5th Grade Math Parent Guide

	1st Grading Period	2nd Grading Period	3rd Grading Period	4th Grading Period
Units/TEKS **Process Standards 5.1ABCDEFG through every unit** **TEKS**	**Unit 6: Place Value with Decimals** 5.2AB **Unit 1: Place Value and Operations** 5.3AB **Unit 7: Multiplication and Division-Whole Numbers** 5.3ABC, 5.4AB **Order of Operations and Multi-Step Problems:** 5.4BEF	**Unit 6: Addition, Subtraction, Multiplication and Division with Decimals** 5.2C, 5.3ADEFGK **Perimeter and Area** 5.4H	**Perimeter, Area, and Volume** 5.4GH, 5.6AB **Unit 5: 2D shapes** 5.5A **Unit 4: Fractions** 5.3AHIJKL; 5.4A **Coordinate Planes** 5.8ABC, 5.4CD	**Measurement** 5.7A **Unit 9: Data and Graphs** 5.9ABC **Personal Financial Literacy** 5.10ABCDEF

Topic Focus	**Unit 6:** This unit focuses on understanding the meaning of decimal fractions and comparing decimals.
	Unit 1: This unit develops ideas about the meaning of operations with whole numbers, the development of computational fluency, the structure of place value, and the base-ten number system, and generalizations about numbers and operations.
	Unit 7: The mathematical focus in this unit is reasoning about equivalent expressions in multiplication and division, representing the meaning of multiplication and division, solving multiplication problems with 2-digit and 3-digit numbers, and solving problems with two-digit divisors.
	  Order of Operations: This unit focuses on the rules of the order of operations and how to solve multi-step word problems.
		Unit 6: This unit focuses on understanding the meaning of decimal fractions, comparing decimals, and adding, subtracting, multiplying, and dividing decimals.
		Perimeter and Area: This unit reviews how to find perimeter and area and solve word problems about perimeter and area.
			Perimeter, Area, and Volume: This unit reviews how to find perimeter and area and solve word problems about perimeter and area. Volume is introduced in this unit and how to find the volume of a rectangular prism.
			Unit 5: This unit develops ideas about the attributes of 2-D shapes and how they determine the classification of the shapes. It also delves into area, perimeter, and volume.
			Unit 4: This unit develops ideas on the understanding the meaning of fractions, comparing fractions, and adding and subtracting fractions.
			Coordinate Planes: This unit focuses on the key attributes of a coordinate plane, the process for graphing ordered pairs of numbers, and generating additive and multiplicative number patterns.
				Measurement: This unit focuses on measurement conversions within customary and metric systems.
				Unit 9: This unit focuses on representing, describing, summarizing, and comparing data.
				  Personal Financial Literacy: This unit focuses on taxes, income, financial records, and balancing a budget.

Suggestions for Parental Involvement /Support	Multiplication To prepare for the standard U.S. algorithm, the partial product strategy is used by many fifth graders. This strategy emphasizes place value and multiples of ten as well as builds an understanding of how the distributive property works. **Partial Products**	Multiplying Decimals $$0.42 \times 4$$ **Repeated addition or 4 groups of .42** $0.42 + 0.42 + 0.42 + 0.42$ **Distributive Property** $(0.42 \times 2) + (0.42 \times 2)$ $0.84 + 0.84$ **Estimate Reasonableness** 0.42 is close to .5 or half. Half of 4 is 2, so I know my answer has to be less than 2.	Multiplying Fractions $$\frac{1}{4} \times 12$$ **Repeated Addition combined with the Commutative Property** $\frac{1}{4}$ of 12 is the same as 12 groups of $\frac{1}{4}$ $\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}$ **1 whole + 1 whole + 1 whole = 3**	Stem and Leaf Plots The stem and leaf plot is a method of organizing data in order of place value. The ones digit and the tens digit (or additional place values) of each data item are separated as leaves and stems. Sam and his friends did the Long Jump. Here are there results in meters: **2.3, 2.5, 2.5, 2.7, 2.8, 3.2, 3.6, 3.6, 4.5, 5.0** Here is the stem and leaf plot he made to

30 x 20 = 600
30 x 8 = 240
2 x 20 = 40
2 x 8 = 16
32 x 28 = 896
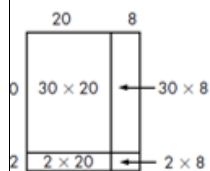
$$\begin{array}{r} 32 \\ \times\ 28 \\ \hline 16 \\ 240 \\ 40 \\ 600 \\ \hline 896 \end{array}$$

Division with and without Remainders

Students will use what they know about multiplication to help them solve division problems. This connection can be seen when division and multiplication situations are presented simultaneously in story contexts. The story contexts help students make sense of the problem and interpret what the remainder really means in the context of the story.
There were 384 seats in the movie theater. Each row has 16 seats. How many rows are in the movie theater?
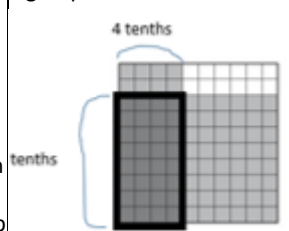
Partial Quotients

Equations

16 x 20 = 320
16 x 2 = 32
16 x 2 = 32
16 x 24 = 384

Array Model

1.6   +   0.08   =   1.68
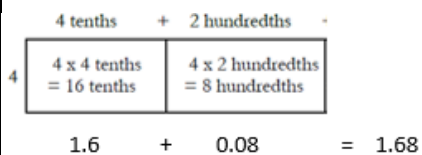
Array Model Combined with Groups of

Think about the groups of strategy: 4 tenths of 8 tenths. Shade in 4 tenths on one side and 8 tenths on the other. The product is the part that is double-shaded because it is a group of a group. 0.8 x 0.4 -0.32


Dividing Decimals
        1.2 ÷ 0.3
Groups of or Sharing into Groups
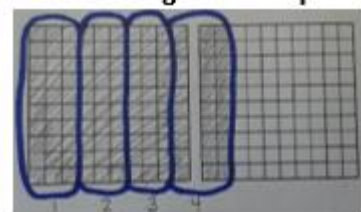
Shade in 1.2 on a ten by ten grid. Then create as many groups of 3 tenths as possible. The answer is 4 because you could make 4 groups of 0.3.

Create a Model or Tape Diagram
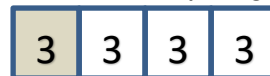
The length of the tape is 12. Since we need one fourth, I need to make four equal groups. Since each piece shows the same amount, we can divide 12 by 4 and that's 3. So $\frac{1}{4}$ of 12 is 3.

Array Model
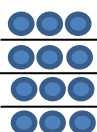
Draw an array of 12 circles. We need one fourth of those circles in a group, so divide the circles into 4 equal groups. Each group is one fourth of the total. So one fourth of 12 is 3
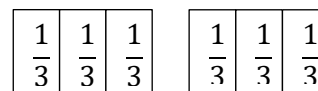
Estimate Reasonableness

$\frac{1}{4}$ is less than $\frac{1}{2}$. I know that half of 12 is 6. So, I know my answer has to be less than 6.

Dividing Fractions

$$2 \div \frac{1}{3}$$

Groups of or Sharing into Groups

How many groups of $\frac{1}{3}$ are in 2?

| $\frac{1}{3}$ | $\frac{1}{3}$ | $\frac{1}{3}$ | $\frac{1}{3}$ | $\frac{1}{3}$ | $\frac{1}{3}$ |

There are 6 groups of $\frac{1}{3}$ in 2 wholes.

Estimate Reasonableness

3 groups of $\frac{1}{3}$ in 1 whole

6 groups of $\frac{1}{3}$ in 2 wholes

$$\frac{1}{3} \div 2$$

Create a Model or Diagram

Draw a model of one third. Divide it into 2 equal groups. How do we describe these pieces? They are $\frac{1}{6}$ of the whole.

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represent his data:

In this graph, the stem represents the whole numbers in each piece of data. The leaf represents the decimal in each piece of data. **2.3** = **2** is the stem and **.3** is the leaf

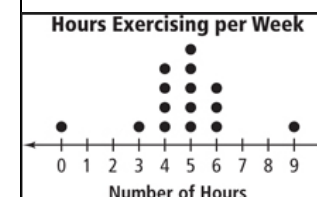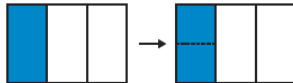| Stem	Leaf
2	3 5 5 7 8
3	2 6 6
4	5
5	0

Frequency Table
A table that lists items and uses tally marks to record and show the number of times they occur.

Favorite Food	Tally	Frequency
Taco	IIII II	7
Burger	IIII IIII	9

Dot Plot
A set of data is represented by using dots over a number line. The number of dots over the number line tells the number of times that data occurred in the set.

Arrays

	24		
	10	10	4
16	6 x 10 = 60	6 x 10 = 60	6 x 4 = 24

Geometry Vocabulary

Polygons-Any closed 2D shape with 3 or more straight sides

Quadrilateral-Any 4-sided polygon

Parallelogram-A quadrilateral that has two pairs of sides that are equal (congruent) and parallel.

Trapezoid-A quadrilateral that as exactly one pair of parallel sides.

Rectangle-A quadrilateral with two pairs of congruent, parallel sides and four right angles. A rectangle can also be called a parallelogram.

Square-A quadrilateral with congruent sides and four right angles. A square can also be called a parallelogram, rhombus, and rectangle.

Rhombus-A quadrilateral with four congruent sides and opposite sides are parallel.

Triangle-Any 3 sided polygon.

   Equilateral triangle-all sides and angles are congruent.

   Isosceles triangle-2 congruent sides and angles

   Scalene triangle-no congruent sides or angles

   Obtuse triangle-largest angle is greater than 90 degrees

   Acute triangle- all angles are less than 90 degrees

   Right triangle-largest angles is a 90 degree angle

Coordinate Planes

Play Battleship. This is a great way to learn how to plot and name points on a coordinate plane.

General Resources	**Math 4 Texas:** https://www.math4texas.org/ **Graham Fletcher Progression Videos:** https://gfletchy.com/progression-videos/ **Interactive Math Glossary:** https://www.texasgateway.org/resource/interactive-math-glossary **ST Math:** sso.ems-isd.net **Khan Academy**: https://www.khanacademy.org/math