA webpage provides information on content standard alignment across the grade levels.
- **STAAR Assessed Curriculum** **English | Spanish:** This TEA document identifies TEKS eligible for testing and identifies them by Reporting Category and as Readiness or Supporting Standards.
- **STAAR Blueprint** **English | Spanish:** This TEA document identifies the number of STAAR questions asked per Reporting Category.
- **STAAR Released Questions** **English | Spanish:** This TEA webpage provides sample test questions from the STAAR Item Bank that may or may not have previously been administered. Also included are test forms, which is a set of released questions, previously administered together which reflects the STAAR test blueprints.

Lead4ward Documents:

COURSE OVERVIEW DOCUMENTS

- **Lead4ward TEKS Snapshot**: This is a PDF file that color coordinates and divides the readiness, supporting, and process standards for each grade level and content area. (Find grade level and click on Math under the Snapshot column)

- **Lead4ward TEKS Scaffold**: This document shows all of the related TEKS that build up to and extend the learning clustered by concept. (Find grade level and click on Math under the Scaffold column)

- **Lead4ward Academic Vocabulary**: This document shows important vocabulary for concept development, including new and previously introduced words. (Find grade level and click on Math under the Academic Vocab column)

- **Lead4ward Instructional Strategies Playlist**: This document provides descriptions of instructional strategies to engage learners, provide practice without penalty, encourage interaction among students, and see and hear students' thinking across contents. (Located on the Instructional Tools tab)

- **Lead4ward Frequency Distribution**: This document provides the number of times a TEKS was tested over the past four test administrations. (Click on the Data Tools tab)

- **Lead4ward IQ Released Item Analysis Tool:** This document breaks down STAAR Released questions and helps teachers to conduct error analysis based on state and local data. (Click on IQ Button on top of Content Builder Resources tab)

- **Lead4ward Field Guides:** The Field Guides for Teachers succinctly organizes the information teachers and PLCs need to effectively plan meaningful instruction for students. These are purchased for every campus by the district and require login information. Please do not print, as documents are frequently updated.

- **Lead4ward Learning Videos:** These are short videos that explain how to use the resources listed above. (Click on the Learning Videos tab)

YEAR-AT-A-GLANCE (YAG)

The YAG informs all stakeholders of the learning concepts presented throughout this course. Teachers use this overview to create daily lessons that meet the unique needs of their students.

Units	Subunits	Modules
1 Numbers and Operations	**1** Place Value of Whole Numbers	**1** Represent Numbers
		2 Compare Numbers
		3 Round Numbers
	2 Computations	**1** Addition
		2 Subtraction
		3 Even and Odd
		4 Multiplication
		5 Division
	3 Fractions	**1** Represent, Compose, and Decompose
		2 Equivalent Fractions
		3 Compare Fraction
2 Algebraic Relationships and Data Analysis	**1** Pattern Relationships	**1** Pairs in a Table
	2 Data	**1** Frequency Table
		2 Dot Plots
		3 Pictographs
		4 Bar Graphs
3 Geometry and Measurement	**1** Perimeter	**1** Determine Perimeter
		2 Missing Length -Perimeter
	2 Area	**1** Determine Area
		2 Area of Combined Rectangles
	3 Attributes	**1** Two-Dimensional Figures
		2 Three-Dimensional Figures
	4 Time	**1** Intervals of Time
		2 Elapsed Time
	5 Customary and Metric	**1** Appropriate Tools of Weight and Capacity
		2 Measurement of Weight and Capacity
4 Financial Literacy	**1** Money	**1** Determine Value
	2 Financial Resources	**1** Human Capitol/Labor and Income
		2 Available Resources
		3 Credit
		4 Saving

SCOPE AND SEQUENCE

The recommended duration of lessons is less than the number of days in the school year in order to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the LFCISD Curriculum documents. *One day is equivalent to the number of minutes on the LFCISD Instructional Schedule.*

Units	Subunits	Modules	TEKS	Duration
1 Numbers and Operations	**1** Place Value of Whole Numbers	**1** Represent Numbers	3.2AB	5 days
		2 Compare Numbers	3.2D	5 days
		3 Round Numbers	3.2C 3.4B	5 days
	2 Computations	**1** Addition	3.4AB 3.5A	10 days
		2 Subtraction	3.4AB 3.5A	15 days
		3 Even and Odd	3.4I	5 days
		4 Multiplication	3.4DEF 3.4KG 3.5CD	15 days
		5 Division	3.4BKH 3.4J	15 days
	3 Fractions	**1** Represent, Compose, and Decompose	3.3ABC 3.3DE 3.7A	5 days
		2 Equivalent Fractions	3.3FG	5 days
		3 Compare Fraction	3.3H	5 days
2 Algebraic Relationships and Data Analysis	**1** Pattern Relationships	**1** Pairs in a Table	3.5E	5 days
	2 Data	**1** Frequency Table	3.8AB	2 days
		2 Dot Plots	3.8AB	2 days
		3 Pictographs	3.8AB	2 days
		4 Bar Graphs	3.8AB	2 days
3 Geometry and Measurement	**1** Perimeter	**1** Determine Perimeter	3.7B	3 days
		2 Missing Length -Perimeter	3.7B	2 days
	2 Area	**1** Determine Area	3.6C	5 days
		2 Area of Combined Rectangles	3.6D	5 days
	3 Attributes	**1** Two-Dimensional Figures	3.6AB	5 days
		2 Three-Dimensional Figures	3.6A	5 days
	4 Time	**1** Intervals of Time	3.7C	2 days
		2 Elapsed Time	3.7C	3 days
	5 Customary and Metric	**1** Appropriate Tools of Weight and Capacity	3.7E	3 days

SCOPE AND SEQUENCE

		2 Measurement of Weight and Capacity	3.7D	2 days
4 Financial Literacy	**1** Money	**1** Determine Value	3.4C	5 days
	2 Financial Resources	**1** Human Capitol/Labor and Income	3.9A	2 days
		2 Available Resources	3.9B	2 days
		3 Credit	3.9D 3.9C[1]	2 days
		4 Saving	3.9E 39F[1]	4 days

SE Not Included in Assessed Curriculum [1]

INSTRUCTIONAL UNITS

Unit I: NUMBERS AND OPERATIONS
(18 Weeks)

Unit Description:

In Unit I, students will apply mathematical process standards to represent and compare whole numbers and understand relationships related to place value. The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. The student applies mathematical process standards to analyze and create patterns and relationships. The student applies mathematical process standards to represent and explain fractional units

Mastery Learning Objectives:

- **Demonstrate** an understanding of how to represent and manipulate numbers and expressions.
- EB: The students will develop their receptive and expressive skills. (reading, writing, speaking, and listening)

Essential Questions:

- What are some ways you can read and write numbers?
- How could you verify that a set of numbers is in the correct order?
- Think of two strategies to solve computation problems, which would be the best? Explain.

Real World/Cross-Curricular Connections:

- Read the book A Place for Zero: A Math Adventure by Angeline Sparagna LoPresti. Have students review multi-digit numbers containing zero(s) and determine the value of the number if the zero(s) are omitted.

INSTRUCTIONAL UNITS

Subunit 1 of 3 (15 Days): Place Value of Whole Numbers

Subunit Description:

- **compose** and **decompose** numbers up to 100,000 as a sum of so many thousands, hundreds, tens, and ones
- **describe** the mathematical relationships found in the base-10 place value system up to the hundred thousands place
- **represent** a number on a number line as being between two consecutive multiples of 10; 100; 1,000; or 10,000 and use words to **describe** relative size of numbers in order to round whole numbers
- **compare** and **order** whole numbers up to 100,000

Before	Now	After
• use standard, word, and expanded forms to represent numbers up to 1,200 2.2B	• compose and decompose numbers up to 100,000 as a sum of so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate 3.2A	• represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals 4.2B

Materials/Texts/Resources:
(* available in Spanish)

- Go Math*
- Imagine Math Pathway: LF 3rd Place Value
- Reflex Math
- Education Galaxy
- Curriculum Server
- Workstations pg. 5-10 (Vol. 1 and 2), pg. 15- 21 (Vol.3)*
- Math Solutions: -Race to 100
- Fast Focus* (Suggested Resource)
- Countdown to STAAR (Suggested Resource)
- *Think Up***

Suggested Manipulatives

- Base 10 Blocks
- Cuisenaire Rods
- Dice
- Place Value Charts

INSTRUCTIONAL UNITS

- Hundred Chart
- Number Lines

*If available on campus***

INSTRUCTIONAL UNITS

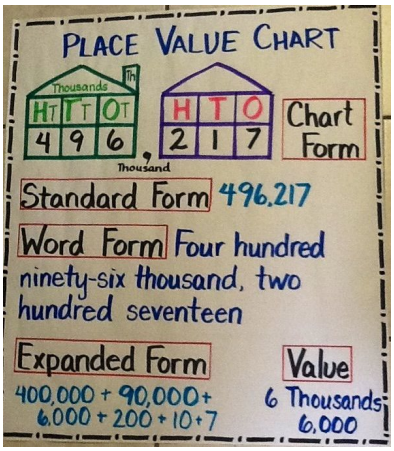
Module 1 of 3 (5 Days): Represent Whole Numbers	
TEKS (R) Readiness, (S) Supporting, (P) Process	3.2A **compose** and **decompose** numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones **using** objects, pictorial models, and numbers, including expanded notation as appropriate (R) English Language Proficiency Standards The student uses mathematical processes to acquire and demonstrate mathematical understanding. **Process Standards: 3.1A, 3.1B, 3.1C, 3.1D, 3.1E, 3.1F, 3.1G**
Content and Language Objectives	***The Learner Will (TLW):*** • **investigate** and **describe** patterns in place value by composing and decomposing numbers up to 100,000 **using** objects, models, and numbers. • Student linguistic accommodations should reflect listening, speaking, reading, and writing. Learning Intentions for Emergent Bilinguals
Misconceptions	• Confusing the place value a digit is in with its value (e.g., when asked the value of the 4 in 345, responding "in the tens place" or "4" instead of "40") • Misrepresenting the value of a number when a zero value is not represented in expanded notation [e.g., (4 x 1,000) + (6 x 10) + (5 x 1) = 4,650 or 465 instead of 4,065]* • Having difficulty identifying equivalent values of a number (e.g., 140 = one hundred and four tens = one hundred and forty ones = fourteen tens)* * *Used on STAAR*

INSTRUCTIONAL UNITS

Content Connections	• Encourage students to represent a number in more than one way as a means of building flexibility with numbers (e.g., 182 can also be represented with 18 ten longs and 2 unit cubes reflected in expanded notation as 18 x 10 + 2 x 1). • This understanding lends itself to regrouping in subtraction (e.g., 182 − 91 = ___; 182 would have to be regrouped into 18 tens and 2 ones). • Composing and decomposing numbers should also include working with compatible numbers (e.g., 478 can be decomposed into the sum of 400 + 50 + 20 + 8)
Academic Vocabulary *new to grade level	• expanded form • expanded notation* • place value • standard form* • ten thousands*

Instruction and Student Engagement

- **Anchor Chart**



Introduce students to the TEKSas Target Board- this will be used as a math warm-up

- **Math Warm-up**: TEKSas Target Board - Set 1 Week 1

Students will be working on a variety of activities to enhance student learning.

- **Videos**
  - Brainpop
  - Khan Academy
- **TX Go Math**- Module 1.1-1.4
- **Whole Group Activity-** Provide each student or pair of students with base 10 blocks and a place value chart. Orally give students a number and have them create it using their chart and base 10 blocks. Give students more numbers and have them work together create the number given. Teacher will walk around the room for a quick check.
- ***Vocabulary Activity-*** *Activity- Think Up Math TE pg. 9*
- ***Think Up***
  - *Activity- Think Up Math TE pg. 15*
  - *Think Up SE Unit 1 pg. 8, 10-12*
  - *Think Up SE Unit 2 pg. 18, 20-22*
- **Differentiated Instruction**

	○ **GT Extensions**- Think Up Math TE pg. 22 (Extending Student Thinking) ○ **Intervention**- Think Up Math TE pg. 20 (Intervention Activities) ○ **EBs**: Go Math TE pg. 5,11,17 & 23 English Language Support Linguistic Accommodations • **Exit Ticket** – Think Up Math SE pg. 21 (Reflection/Closure Activity)

Evidence of Learning

Checking for Understanding

- An example of ones place value is...
- An example of tens place value is…
- An example of hundreds place value is...
- An example of thousands place value is...
- An example of ten thousands place value is...
- An example of hundred thousands place value is...

District Units and Subunits Assessments

Learning Intentions for Emergent Bilinguals

Sample Assessment Items

The expanded notation of a number is shown.

$$(3 \times 10{,}000) + (8 \times 100) + (2 \times 10) + (6 \times 1)$$

What is this number written in standard form?

A 38,026

B 38,260

C 3,826

D 30,826

What is the relationship between the thousands place and the hundreds place in the number shown?

971,111

A The thousands place is two times greater than the hundreds place.

B The thousands place is ten times greater than the hundreds place.

C The thousands place is seven times greater than the hundreds place.

D The thousands place is zero times greater than the hundreds place.

INSTRUCTIONAL UNITS

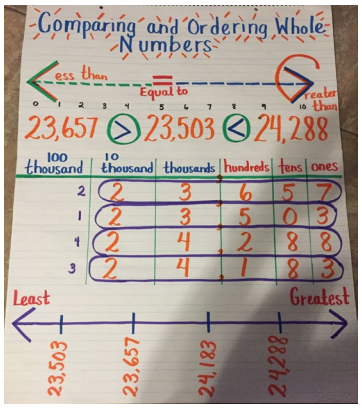
Module 2 of 3 (5 Days): Compare Whole Numbers	
TEKS (R) Readiness, (S) Supporting, (P) Process	3.2D **compare** and **order** whole numbers up to 100,000 and **represent** comparisons using symbols >, <, = (R) English Language Proficiency Standards The student uses mathematical processes to acquire and demonstrate mathematical understanding. **Process Standards: 3.1A, 3.1B, 3.1C, 3.1D, 3.1E, 3.1F, 3.1G**
Content and Language Objectives	***The Learner Will (TLW):*** • **compare** and **order** whole numbers and **represent** the comparisons **using** symbols. • Student linguistic accommodations should reflect listening, speaking, reading, and writing. Learning Intentions for Emergent Bilinguals
Misconceptions	• Reversing the value of digits when moving left and/or right on the place value chart (e.g., dividing when moving left and multiplying when moving right instead of the other way around) * *Used on STAAR*
Content Connections	• As students compare the value of numbers, they need to be able to demonstrate their understanding of place value (e.g., the number 5,342 is greater than 3,226 because the digit 5 in 5,342 means there are 5 thousands which is a value of 5,000; however, the digit 3 in 3,226 means there are only 3 thousands which is a value of 3,000). • Students should compare two numbers using the correct academic vocabulary (e.g., 5,342 is greater than 3,226). • It is important for students to recognize the inverse comparison statement as well (e.g., 3,226 is less than 5,342).

Academic Vocabulary *new to grade level	• equal (=)* • greater than (>)* • greatest to least* • least to greatest • less than (<)*

INSTRUCTIONAL UNITS

Instruction and Student Engagement

- **Anchor Chart**



- **Math Warm-up**: TEKSas Target Board - Set 1 Week 2
- **Videos**
  - Khan Academy
  - Brainpopjr
- **TX Go Math**- Module 1.5
- **Whole Group Activity-** Have students pair up. Each student will write a number on an index card and will compare it using the <, >, or = sign. Have students do 2 rounds and then have them order the 4 index cards from least to greatest and/or greatest to least.
- ***Vocabulary Activity-*** *Think Up Math TE pg. 52*
- ***Activity-*** *Motivation Math TE pg. 27*
- *Think Up SE Unit 4 pg. 38, 40-42*
- **Differentiated Instruction**
  - **GT Extensions**- *Think Up Math TE pg. 58 (Extending Student Thinking)*
  - **Intervention**- *Think Up Math TE pg. 56-57(Intervention Activities)*
  - **EBs**: Go Math TE pg. 29
    Linguistic Accommodations
- **Exit Ticket** – *Think Up Math SE pg. 44 (Reflection/Closure Activity)*

Evidence of Learning

Checking for Understanding

- An example of greatest to least is…
- An example of least to greatest is…
- What are some numbers greater than 50,000 students could make?
- What are some numbers less than 40,000 that the students could make?

District Units and Subunits Assessments

Learning Intentions for Emergent Bilinguals

Sample Assessment Items

The table shows the land areas of some states.

Land Areas

State	Area (square miles)
Arkansas	52,068
Louisiana	43,204
Alabama	50,744
Oklahoma	68,667
Mississippi	46,907

Which comparison of two land areas is NOT true?

A The land area of Alabama > the land area of Mississippi

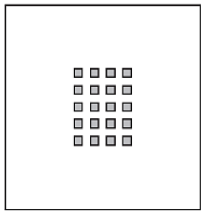
B The land area of Arkansas < the land area of Alabama

C The land area of Oklahoma > the land area of Louisiana

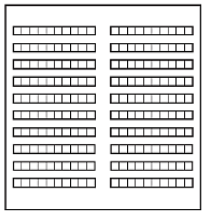
D The land area of Louisiana < the land area of Mississippi

Which of these models represent the same number?

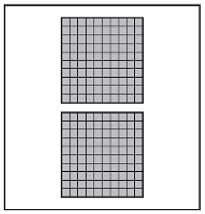
Model X



Model Y



Model Z



F Model X and Model Y, because 20 ones is equivalent to 20 tens.

G Model X and Model Z, because 20 ones is equivalent to 2 hundreds.

H Model Y and Model Z, because 20 tens is equivalent to 2 hundreds.

J None of these

INSTRUCTIONAL UNITS

Module 3 of 3 (5 Days): Round Whole Numbers	
TEKS (R) Readiness, (S) Supporting, (P) Process	3.2C **represent** a number on a number line as being between two consecutive multiples of 10; 100; 1,000; or 10,000 and **use** words to **describe** the relative size of numbers in order to **round** whole numbers (S) English Language Proficiency Standards The student uses mathematical processes to acquire and demonstrate mathematical understanding. **Process Standards: 3.1A, 3.1B, 3.1C, 3.1D, 3.1E, 3.1F, 3.1G**
Content and Language Objectives	***The Learner Will (TLW):*** • learn how to **round** to the nearest tens and hundreds and will **use** words to **describe** the number. • **represent** numbers on a number line as a number between two consecutive multiples. • Student linguistic accommodations should reflect listening, speaking, reading, and writing. Learning Intentions for Emergent Bilinguals
Misconceptions	• Misinterpreting unmarked values on a number line as single-digit values (e.g., student incorrectly states that the value of P is "7" instead of "70") * *Used on STAAR*
Content Connections	• Through the use of base ten blocks, students visually understand the magnitude of numbers (e.g., the thousand cube is ten times more than the hundred flat, the hundred flat is ten times more than the ten long; the hundred flat is ten times smaller than the thousand cube, the ten long is ten times smaller than the hundred flat, etc.). • Students should understand that each time you move one place value to the left, the value of the numbers become ten times larger and each time you move right, the value of the numbers become ten times smaller.

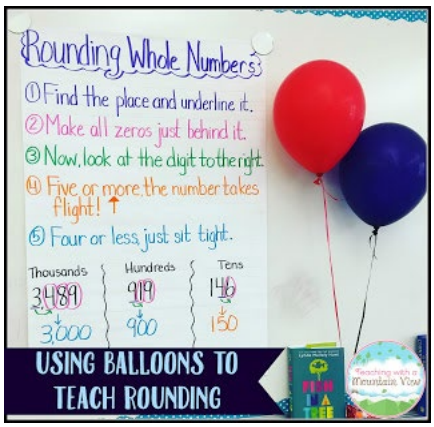
INSTRUCTIONAL UNITS

Academic Vocabulary *new to grade level	• halfway* • nearest 10, 100 • round

INSTRUCTIONAL UNITS

Instruction and Student Engagement

- **Anchor Chart**



- **Math Warm-up**: TEKSas Target Board - Set 2 Week 1
- **Video**
  - Rounding with Balloons
  - Brainpop
- **TX Go Math**- Module 4.1
- **Whole Group Activity-** Have students work in pairs using a hundreds chart. Call a number between 1 and 100. Instruct students to locate the number on the hundreds chart and place 2 colored disks on the boundary numbers. Guide student to identify midpoint numbers and verbalize which boundary number the called number rounds. Repeat this process with number lines marked in multiples of 100, 1,000, or 10,000.
- ***Vocabulary Activity-*** *Think Up Math TE pg. 40*
- ***Think Up*** *SE Unit 3 pg. 29, 30-32*
- **Differentiated Instructions**
  - **GT Extensions**- *Think Up Math TE pg.46 (Extending Student Thinking)*
  - **Intervention**- *Think Up Math TE pg.44 (Intervention Activities)*
  - **EBs:** Go Math TE pg. 101
    Linguistic Accommodations
- **Exit Ticket** - *Think Up Math SE pg.34 (Reflection/Closure Activity)*

Evidence of Learning

Checking for Understanding

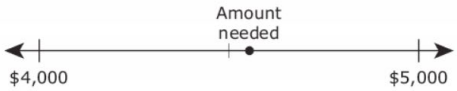
- Rounding 56 to the nearest tens…
- Rounding 82 to the nearest tens…
- Rounding 125 to the nearest hundreds…
- Rounding 678 to the nearest hundreds…
- Rounding 356 to nearest tens…
- Rounding 512 to the nearest tens…

District Units and Subunits Assessments

Learning Intentions for Emergent Bilinguals

Sample Assessment Items

31 The point on the number line represents the amount of money needed to build a garage.



Which statement best describes the amount of money needed to build the garage?

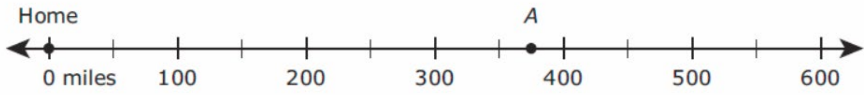
A The amount of money needed is more than $5,000.

B The amount of money needed is less than $4,000.

C The amount of money needed is about $5,000, because the point is closer to $5,000.

D The amount of money needed is about $4,000, because the point is closer to $4,000.

3 The Leija family is on a road trip. The number line represents the distance the family drove on Monday from their home to point *A*.



About how many miles did the family drive on Monday?

A 300, because point *A* is less than halfway between 300 and 400

B 500, because point *A* is more than halfway between 300 and 500

C 200, because point *A* is less than halfway between 200 and 400

D 400, because point *A* is more than halfway between 300 and 400

INSTRUCTIONAL UNITS

Subunit 2 of 3 (12 Weeks): Computations

- **Solve** one-step and two-step addition and subtraction problems
- **Represent** multiplication facts by using a variety of approaches
- **Determine** the total number of objects when equally-sized groups of objects are combined or arranged in arrays
- **Recall** facts to multiply with automaticity and the corresponding division facts.
- **Use** strategies and algorithms to multiply a two-digit number by a one-digit number.
- **Determine** the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally
- **Determine** if a number is even or odd using divisibility rules
- **Determine** a quotient using the relationship between multiplication and division.
- **Solve** one-step and two-step multiplication and division problems within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts.
- **Represent** one- and two-step addition and subtraction to 1,000 using pictorial models, number lines, and equations.
- **Represent** and **solve** one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations
- **Describe** a multiplication expression as a comparison
- **Determine** the unknown whole number in a multiplication or division equation

Before	Now	After
• solve 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 2.4(C)	• 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 3.4(A)	• add and subtract whole numbers and decimals to the hundredths place using the standard algorithm 4.4(A)

Materials/Texts/Resources:
(* available in Spanish)

- TX Go Math*
- Fast Focus* (Suggested Resource)
- Countdown to STAAR (Suggested Resource)
- Curriculum Server
- Workstation *
- Imagine Math Pathway: LF 3rd Multiplication Concepts

INSTRUCTIONAL UNITS

- Imagine Math Pathway: LF 3rd Divisions Concepts
- *Think Up***

*If available on campus***

INSTRUCTIONAL UNITS

Module 1 of 5 (10 Days): Addition	
TEKS (R) Readiness, (S) Supporting, (P) Process	3.4A **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 (S) English Language Proficiency Standards The student uses mathematical processes to acquire and demonstrate mathematical understanding. **Process Standards: 3.1A, 3.1B, 3.1C, 3.1D, 3.1E, 3.1F, 3.1G**
Content and Language Objectives	***The Learner Will (TLW):*** • **solve** one- and two-step addition word problems within 1,000. • Student linguistic accommodations should reflect listening, speaking, reading, and writing. Learning Intentions for Emergent Bilinguals
Misconceptions	• Trying to apply "key words" to select the appropriate operation instead of understanding the context of the problem* • Not recognizing a number sentence and its inverse as being equivalent (e.g., not recognizing that 42 – 18 = ___ is the same thing as 18 + ___ = 42)* • Only solving the first step in a two-step problem* * *Used on STAAR*
Content Connections	• Students use their understanding of place value and expanded notation to develop strategies for addition and subtraction problems. Although instruction may model the names of the properties (commutative, associative, inverse, etc.), students will only be asked to employ the underlying concepts in order to solve addition and subtraction problems. • Commutative and Associative Properties (e.g., 134 + 517 = ____; (100 + 30 + 4) + (500 + 10 + 7) = ____; (100 + 500) + (30 + 10) + (4 + 7) = ____); (600 + (40) + (11) = 651) • Inverse Property (e.g., 262 − 48 = ___; 48 + ____ = 262; (40 + 8) + ___ = (200 + 60 + 2); (40 + 8) + (200 + 10 + 2 + 2) = 62; 262 − 48 = 214)

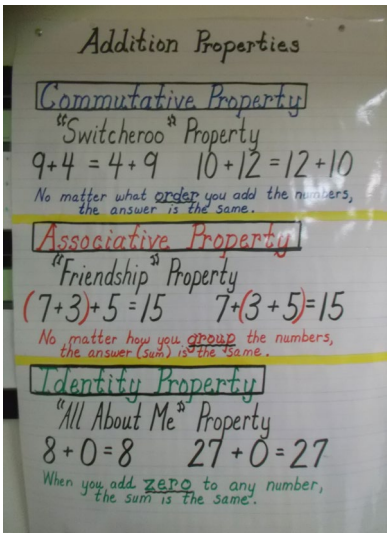
INSTRUCTIONAL UNITS

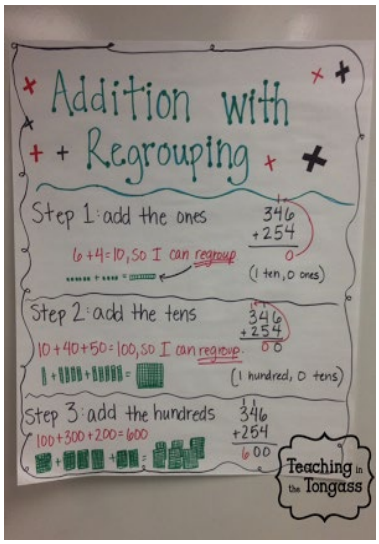
Academic Vocabulary *new to grade level	• comparing • difference* • distance • fact family • joining • number/quantity • separating • sum • unknown

INSTRUCTIONAL UNITS

Instruction and Student Engagement

- **Anchor Chart**





- **Math Warm-up**: TEKSas Target Board - Set 2 Week 2
- **Math Warm-up**: TEKSas Target Board - Set 3 Week 1

- **Video**
  - Brainpopjr- Adding with Regrouping
  - Brainpop- Commutative Property

- **TX Go Math**- Module 4.1 and Module 14.1
- ***Vocabulary Activity***- Think Up Math TE pg. 266 – *Group Password*
- ***Think Up***
  - *Activity- U12 Think Up TE pg. 147(Activity 1)*
  - *Activity- Think Up SE Unit 22 pg. 220-222 (addition only)*
- **Small Group Activity**- Have students work in pairs or groups to solve an addition problem. Have students complete the problem and share out how they solved the problem. Have students share strategies and explain responses.

- **Differentiated Instruction**
  - **GT Extensions**- *Think Up Math TE pg.154 (Extending Student Thinking)*
  - **Intervention**- *Think Up Math TE pg.152 (Intervention Activities)*
  - **EBs**: Go Math TE pg.101 & 431
    Linguistic Accommodations

- **Exit Ticket** - *Think Up Math SE pg.124 (Reflection/Closure Activity)*

Evidence of Learning

Checking for Understanding

- An example in solving a one- and two-step addition word problem…
- An example of using different strategies in solving addition word problems...
- An example of clue words when it comes to addition word problems…

District Units and Subunits Assessments

Learning Intentions for Emergent Bilinguals

Sample Assessment Items

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

The table shows the numbers of puzzle pieces in four puzzles. Derek put together the two puzzles that had the greatest numbers of pieces.

Puzzle Pieces

Puzzle	Number of Pieces
Lion	402
Boat	498
Garden	419
Waterfall	473

What is the total number of pieces in these two puzzles?

A 961

B 900

C 861

D Not here

INSTRUCTIONAL UNITS

Module 2 of 5 (15 Days): Subtraction	
TEKS (R) Readiness, (S) Supporting, (P) Process	3.4A **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 (S) English Language Proficiency Standards The student uses mathematical processes to acquire and demonstrate mathematical understanding. **Process Standards: 3.1A, 3.1B, 3.1C, 3.1D, 3.1E, 3.1F, 3.1G**
Content and Language Objectives	***The Learner Will (TLW):*** • learn in how to **solve** 1 or 2 step subtraction word problems within 1,000. • Student linguistic accommodations should reflect listening, speaking, reading, and writing. Learning Intentions for Emergent Bilinguals
Misconceptions	• Trying to apply "key words" to select the appropriate operation instead of understanding the context of the problem* • Not recognizing a number sentence and its inverse as being equivalent (e.g., not recognizing 42 – 18 = ___ is the same thing as 18 + ___ = 42) • When problems are represented as equations in answer choice options, having difficulty selecting the correct representation* • When problems are represented as number lines in answer choice options, having difficulty interpreting number lines correctly* * *Used on STAAR*

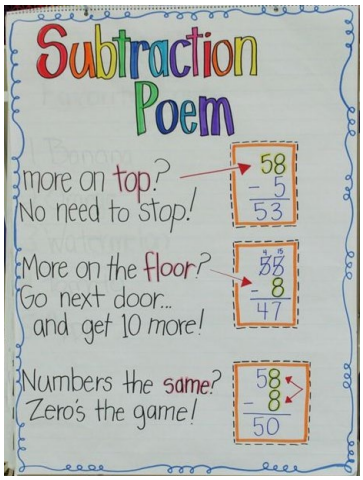
INSTRUCTIONAL UNITS

Content Connections	• Students use their understanding of place value and expanded notation to develop strategies for addition and subtraction problems. Although instruction may model the names of the properties (commutative, associative, inverse, etc.), students will only be asked to employ the underlying concepts in order to solve addition and subtraction problems. • Commutative and Associative Properties (e.g., 134 + 517 = ____; (100 + 30 + 4) + (500 + 10 + 7) = ____; (100 + 500) + (30 + 10) + (4 + 7) = ____); (600 + (40) + (11) = 651) • Inverse Property (e.g., 262 − 48 = ___; 48 + ____ = 262; (40 + 8) + ___ = (200 + 60 + 2); (40 + 8) + (200 + 10 + 2 + 2) = 62; 262 − 48 = 214)
Academic Vocabulary *new to grade level	• difference

INSTRUCTIONAL UNITS

Instruction and Student Engagement

- **Anchor Chart**



- **Math Warm-up**: TEKSas Target Board - Set 3 Week 2
- **Math Warm-up:** TEKSas Target Board - Set 4 Week 1
- **Math Warm-up:** TEKSas Target Board - Set 4 Week 2

- **Videos**-
  - Brainpopjr - Basic Subtraction
  - Brainpopjr - Subtraction without regrouping
  - Brainpopjr - Subtraction with regrouping

- **TX Go Math**- Module 5.1 and Module 14.2
- ***Vocabulary Activity*-** Think Up Math TE pg. 148
- ***Think Up***
  - *Activity 1 and/or 4- Think Up TE pg. 147*
  - *Think Up SE Unit 12 pg. 120, pg. 121 (1, 2, 5), and pg. 122 (1, 3, 5)*
  - *Activity- Think Up SE Unit 22 pg. 220-222 (subtraction only)*
- Have students work in pairs or groups to solve a subtraction problem. Have students complete the problem and share out how they solved the problem. Have students share strategies and explain responses.
- **Differentiated Instruction**
  - **GT Extensions**- *Think Up Math TE pg.154 (Extending Student Thinking)*
  - **Intervention**- *Think Up Math TE pg.152 (Intervention Activities)*
  - **EBs**: Go Math TE pg. 131 & 437

	Linguistic Accommodations • **Exit Ticket** - *Think Up Math SE pg.124 (Reflection/Closure Activity)* Lacey needs to find the sum of 75 + 37 + 25. Why does it make sense for Lacey to add the numbers out of order?
Evidence of Learning	**Checking for Understanding** • An example in how to solve a 1 or 2 step subtraction word problem… • An example of using different ways in solving subtraction word problems… • An example of clue words when it comes to subtraction word problems… District Units and Subunits Assessments Learning Intentions for Emergent Bilinguals **Sample Assessment Items** 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 $98 + 572 = \square$

INSTRUCTIONAL UNITS

Module 3 of 5 (5 Days): Even and Odd	
TEKS (R) Readiness, (S) Supporting, (P) Process	3.4 I **determine** if a number is even or odd using divisibility rules (S) English Language Proficiency Standards The student uses mathematical processes to acquire and demonstrate mathematical understanding. **Process Standards: 3.1A, 3.1B, 3.1C, 3.1D, 3.1E, 3.1F, 3.1G**
Content and Language Objectives	***The Learner Will (TLW):*** • **understand** that a whole number is even if the ones digit is 0, 2, 4, 6, or 8. • **understand** that a whole number is odd if the ones digit is 1, 3, 5, 7, or 9. • Student linguistic accommodations should reflect listening, speaking, reading, and writing. Learning Intentions for Emergent Bilinguals
Misconceptions	• Identifying even and/or odd, but not being able to apply it to divisibility rules * *Used on STAAR*
Content Connections	• Students should use concrete objects in equal pairs to determine if a number is even or odd (e.g., the number 17 has eight pairs with one left over reflecting an odd number). • Instruction should relate the divisibility of two to even numbers (e.g., the number 14 had seven pairs reflecting an even number; 14 is divisible by two). • If a whole number has in its ones place a 2, 4, 6, 8, or 0, the number is even as it is divisible by two (e.g., the number 356 is divisible by two; therefore it is even because of the 6 in the ones place).

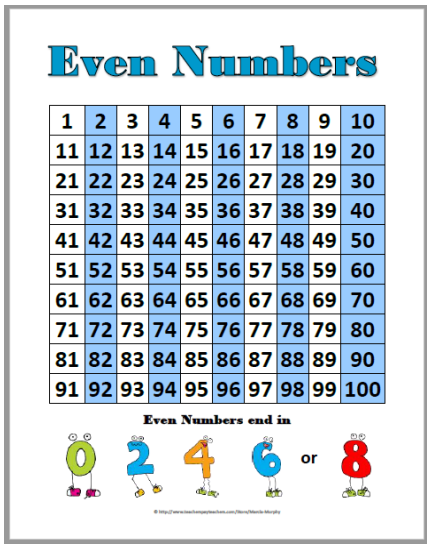
INSTRUCTIONAL UNITS

Academic Vocabulary *new to grade level	• divisible • even* • odd*

INSTRUCTIONAL UNITS

Instruction and Student Engagement

- **Anchor Chart**



- **Math Warm-up**: TEKSas Target Board - Set 5 Week 1
- **Video**- Brainpop- Odd and Even
- **TX Go Math**- Module 11.3
- **Whole Group Activity-** - Pass out random number of counting chips. Have students pair up the chips or other small objects on their own. Have each student pair up their chips and then count how many they have in all. Ask students- "Who has 1 cube left over?" When a student raises their hand, ask how many chips they have altogether. Write those numbers on the board, such as "15," "19," "23," and "11." Write "odd" above them. Explain it's because they have 1 leftover and that makes it odd. Ask for totals from the students who don't have any left over. Write the numbers on the board, such as "16," "22," "8," and "12." Write even above them because they divide out evenly.
- ***Vocabulary Activity***- Think Up Math TE pg. 230 – *Rockin' Rules*: in small groups, students create a song, drama, rap, or poster to represent the divisibility rule for 2 (See more on TE).
- ***Think Up***
  - Activity-Think Up TE pg. 231
  - Think Up SE U19 pg. 190-191-Concept Development and Application
- **Differentiated Instruction**

	○ **GT Extensions**- Give students graph paper. Have students create an even-odd maze. Tell them that the page should consist of a chart of numbers. Most of the numbers should be even except for the pathway, which should be odd numbers. Have students give it to someone else to solve the path. ○ **Intervention**- Give students a chart of 100 numbers to color in. The chart should have a box for each number from 1 to 100. Have students color the even numbers 1 color and the odd numbers another color. ○ **EBs**: Go Math TE pg. 351 Linguistic Accommodations • **Exit Ticket** – Play a heads-down game of identifying odd and even. Have the students put their heads down on their desk. Give them a number, starting with something small. Have students raise one finger for odd numbers and two fingers if they think it's even.

Evidence of Learning

Checking for Understanding

- What are even numbers?
- What are odd numbers?
- What numbers are divisible by 2?
- Is 28 even or odd?
- Is 45 even or odd?
- Is 258 even or odd?
- Is 307 even or odd?

District Unit and Subunits Assessment

Learning Intentions for Emergent Bilinguals

Sample Assessment Items

6 These six basketball jerseys are hanging on a wall. Lori's favorite basketball players each have an odd number on their jerseys.

Which list shows only the numbers of Lori's favorite basketball players?

F 10, 21, 25, 33

G 21, 25, 33

H 21, 50, 52

J 10, 33, 50, 52

22 Which statement about the number 34 is true?

F It is odd, because the digit in the tens place is odd.

G It is even, because the digit in the tens place is even.

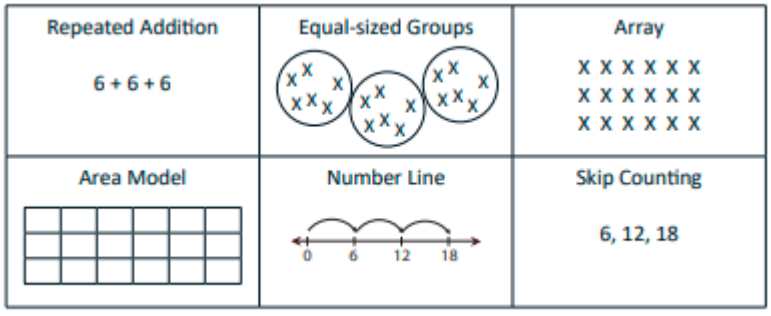
H It is odd, because it can be divided by 3 evenly.

J It is even, because it can be divided by 2 evenly.

INSTRUCTIONAL UNITS

Module 4 of 5 (15 Days): Multiplication	
TEKS (R) Readiness, (S) Supporting, (P) Process	3.5B **represent** and **solve** one- and two-step multiplication and division problems within 100 **using** arrays, strip diagrams, and equations (R) 3.4K **solve** one-step and two-step problems involving multiplication and division within 100 **using** strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts (R) 3.4D **determine** the total number of objects when equally sized groups of objects are combined or arranged in arrays up to 10 by 10 (S) 3.4E **represent** multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting (S) 3.4F **recall** facts to multiply up to 10 by 10 with automaticity and **recall** the corresponding division fact (S) 3.4G **use** strategies and algorithms, including the standard algorithm, to **multiply** a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties (S) 3.5C **describe** a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24 (S) 3.5D **determine** the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product (S) English Language Proficiency Standards The student uses mathematical processes to acquire and demonstrate mathematical understanding. **Process Standards: 3.1A, 3.1B, 3.1C, 3.1D, 3.1E, 3.1F, 3.1G**

INSTRUCTIONAL UNITS

Content and Language Objectives	***The Learner Will (TLW):*** • **learn** to represent facts using repeated addition and using equal sized groups. • **learn** to represent facts using arrays and using equal jumps on the number line • **determine** total number of objects in arrays • **use** arrays, strip diagrams, and equations to **represent** one- and two-step multiplication problems • **use** arrays, strip diagrams, and equations to **solve** one- and two-step multiplication problems • **use** different strategies to **solve** one- and two-step problems involving multiplication • Student linguistic accommodations should reflect listening, speaking, reading, and writing. Learning Intentions for Emergent Bilinguals
Misconceptions	• Not connecting rows and columns of an array to factors in multiplication* • Not realizing that arrays reflect the combination of equal-sized groups of objects* • Thinking that a 4 by 2 array yields a different area than a 2 by 4 array • Not recognizing the commutativity of a multiplication representation because the representations look different (e.g., not recognizing that 6 x 3 = 18 yields the same product as 3 x 6 = 18)* • Not connecting jumps on a number line to skip counting procedures or repeated addition (e.g., 0 6 12 18 +6 +6 +6 Repeated Addition Skip Counting)* * *Used on STAAR*
Content Connections	• This standard builds the conceptual understanding of multiplication. Students use a variety of methods to understand the meaning of multiplication. Be sure the actions of each strategy are related to a number sentence. For example, 3 × 6 = 18 can be represented using these strategies: 

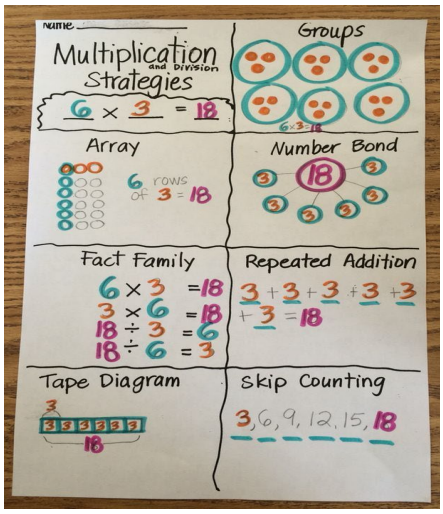
INSTRUCTIONAL UNITS

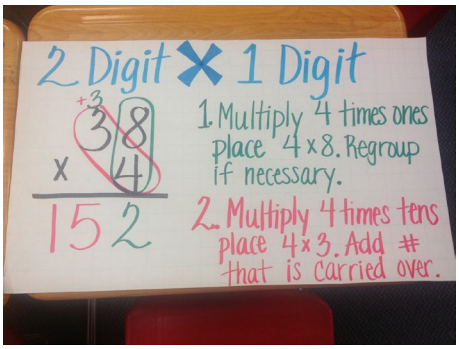
Academic Vocabulary *new to grade level	• area model • array • column • equal groups/shares • factor • multiplication • product • row*

INSTRUCTIONAL UNITS

Instruction and Student Engagement

- **Anchor Chart**





- **Math Warm-up**: TEKSas Target Board - Set 5 Week 2
- **Math Warm-up**: TEKSas Target Board - Set 6 Week 1
- **Math Warm-up**: TEKSas Target Board - Set 6 Week 2

- **Videos**
  - Brainpop- What is Multiplication?
  - Brainpop - Repeated Addition
  - Brainpop- Arrays

- **TX Go Math** -Modules 6, 7, 8, 9
- Literature Connections: *One Hundred Hungry Ants*
- ***Vocabulary Activity***- Think Up TE: *Swat-a-Word* pg. 206
- ***Think Up***
  - Activity- Think Up TE Unit 15 Activity 1 and 2, pg. 183
  - Activity- Think Up TE Unit 16 Activity 1 (concrete models) pg. 195
  - Activity- Think Up TE Unit 17 pg. 2 and/or 3
  - Think Up SE Unit 15 pg. 148, 150-151
  - Think Up SE Unit 16 pg. 160-162
  - Think Up SE Unit 17 pg. 168, 170-171
  - Think Up SE Unit 21 pg. 208, pg. 211 (1, 3-4), pg. 212 (1, 3, 6)

- Think Up SE Unit 23 pg. 228, pg. 231 (1, 3, 5), pg. 232 (1-3)
- Think Up SE Unit 25 pg. 248-256

- Give a deck of playing cards to teams of two. Remove face cards. Have students divide the playing cards in half and begin playing. Just flip two cards and multiply. Whoever has the highest product keeps the cards. Students can also give the fact family for each problem.
- Activity- Have students create arrays using a variety of objects (M&Ms, counting chips, pencils, paperclips, etc.) Have students write them down and include the fact family for each.
- Activity- Give each student a 100 chart and have them identify the 2s, 5s, 10s, etc.
- **Differentiated Instruction**
  - **GT Extensions**- Challenges students to investigate and analyze the relationship between the terms factor and product. Have them look up the words in the dictionary, then instruct students to create a mnemonics to help remember the math meanings of these words. Have them share with class.
  - **Intervention**- Provide real world problems of arrays (egg cartons, muffin tray, etc.). For each array instruct each student to record multiplication equation on a sentence strip. After students are finished, direct them to place the sentence strip next to the model. Have a discussion and clarify as needed.
  - **EBs**: Go Math TE pg. 185
    Linguistic Accommodations
- **Exit Ticket** Give students a multiplication problem and have them write out one strategy to solve it (groups, arrays, strip diagram, etc).

Evidence of Learning

Checking for Understanding

Students will complete arrays for example:

- Show an array of 3x5
- Show an array of 2x6
- Students will complete number lines for example...
- Students will show J x E= T, which means How many Jumps x Each- what number they are counting by and the total of the number line.

District Units and Subunits Assessments

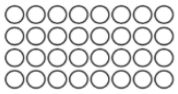
Learning Intentions for Emergent Bilinguals

Sample Assessment Items

Zachary lists some different methods he thinks he can use to solve the multiplication problem shown.

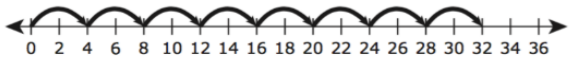
$8 \times 4 = ?$

Which of these is **not** a method Zachary can use to get the correct answer?

A 

B $8 \times 8 \times 8 \times 8$

C 4, 8, 12, 16, 20, 24, 28, 32

D 

INSTRUCTIONAL UNITS

Module 5 of 5 (15 Days): Division	
TEKS (R) Readiness, (S) Supporting, (P) Process	3.5B **represent** and **solve** one- and two-step multiplication and division problems within 100 **using** arrays, strip diagrams, and equations (R) 3.4K **solve** one-step and two-step problems involving multiplication and division within 100 **using** strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts (R) 3.4H **determine** the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally (S) 3.4J **determine** a quotient using the relationship between multiplication and division (S) English Language Proficiency Standards The student uses mathematical processes to acquire and demonstrate mathematical understanding. **Process Standards: 3.1A, 3.1B, 3.1C, 3.1D, 3.1E, 3.1F, 3.1G**
Content and Language Objectives	***The Learner Will (TLW):*** • **use** arrays, strip diagrams, and equations to **represent** one- and two-step division problems • **use** arrays, strip diagrams, and equations to **solve** one- and two-step division problems • **use** different strategies to **solve** one- and two-step problems involving division • **recall** multiplication facts up to 10 by 10 and **recall** division facts related to the multiplication facts up to 10 by 10. • Student linguistic accommodations should reflect listening, speaking, reading, and writing. Learning Intentions for Emergent Bilinguals
Misconceptions	• Not understanding the grouping difference between a representation for 42 ÷ 7 = 6 and a representation for 42 ÷ 6 = 7 • Not recognizing a number sentence and its inverse as being equivalent (e.g., not recognizing that 6 x ___ = 42 is the same thing as 42 ÷ 6 = ___)* • Misunderstanding how to interchange multiplication and division vocabulary to determine the relationship in a given equation* * *Used on STAAR*

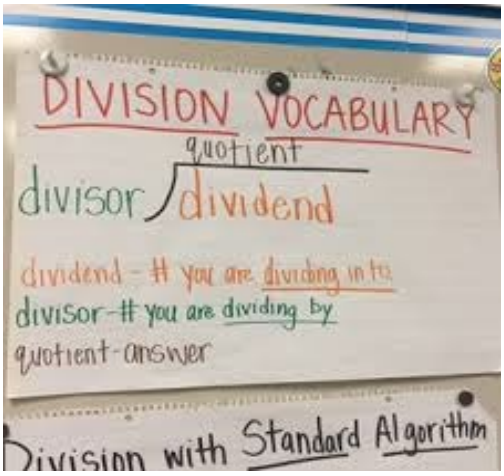
INSTRUCTIONAL UNITS

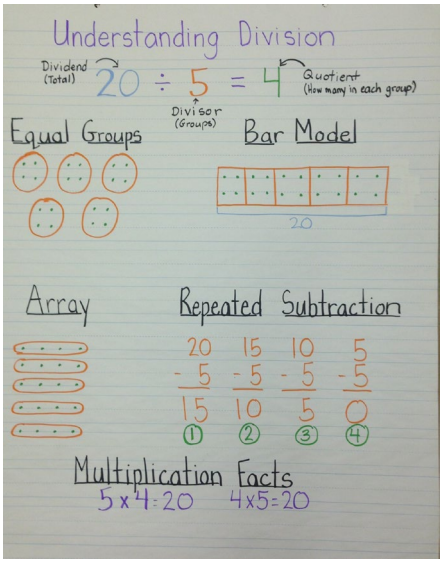
Content Connections	• Instruction of division should include the use of manipulatives to model equal sharing and repeated subtraction to build conceptual understanding of the operation. • Instruction should relate the manipulation of the objects to its associated division sentence (e.g., 15 lollipops shared among 5 friends can be modeled with 15 colored tiles divided into 5 equal groups, 15 ÷ 5 = 3).
Academic Vocabulary *new to grade level	• dividend • division • divisor • equal groups/shares • quotient

INSTRUCTIONAL UNITS

Instruction and Student Engagement

Anchor Chart





- **Math Warm-up**: TEKSas Target Board - Set 7 Week 1
- **Math Warm-up**: TEKSas Target Board - Set 7 Week 2
- **Math Warm-up**: TEKSas Target Board - Set 8 Week 1
- **Videos**
  - Brainpop- Division
  - Brainpop- Making Equal Groups
  - Brainpop- Repeated Subtraction

- **TX Go Math** Modules 10, 11, 12, 13
- **Instructional Activities-** refer to Think Up TE Units 16, 18, 19, 20, and 21
- ***Vocabulary Activity***: *Fact Family Bingo* (See Think Up TE U20 pg. 244)
- ***Think Up***
  - Activity- Think Up SE Unit 16 pg. 165-166
  - Activity- Think Up SE Unit 18 pg. 178, 180-181
  - Activity- Think Up SE Unit 19 pg. 195-196
  - Activity- Think Up SE Unit 20 pg. 200-202
  - Activity- Think Up SE Unit 21 pg. 208 (if not completed on previous Module); 210; pg. 211 (2, 5), pg. 212 (2, 4), pg. 216

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Activity- Think Up SE Unit 23 pg. 230; pg. 231 (2, 4), pg. 232 (4-5), pg. 235
Activity- Think Up SE Unit 24 pg. 240-241
Activity- Think Up SE Unit 25 pg. 250-251; pg.252 (1-2, 4)
Activity- Think Up SE Unit 26 pg. 260-261

Differentiated Instruction

GT Extensions- Put students in pairs and have them create a flashcard game in which students match a division situation with a division model and equation. Have students trade and play the games
Intervention- Provide students with a paper plate to use to divide sets of small counting objects (paper clips, eraser tops, counters, etc.).
EBs: Go Math TE pg. 307
Linguistic Accommodations

Exit Ticket Provide students with a division math problem. Ask students to draw a model and write a division equation to show the solution.

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<td>Evidence of Learning</td>
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Checking for Understanding

How might you explain the relationship between multiplication and division?
How might fact families help you in remembering multiplication and division facts?

District Units and Subunits Assessments

Learning Intentions for Emergent Bilinguals

Sample Assessment Items
Ms. Losoya has 72 index cards. She will arrange the cards in 6 equal stacks. How many index cards will be in each stack?
A 12
B 9
C 78
D 66
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INSTRUCTIONAL UNITS

Subunit 3 of 3 (3 Weeks): Fractions

Subunit Description:

- **use** concrete objects and pictorial models, including strip diagrams and number lines to **represent** fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8
- **Determine** the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line.
- **Explain** that the unit fraction 1/ b represents the quantity formed by one part of a whole that has been partitioned into b equal parts where b is a non-zero whole number.
- **Compose** and **decompose** a fraction a/b with a numerator greater than zero and less than or equal to b as a sum of parts 1/b
- **Use** pictorial representations of fractions to **solve** problems involving partitioning an object or a set of objects among two or more recipients
- **Use** a variety of objects and pictorial models, including number lines to **represen**t equivalent fractions
- **Explain** that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model
- **Compare** two fractions having the same numerator or denominator in problems by reasoning about their size and justifying the conclusion using symbols, words, objects, and pictorial models.
- **Represent** fractions of halves, fourths, and eighths as distance from zero on a number line.

Before	Now	After
• partition objects into equal parts and name the parts, including halves, fourths, and eighths, using words 2.3(A)	• explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model 3.3(G)	• determine if two given fractions are equivalent using a variety of methods 4.3(C)

Materials/Texts/Resources:
(* available in Spanish)

- Go Math*
- Imagine Math Pathway*
- Reflex Math*
- Education Galaxy

INSTRUCTIONAL UNITS

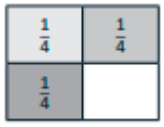
- Fast Focus* (Suggested Resource)
- Countdown to STAAR (Suggested Resource)
- Curriculum Server
- Workstations*
- *Think Up*

*If available on campus***

INSTRUCTIONAL UNITS

Module 1 of 3 (5 Days): Represent, Compose, and Decompose Fractions	
TEKS (R) Readiness, (S) Supporting, (P) Process	3.3D **compose** and **decompose** a fraction a/b with a numerator greater than zero and less than or equal to b as a sum of parts 1/b (S) 3.3A **represent** fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 **using** concrete objects and pictorial models, including strip diagrams and number lines (S) 3.3B **determine** the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line (S) 3.3C **explain** that the unit fraction 1/b represents the quantity formed by one part of a whole that has been partitioned into b equal parts where b is a non-zero whole number (S) 3.3E **solve** problems involving partitioning an object or a set of objects among two or more recipients **using** pictorial representations of fractions with denominators of 2, 3, 4, 6, and 8 (S) 3.7(A) represent fractions of halves, fourths, and eighths as distances from zero on a number line (S) English Language Proficiency Standards The student uses mathematical processes to acquire and demonstrate mathematical understanding. **Process Standards: 3.1A, 3.1B, 3.1C, 3.1D, 3.1E, 3.1F, 3.1G**
Content and Language Objectives	***The Learner Will (TLW):*** • **compose** and **decompose** fractions as a sum of unit fractions. • **represent** and **explain** fractions greater than zero and less than one in different ways. • **determine** • **use** pictorial representations of fractions to **solve** problems that involve partitioning an object or set of objects • Student linguistic accommodations should reflect listening, speaking, reading, and writing. Learning Intentions for Emergent Bilinguals

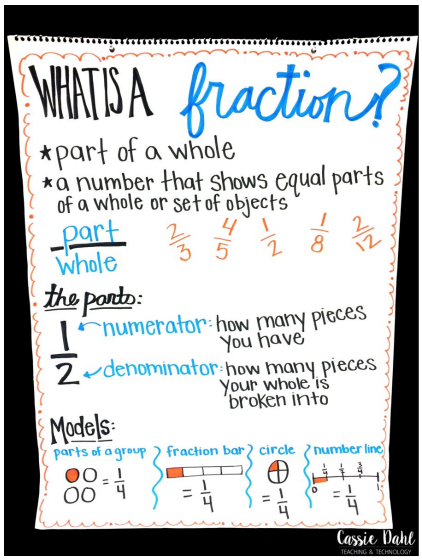
INSTRUCTIONAL UNITS

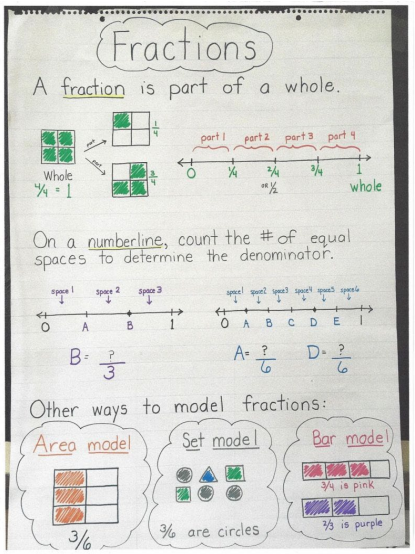
Misconceptions	• Adding the numerators and denominators* • Having difficulty identifying the whole for a given contextual situation* * *Used on STAAR*
Content Connections	• In conjunction with 3.3(C), as students identify the unit fraction for a given whole (e.g., one rectangle represents 1/4 of the whole square), instruction extends to using the unit fractions to represent the sum of the parts of an a/b fraction (e.g., as three of the four rectangles are shaded, its value can be represented as 1/4 + 1/4 + 1/4 = 3/4). 
Academic Vocabulary *new to grade level	• denominator • equal parts • numerator • whole

INSTRUCTIONAL UNITS

Instruction and Student Engagement

- Anchor Chart





- **Math Warm-up**: TEKSas Target Board - Set 8 Week 2

  Students will be working on a variety of activities to enhance student learning.

- **Videos**
  - Brainpop
  - Fractions
  - Decompose fractions
- **TX Go Math** -Module 2.1-2.5
- **Think Up**
  - Activity TE Unit 5, 6, 7, 8, and 9 for different instructional activities
  - Think Up SE Unit 5 pg. 48; 50-51, 56

    Unit 6 pg. 58; 60-61, 66

    Unit 7 pg. 68; 70-72

    Unit 8 pg. 78-79, 80-81

    Unit 9 pg. 88; 90-92

    Unit 31 pg. 307-316
  - Think Up SE Motivation Station pg. 63

- **Differentiated Instruction**
  - **GT Extensions-** Have students use the internet and library to research how ancient Egyptians wrote fractions. Have student explain how it is similar to what they learned in this unit and how it is different. Ask students to share their findings with the class
  - **Intervention-** Provide students with a variety of number lines showing different fractions. Above each interval, instruct students to write the unit fraction for the shaded region. Using the written unit fractions, have students write an equation to how the sum of the unit fractions equal to the part of the number line that is shaded.
  - **EBs**: Go Math TE pg. 37, 43, 49, 55 & 61
    Linguistic Accommodations

- **Exit Ticket** Provide each student with 5 sheets of construction paper cut and labeled to represent halves, thirds, fourths, and eights. Name a fraction, and have students hold up appropriate unit fraction pieces to represent the fraction. Then, direct students to write as a sum of unit fractions on dry erase boards.

Evidence of Learning

Checking for Understanding

- How might you explain the process for decomposing a fraction as a sum of unit fractions?
- What visual representation might you use to show how to compose a fraction a/a with unit fractions?
- How does the numerator of a fraction affect the number of addends when you decompose a fraction?

District Units and Subunits Assessments

Learning Intentions for Emergent Bilinguals

Sample Assessment Items

15 The picture represents the trophies 3 brothers have on a shelf. Each brother won the same number of trophies.

What fraction of the trophies did each brother win?

A $\frac{2}{3}$

B $\frac{2}{6}$

C $\frac{3}{6}$

D $\frac{3}{3}$

INSTRUCTIONAL UNITS

Module 2 of 3 (5 Days): Equivalent Fractions	
TEKS (R) Readiness, (S) Supporting, (P) Process	3.3F **represent** equivalent fractions with denominators of 2, 3, 4, 6, and 8 **using** a variety of objects and pictorial models, including number lines (R) 3.3G **explain** that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model (S) English Language Proficiency Standards The student uses mathematical processes to acquire and demonstrate mathematical understanding. **Process Standards: 3.1A, 3.1B, 3.1C, 3.1D, 3.1E, 3.1F, 3.1G**
Content and Language Objectives	***The Learner Will (TLW):*** • **represent** equivalent fractions using concrete and pictorial models • **understand** and **explain** that different fractions can be used to **represent** the same portion of a whole • Student linguistic accommodations should reflect listening, speaking, reading, and writing. Learning Intentions for Emergent Bilinguals

Misconceptions	• Misidentifying the shaded components of a fractional model as the numerator and the unshaded components as the denominator* • Viewing an equivalent fraction with a larger denominator as larger in value than a smaller denominator (e.g., 1_ 2 is smaller than 2_ 4 because 2 is smaller than 4) • Not relating area to determining equivalency of fractions (e.g., a square divided into two equal triangles is the same amount of area as a square divided into two equal rectangles; both the triangle and the rect- angle would represent 1_ 2 of the square)* • Having difficulty identifying equivalent fractions on a number line when tick marks are not earmarked* • Not identifying equivalent fractions for number lines that are not aligned* • When determining equivalent fractional representations on a number line, counting the number of tick marks between two given whole numbers instead of the number of unit spaces (hops) • Not understanding that compared fractions must be fractions of the same whole (e.g., 1_ 2 of a piece of gum is not equivalent to 2_ 4 of a piece of licorice even though they both describe 1_ 2 of their respective wholes; the wholes are not the same) • Thinking an equivalent fraction with a larger denominator is larger in value than a smaller denominator (e.g., 1_ 2 is smaller than 2_ 4 because 2 is smaller than 4) • Not relating area to determining equivalency of fractions (e.g., a square divided into two equal triangles is the same amount of area as a square divided into two equal rectangles; both the triangle and a rectangle would represent 1_ 2 of the square)* • Not relating distance on a number line to determining equivalency of fractions (e.g., 1_ 2 is a shorter distance from zero than 2_ 4 because 2 is smaller than 4) • When determining equivalent fractional representations on a number line, counting the number of tick marks between two given whole numbers instead of the number of unit spaces (hops)* * *Used on STAAR*
Content Connections	• It is important for the introduction of equivalent fractions to be modeled through the use of concrete objects (e.g., if a hexagon pattern block represents the whole, two trapezoids or six triangles could also represent one whole; hence, one trapezoid pattern block covers half of the whole hexagon and so do three triangles; therefore, ½ = 3/6).

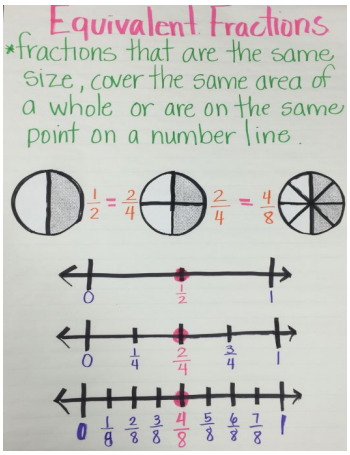
INSTRUCTIONAL UNITS

Academic Vocabulary *new to grade level	• area model • denominator • equal parts • equal shares • equivalent fraction • numerator • part of a whole • whole

INSTRUCTIONAL UNITS

Instruction and Student Engagement

- Anchor Chart



- **Math Warm-up**: TEKSas Target Board - Set 9 Week 1
- **Video-**
  - Brainpopjr
- **TX Go Math** -Module 3.4 -3.5
- ***Think Up***
  - Activities 1 and 3 - Think Up TE U10 pg. 123
  - Activity- Think Up Unit 10 SE pg. 103
  - Think Up 98; 100-102 SE Unit 10 pg. 79-81
- **Differentiated Instruction**
  - **GT Extensions**- Challenge student pairs to create a Jeopardy-style game about fraction concepts. Allow students to create an electronic version of the game (Power Pt) using an online template. Guide students to create their own headings for each column.
  - **Intervention**- Give students faction circles. Ask students questions such as: How many sixths are equal to one-half? eighths, etc. Have students draw the model in their math journal and write the fraction below the model.
  - **EBs**: EB's: Go Math TE pg. 87 & 93

    Linguistic Accommodations
- **Exit Ticket** – In their math journals have students explain how they know that 1/2 = 4/8

Evidence of Learning

Checking for Understanding

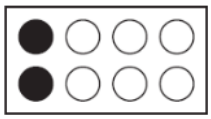
- How many halves (thirds, fourths, etc.) are equivalent to one whole?
- How many sixths are equivalent to ⅓? ⅔?
- Name 3 fractions that are equivalent to ½?
- How would you explain the relationship between the 1 and 2 in the fraction ½?

District Units and Subunits Assessments

Learning Intentions for Emergent Bilinguals

Sample Assessment Items

21 Irene has a group of counters, as shown.



Which two fractions can represent the black counters in the group?

A $\frac{2}{6}$ and $\frac{2}{8}$

B $\frac{1}{3}$ and $\frac{2}{6}$

C $\frac{1}{4}$ and $\frac{2}{8}$

D $\frac{1}{4}$ and $\frac{2}{4}$

INSTRUCTIONAL UNITS

Module 3 of 3 (5 Days): Compare Fractions	
TEKS (R) Readiness, (S) Supporting, (P) Process	3.3H **compare** two fractions having the same numerator or denominator in problems **by reasoning** about their sizes and **justifying** the conclusion **using** symbols, words, objects, and pictorial models (R) English Language Proficiency Standards The student uses mathematical processes to acquire and demonstrate mathematical understanding. **Process Standards: 3.1A, 3.1B, 3.1C, 3.1D, 3.1E, 3.1F, 3.1G**
Content and Language Objectives	***The Learner Will (TLW):*** • **understand** how to compare two fractions with the same numerator or denominator. • **reason** about the size of the fractions and **explain** his/her conclusion using symbols, words, objects, and pictorial models. • Student linguistic accommodations should reflect listening, speaking, reading, and writing. Learning Intentions for Emergent Bilinguals
Misconceptions	• Not understanding that larger denominators yield smaller parts of the whole; smaller denominators yield larger parts of the whole • Not viewing the comparison statement 3/ 8 < 3/ 6 as the same as 3/6 > 3/ 8 * *Used on STAAR*
Content Connections	• The comparison of fractions is limited to those where the numerators are the same with different denominators (¼ and 1/8) or the denominators are the same with different numerators (2/3 and 1/3). This allows instruction to focus on the size of the whole or the size of the part in order to compare fractions.

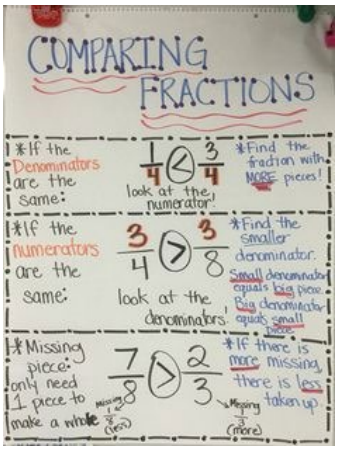
INSTRUCTIONAL UNITS

Academic Vocabulary *new to grade level	• denominator • greater than • less than • numerator • part of the whole • size of the whole

INSTRUCTIONAL UNITS

Instruction and Student Engagement

- Anchor Chart



- **Math Warm-up**: TEKSas Target Board - Set 9 Week 2

- **Video**
  - Khan Academy- Comparing Fractions
- **TX Go Math** -Module 3.1 - 3.3
- ***Vocabulary Activity****: Cinquain Poems -Think Up pg. 134*
- ***Think Up***
  - *Unit 11 TE Compare Fractions pgs. 135 Activity 2*
  - *Activity- Think Up SE Unit 11 pg. 108; 110-111; 116*
  - *Activity- Think Up SE Unit 31 pg. 308; 310-311; 316*

- **Differentiated Instruction**
  - **GT Extensions**- Have students create a puzzle that will have students compare 2 fractions (some larger, some smaller, some equal). Make copies of the puzzle so students can complete.
  - **Intervention**- Write fractions on the board and have students compare them using the correct symbol (<, >, or =).
  - **EBs**: Go Math TE pg. 69, 75 & 81
    Linguistic Accommodations

- **Exit Ticket** – Have students read a variety of comparison number sentences aloud. Provide clarifications for students who confuse the meanings of the < or > symbols.

Evidence of Learning

Checking for Understanding

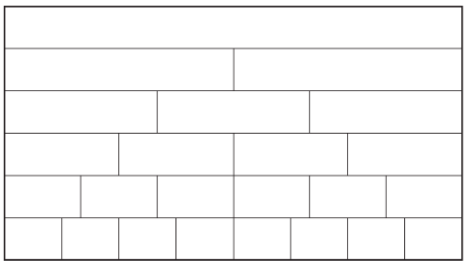
- An example of numerator is…
- An example of denominator is…
- How is comparing fractions like comparing whole numbers?
- In what situations in everyday life might you compare two fractions?

District Units and Subunits Assessments

Learning Intentions for Emergent Bilinguals

Sample Assessment Items

17 Fraction strips are shown.



Which comparison is true?

A $\frac{1}{6} < \frac{1}{4}$

B $\frac{1}{3} < \frac{1}{8}$

C $\frac{1}{4} > \frac{1}{2}$

D $\frac{1}{8} = \frac{2}{8}$

INSTRUCTIONAL UNITS

Unit II: ALGEBRAIC RELATIONSHIPS AND DATA ANALYSIS (2.5 WEEKS)

Unit Description:

In Unit II, students apply mathematical process standards to analyze and create patterns and relationships. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data.

Mastery Learning Objectives:

- **Demonstrate** an understanding of how to perform operations and represent algebraic relationships.
- **Demonstrate** an understanding of how data is collected, organized, displayed, and interpreted in order to solve different problems.
- EB: The students will develop their receptive and expressive skills. (reading, writing, speaking, and listening)

Essential Questions:

- What are some ways you can describe a pattern in a table?
- How can you use patterns to find rules and solve problems?
- How can you display and interpret data in a frequency table, dot plot, pictograph, or bar graph?

Real World/Cross-Curricular Connections:

- Let's Go Shopping Activity

Let's Go Shopping

Teacher will provide students a newspaper ad from a grocery store or have them go online to see add, such as HEB- (https://www.heb.com/weekly-ads/weekly-deals). Students will select packaged items from the ad to create input-output tables. Students will pretend to buy items such as gum, soft drinks, buns, flowers, etc. Ask questions such as, "If there are 6 sodas per pack, how many sodas would be in 4, 5, or 6 packs?"

Let's go shopping

- Reading & Writing Math -Go Math!
- SE pg. 621 and TE pg. 622

Subunit 1 of 2 (5 Days): Pattern Relationship

Subunit Description:

- **represent** real-world relationships using number pairs in a table and verbal descriptions

Before	Now	After
• model, create, and describe contextual division situations in which a set of concrete objects is separated into equivalent sets 2.6B	• represent real-world relationships using number pairs in a table and verbal descriptions 3.5E	• represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence 4.5B

Materials/Texts/Resources:
(* available in Spanish)

- Go Math*
- Imagine Math Pathway: LF 3rd Divisions Concepts
- Reflex Math
- Education Galaxy
- Curriculum Server
- Workstations (3.5E)*
- Fast Focus* (Suggested Resource)
- Countdown to STAAR (Suggested Resource)
- *Think Up***

Suggested Manipulatives

- Cuisenaire Rods
- Deck of Cards
- Number Line
- Centimeter Cubes
- Number Array Mats
- Base Ten Block

*If available on campus***

INSTRUCTIONAL UNITS

Module 1 of 1 (5 Days): Pairs in a Table	
TEKS (R) Readiness, (S) Supporting, (P) Process	3.5E **represent** real-world relationships using number pairs in a table and verbal descriptions (R) English Language Proficiency Standards The student uses mathematical processes to acquire and demonstrate mathematical understanding. **Process Standards: 3.1A, 3.1B, 3.1C, 3.1D, 3.1E, 3.1F, 3.1G**
Content and Language Objectives	***The Learner Will (TLW):*** • **represent** real-world relationships using number pairs in a table and verbal descriptions • Student linguistic accommodations should reflect listening, speaking, reading, and writing. Learning Intentions for Emergent Bilinguals
Misconceptions	• Confusing a multiplicative pattern for an additive pattern as they view multiplication as repeated addition* • Not recognizing the equivalency of a verbal description and its inverse (e.g., not selecting a multiple choice answer of "the number of wheels divided by 3 equals the total number of tricycles" as a representation of "the number of tricycles times 3 equals the total number of wheels")* • Applying correct relationships only to the first or second row/column of a table (stopping too early)* * *Used on STAAR*

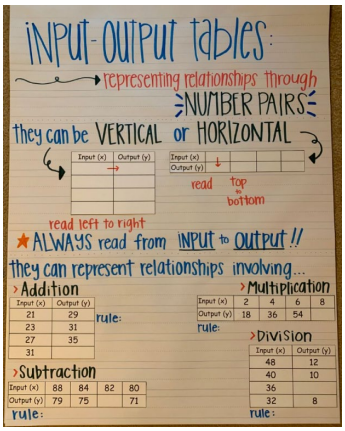
INSTRUCTIONAL UNITS

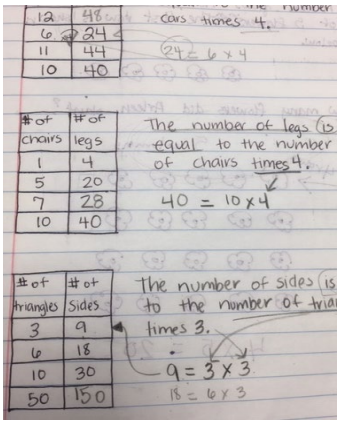
Content Connections	• Students should be given a real-world situation (e.g., number of wheels on a tricycle) and asked to represent the number pattern in a table (see below) as well as a verbal description (e.g., for every tricycle there are three times as many wheels). • Table representations should be both vertical and horizontal. • Verbal descriptions should relate pattern to the real-world situation and not just identify "what's my rule" (e.g., "There are three times as many wheels for the number of tricycles," not "x 3"). • Students should verbalize the inverse verbal description as it applies to the number pattern in the table (e.g., number of tricycles times 3 equals the total number of wheels or the number of wheels divided by 3 equals the total number of tricycles).
Academic Vocabulary *new to grade level	• input-output table • multiplicative pattern • number pair • rule

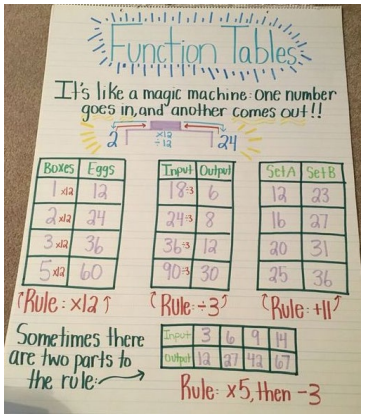
INSTRUCTIONAL UNITS

Instruction and Student Engagement

- **Anchor Chart**







- **Math Warm-up**: TEKSas Target Board - Set 9 Week 3

- **Video**
  - Pairs in a Table

- **TX Go Math**- Module 14.6

- **Whole Group Activity-** Motivation Math TE pg 159: The teacher gives small groups of students five Pattern Blocks® of the same shape (e.g., 5 trapezoids). Students work together to create tables based on the number of sides or angles found on one pattern block. Students continue the pattern by adding additional blocks and counting the total number of sides or angles. Students create tables showing the pattern of the number pairs with the pattern blocks. Students then verify data by counting the sides on the pattern blocks.

- ***Vocabulary Activity-*** *Activity-Think Up Math TE pg. 315*

- ***Think Up***
  - *Activity- Think Up Math TE pg. 313*
  - *Think Up Math SE Unit 26 pg. 257-266*

- **Differentiated Instruction**
  - **GT Extensions**- Extending Thinking Think Up TE pg. 320 Investigating Growing Patterns
  - **Intervention**- Think Up TE pg. 318
  - **EBs**: Go Math TE pg. 461

Linguistic Accommodations

- **Exit Ticket** – Motivation Math TE pg. 161

Evidence of Learning

Checking for Understanding

- Create a table to show the relationship between _____ and the number of _____
- Is there a rule to follow? ___
- Did you have to add, subtract, multiply or divide?

District Units and Subunits Assessments

Learning Intentions for Emergent Bilinguals

Sample Assessment Items

A store is having a sale on books. The sale price of each book is $6 less than the regular price. Which table shows prices of different books at this store?

F

Book Sale

Regular Price	$12	$19	$26	$33
Sale Price	$18	$25	$32	$39

G

Book Sale

Regular Price	$18	$25	$32	$39
Sale Price	$12	$19	$26	$33

H

Book Sale

Regular Price	$36	$30	$24	$18
Sale Price	$34	$28	$22	$16

J

Book Sale

Regular Price	$36	$30	$24	$18
Sale Price	$6	$5	$4	$3

The table shows the relationship between the number of toy airplanes made in a factory and the number of batteries needed for the airplanes.

Batteries for Toy Airplanes

Number of Toy Airplanes	5	7	9	11	13	15
Number of Batteries	15	21	27	33	39	45

Based on the relationship shown in the table, which statement is true?

A The number of batteries is equal to the number of toy airplanes times 3.

B The number of batteries is equal to the number of toy airplanes times 2.

C The number of batteries is equal to the number of toy airplanes times 6.

D The number of batteries is equal to the number of toy airplanes times 5.

Subunit 2 of 2 (8 Days): Data

Subunit Description:

- **summarize** a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals
- **solve** one- and two-step problems using categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals

Before	Now	After
• organized collections of data (up to four categories) and displayed the information on pictographs or bar graphs with intervals of one or more. 2.10B	• summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals 3.8A	• represent data on a frequency table, stem-and-leaf plot, or a dot plot marked with whole numbers and fractions. 4.9A

Materials/Texts/Resources:
(* available in Spanish)

- Go Math*
- Imagine Math Pathway: LF 3rd Graphs
- Reflex Math
- Education Galaxy
- Curriculum Server
- Fast Focus* (Suggested Resource)
- Countdown to STAAR (Suggested Resource)
- *Think Up***

Suggested Manipulatives

- Unifix Cubes
- Dice
- Number lines

*If available on campus***

INSTRUCTIONAL UNITS

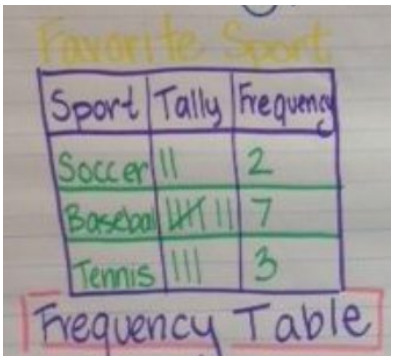
Module 1 of 4 (2 Days): Frequency Tables	
TEKS (R) Readiness, (S) Supporting, (P) Process	3.8A **summarize** a data set with multiple categories **using** a frequency table, dot plot, pictograph, or bar graph with scaled intervals (R) 3.8B **solve** one- and two-step problems **using** categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals (S) English Language Proficiency Standards The student uses mathematical processes to acquire and demonstrate mathematical understanding. **Process Standards: 3.1A, 3.1B, 3.1C, 3.1D, 3.1E, 3.1F, 3.1G**
Content and Language Objectives	***The Learner Will (TLW):*** • **use** a frequency table with scaled intervals and **summarize** the data • **use** categorical data represented with on frequency table to **solve** one- and two-step problems • Student linguistic accommodations should reflect listening, speaking, reading, and writing. Learning Intentions for Emergent Bilinguals
Misconceptions	• When representing the same set of data vertically and horizontally, interpreting the data as different because of the difference in the visual representations * *Used on STAAR*
Content Connections	• Graph representations should include both vertical and horizontal formats

INSTRUCTIONAL UNITS

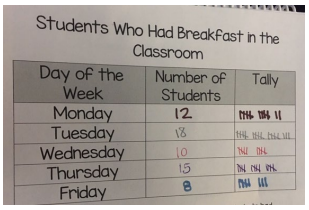
Academic Vocabulary *new to grade level	• category data/information • data • frequency table* • graph • label • legend (key) • title

Instruction and Student Engagement

- **Anchor Chart**



- **Math Warm-up**: TEKSas Target Board - Set 9 Week 4
- **Videos**
  - Frequency Table
  - Khan Academy
- **TX Go Math**- Module 19.1
- **Whole Group Activity-** The teacher models completing the frequency table and then asks one- and two-step problems using the represented data. Students solve problems and record responses on individual dry erase boards.
- Link to document below- Frequency Table



- ***Vocabulary Activity-*** *Activity-Think Up Math TE pg. 314*
- ***Think Up***
- *Activity- Think Up Math TE pg. 447 Activity 1; SE pg. 371 (3), 375 (1)*
- *Think Up Math Unit 37 SE pg. 360 (left side of page) -frequency table; pg. 365 (1), 366 (5)*
- **Differentiated Instruction**

	○ **GT Extensions**- Go Math TE pg. 624- Kinesthetic Partners- students will experiment with number cubes to then make a frequency table ○ **Intervention**- Think Up Teacher Edition pg. 438- Activity 1 with Frequency Tables ○ **EBs**: Go Math TE pg. 623 Linguistic Accommodations • **Exit Ticket** – Think Up TE pg. 439- connect to SE pg. 354 Reflect on My Learning

Evidence of Learning

Checking for Understanding

- What is the total number of days in which more than 10 students had breakfast in the classroom?
- What is the total number of breakfast that the students ate in the classroom on Monday, Wednesday and Thursday?
- What is the difference between the number of students who ate breakfast on ___and _____?

District Units and Subunits Assessments

Learning Intentions for Emergent Bilinguals

Sample Assessment Items

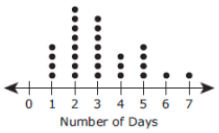
5 The frequency table shows the results of a survey about how many days per weel some families eat dessert.

Eating Dessert

Number of Days	Frequency
0	II
1	IIII
2	𝍸 III
3	𝍸 II
4	III
5	IIII
6	I
7	I

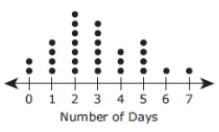
Which dot plot represents the data in the table?

A



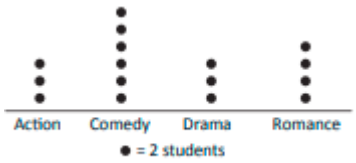
C

B



D

INSTRUCTIONAL UNITS

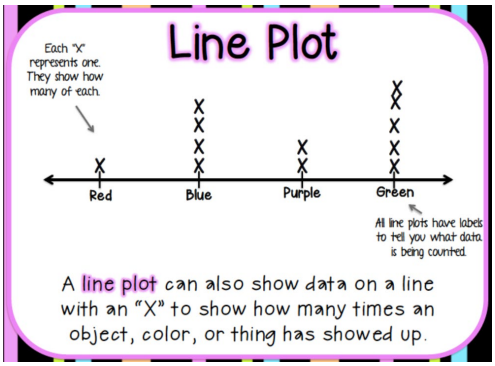
Module 2 of 4 (2 Days): Dot Plot	
TEKS (R) Readiness, (S) Supporting, (P) Process	3.8A **summarize** a data set with multiple categories **using** a frequency table, dot plot, pictograph, or bar graph with scaled intervals (R) 3.8B **solve** one- and two-step problems **using** categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals (S) English Language Proficiency Standards The student uses mathematical processes to acquire and demonstrate mathematical understanding. **Process Standards: 3.1A, 3.1B, 3.1C, 3.1D, 3.1E, 3.1F, 3.1G**
Content and Language Objectives	***The Learner Will (TLW):*** • **use** a dot plot to **summarize** a data set • **use** categorical data represented with on dot plot to **solve** one- and two-step problems • Student linguistic accommodations should reflect listening, speaking, reading, and writing. Learning Intentions for Emergent Bilinguals
Misconceptions	• When representing the same set of data on all four types of graphs, interpreting the data as different because of the difference in the visual representations* * *Used on STAAR*
Content Connections	• Dot plots should include not only number lines, but lines labeled with categories if indicated by the context of the problem (dots on the plot can represent not only single counts but also multiple counts, if so noted) 

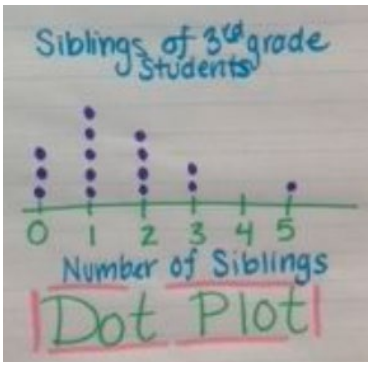
INSTRUCTIONAL UNITS

Academic Vocabulary *new to grade level	• category data/information • data • dot plot* • graph • label • legend (key) • title

Instruction and Student Engagement

- **Anchor Chart**





A Dot Plot can also be called a Line Plot. (For students, use the name Dot Plot)

- **Math Warm-up**: TEKSas Target Board - Set 9 Week 4

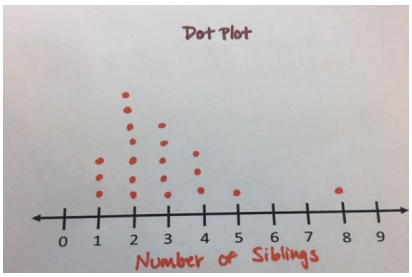
- **Videos**
  - Khan Academy

- **Think Up**
  - Activity-Unit 36 pg. 435 2 (dot plots)
  - Think Up SE: Unit 36 pg. 360 (left side of page- dot plot), 362 (1-2, 4) 365 (3-4) & Unit 37 pg. 371 (4), 375 (2-3)

- **TX Go Math**- Module 19.5

- **Whole Group Activity-** The teacher models completing the dot plot by asking students the number of siblings they have and then asks one- and two-step problems using the represented data. Students solve problems and discuss answers with their peers.

- Link to document below- Dot Plot



- ***Vocabulary Activity-*** *Activity-Think Up Math TE pg. 314*

- ***Think Up***
  - Unit 36 pg. 435 Activity 2 (dot plots)
  - *Think Up Math SE* : Unit 36 pg. 360 (left side of page- dot plot), 362 (1-2, 4) 365 (3-4) & Unit 37 pg. 371 (4), 375 (2-3)

- **Differentiated Instruction**
  - **GT Extensions**- Think Up SE: Math Challenge pg. 364
  - **Intervention**- Think Up TE pg. 550 Activity 1
  - **EBs**: Go Math TE pg. 647 Identify Relationships
    Linguistic Accommodations
  - **Exit Ticket** –Have students explain how frequency tables and dot plots are the same? And, how are frequency tables different from dot plots/

Evidence of Learning

Checking for Understanding

- Based on the dot plot, how many students have more than _____ siblings?
- Based on the dot plot, how many students have less than _____ siblings? _____
- What is the total number of students that have ____ and _____ siblings?_____
- What is the combined number of students that have __, ___, ___, and ___ siblings? ____

District Units and Subunits Assessments

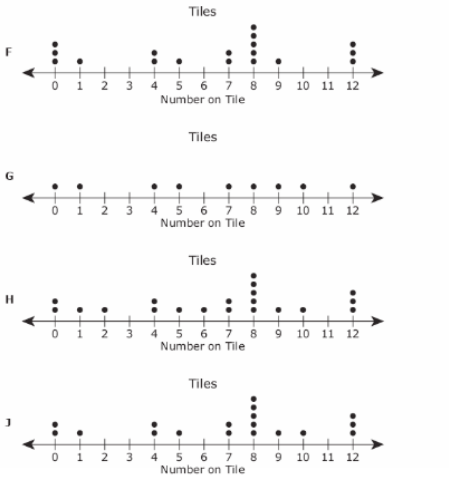
Learning Intentions for Emergent Bilinguals

Sample Assessment Items

10 Merlin had a bag of tiles. Each tile was labeled with a number. Merlin pulled one tile out of the bag and recorded the number on that tile. He repeated this 18 times. The numbers on the tiles Merlin pulled are shown in the list.

8, 7, 12, 1, 8, 9, 12, 0, 7, 8, 10, 4, 5, 8, 12, 4, 0, 8

Which dot plot represents the numbers on the tiles Merlin pulled out of the bag?



INSTRUCTIONAL UNITS

Module 3 of 4 (2 Days): Pictograph	
TEKS (R) Readiness, (S) Supporting, (P) Process	3.8A **summarize** a data set with multiple categories **using** a frequency table, dot plot, pictograph, or bar graph with scaled intervals (R) 3.8B **solve** one- and two-step problems **using** categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals (S) English Language Proficiency Standards The student uses mathematical processes to acquire and demonstrate mathematical understanding. **Process Standards: 3.1A, 3.1B, 3.1C, 3.1D, 3.1E, 3.1F, 3.1G**
Content and Language Objectives	***The Learner Will (TLW):*** • **use** a pictograph with scaled intervals to **summarize** the data • **use** categorical data represented with on pictograph to **solve** one- and two-step problems • Student linguistic accommodations should reflect listening, speaking, reading, and writing. Learning Intentions for Emergent Bilinguals
Misconceptions	• Misinterpreting pictographs in which each picture represents a value other than one* • Misinterpreting pictographs in which the picture represents a fractional amount of the whole value* * *Used on STAAR*
Content Connections	• Pictographs should include symbolism that does not represent one-to-one correspondence (e.g., smiley face represents 4 people) and portion representations (e.g., a picture of half a smiley face yields 2 people)

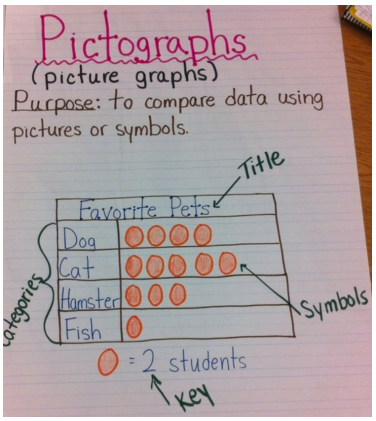
INSTRUCTIONAL UNITS

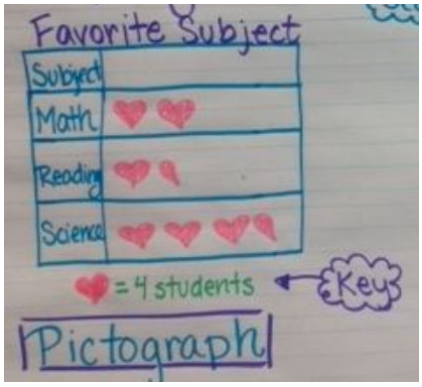
Academic Vocabulary *new to grade level	• category data/information • data • graph • label • legend (key) • pictograph* • title

INSTRUCTIONAL UNITS

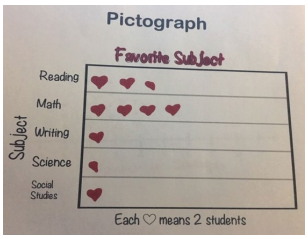
Instruction and Student Engagement

- **Anchor Chart**





- **Math Warm-up**: TEKSas Target Board - Set 9 Week 4
- **Videos**
  - Brainpop
- **TX Go Math**- Module 19.2
- **Whole Group Activity-** The teacher models completing the pictograph and then asks one- and two-step problems using the presented data. Students solve problems and discuss answers with their peers.
- Link to document below- Pictograph



- ***Vocabulary Activity-*** *Activity-Think Up Math TE pg. 314*
- ***Think Up***
  - *Think Up Math SE* Unit 37 pg. 370; Unit 36 pg. 361 (3), 362 (3), 365 (2) & Unit 37 pg. 372 (3-4), 376 (4-5)
- **Differentiated Instruction**
  - **GT Extensions**- Go Math TE pg. 630- Enrich

	Draw the pictograph below on the board (see TE). Have students make a new pictograph of the data using a different key. ***Be sure to check students' graphs.*** Have students explain how the different key affected the pictograph. ○ **Intervention**- Think Up TE pg. 450 – Activity 3 ○ **EBs**: Go Math TE pg. 629 - Rephrase ELL Language Support Linguistic Accommodations • **Exit Ticket** – Students explain how dot plots, bar graphs, and pictographs are similar and how they are different. The teacher reviews explanations to identify areas of strengths and weaknesses.

Evidence of Learning

Checking for Understanding

- What is the total number of students whose favorite subject is ____, ____ and ____?
- What is the difference between the number of students whose favorite subject is _____ and _____?

District Units and Subunits Assessments

Learning Intentions for Emergent Bilinguals

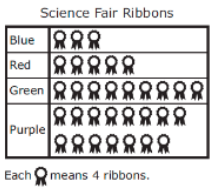
Sample Assessment Items

11 The list shows the number of ribbons of each color that a school ordered for a science fair.

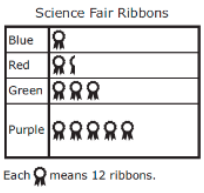
- 12 blue
- 18 red
- 36 green
- 60 purple

Which pictograph best represents the information in the list?

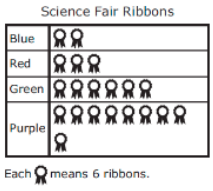
A



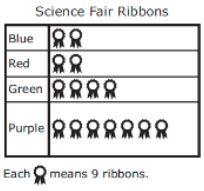
C



B



D



INSTRUCTIONAL UNITS

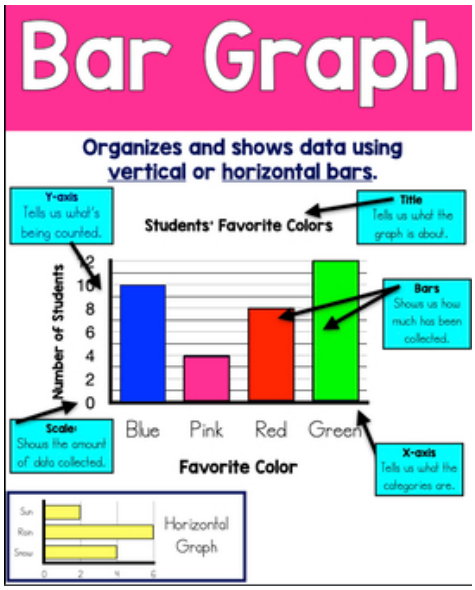
Module 4 of 4 (2 Days): Bar Graph	
TEKS (R) Readiness, (S) Supporting, (P) Process	3.8A **summarize** a data set with multiple categories **using** a frequency table, dot plot, pictograph, or bar graph with scaled intervals (R) 3.8B **solve** one- and two-step problems **using** categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals (S) English Language Proficiency Standards The student uses mathematical processes to acquire and demonstrate mathematical understanding. **Process Standards: 3.1A, 3.1B, 3.1C, 3.1D, 3.1E, 3.1F, 3.1G**
Content and Language Objectives	***The Learner Will (TLW):*** • **use** a bar graph with scaled intervals to **summarize** data • **use** categorical data represented with on bar graph to **solve** one- and two-step problems • Student linguistic accommodations should reflect listening, speaking, reading, and writing. Learning Intentions for Emergent Bilinguals
Misconceptions	• Misreading bar graphs that have scaled intervals* * *Used on STAAR*
Content Connections	• Bar graphs should include scaled intervals (e.g., information on the x- or y-axis skip count by tens)

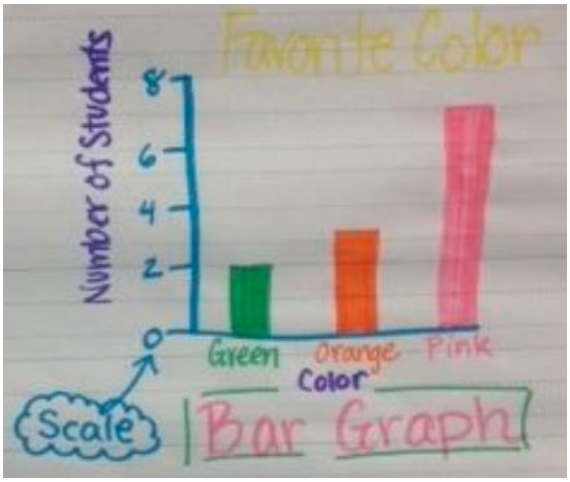
INSTRUCTIONAL UNITS

Academic Vocabulary *new to grade level	• bar graph • category data/information • data • graph • input • label • legend (key) • title

Instruction and Student Engagement

- **Anchor Chart**





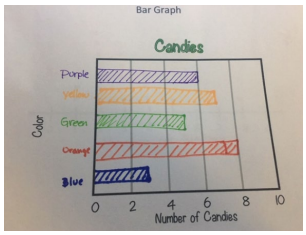
- **Math Warm-up**: TEKSas Target Board - Set 9 Week 4

- **Videos**
  - Brainpop

- **TX Go Math**- Module 19.3

- **Whole Group Activity-** The teacher uses multi-colored candy (e.g., M&M'S® or Skittles®) or cereal (e.g., Trix® or Lucky Charms®) to create a bar graph of the colors in the bags. Then student partners create original one- and two-step problems using the data from the graphs. Students exchange word problems and solve.

- Link to document below- Bar Graph



	• ***Vocabulary Activity-*** *Activity-Think Up Math TE pg. 314*
	• ***Think Up***
	  ○ *Activity- Think Up Math TE pg. 447 Activity 3*
	  ○ *Think Up Math SE Unit 36 pg. 358; 361 (2) & Unit 37 pg. 371 (1-2), 372 (1-2), 376 (6-7)*
	• **Differentiated Instruction**
	  ○ **GT Extensions**-Think Up SE pg. 374 -Math Challenge
	  ○ **Intervention**- Think Up TE pg. 452 Activities (use data to create a bar graph with students)
	  ○ **EBs**: Go Math TE pg. 635
	  Linguistic Accommodations
	• **Exit Ticket** – Display a bar graph with a problem that needs to be solved. Have students determine the answer.

Evidence of Learning

Checking for Understanding

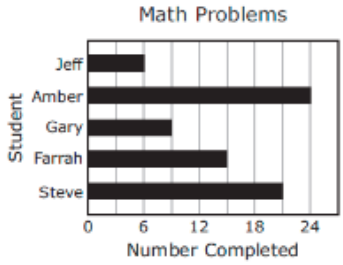
- What is the difference between. . . ?
- How much more/less/greater. . . ?
- What equation shows how many more/less/greater/fewer. . . ?
- What was the total amount/number. . ?
- Which graph shows. . . ?
- Which graph does not show. . . ?

District Units and Subunits Assessments

Learning Intentions for Emergent Bilinguals

Sample Assessment Items

6 The bar graph shows the number of math problems each of five students completed during math class.



Which list matches the data in the bar graph?

F Jeff: 6
Amber: 24
Gary: 8
Farrah: 14
Steve: 20

H Jeff: 6
Amber: 24
Gary: 9
Farrah: 15
Steve: 21

G Jeff: 9
Amber: 24
Gary: 6
Farrah: 15
Steve: 21

J Jeff: 6
Amber: 21
Gary: 9
Farrah: 15
Steve: 24