HISD | Elementary Curriculum and Development

INSPIRING TEACHING, IGNITING LITERACY & LEARNING.

2019-2020 HISD @ H.O.M.E. – Distance Learning – At-A-Glance

Mathematics – Grade 4

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Cycle 4 Week 1 May 11-15, 2020	I can compare two fractions with different denominators and numerators in various ways with symbols. Ⓡ MATH.4.3D	I can compare two fractions with different denominators and numerators in various ways with symbols. Ⓡ MATH.4.3D	I can use formal geometric vocabulary to describe two-dimensional figures based on the presence and/or absence of angles of a certain size. Ⓡ MATH.4.6D	I can use formal geometric vocabulary to classify two-dimensional figures based on the presence and/or absence of parallel or perpendicular lines. Ⓡ MATH.4.6D	I can use essential attributes to classify two-dimensional figures based on the presence or absence of lines and/or angles. Ⓡ MATH.4.6D
Cycle 4 Week 2 May 18-22, 2020	I can represent, describe, and extend additive numerical patterns based on a given rule using an input-output table. Ⓡ MATH.4.5B	I can represent, describe, and extend multiplicative numerical patterns using an input-output table. Ⓡ MATH.4.5B	I can describe the relationship of the values of a sequence and determine the value of an unknown term Ⓡ MATH.4.5B	I can relate decimals to fractions that name tenths or hundredths using pictorial models. Ⓡ MATH.4.2G	I can relate fractions that do not name tenths or hundredths to decimals using pictorial models and numeric approaches. Ⓡ MATH.4.2G

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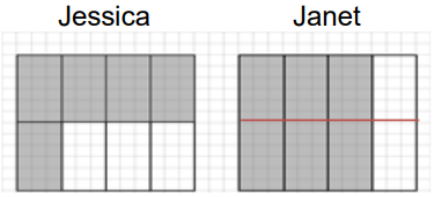
Mathematics – Grade 4
May 11-22, 2020 – Week 1

Monday – 30 minutes

Activity	
I can compare two fractions with different denominators and numerators in various ways with symbols.	**Read the Example Problem**: **Jessica and Janet each ate a part of two different, same-sized candy bars. Jessica ate $\frac{5}{8}$ of her candy bar. Janet ate $\frac{3}{4}$ of her candy bar. Write a number sentence to show the comparison between these two fractions.** **Solution Using a Pictorial Model:** Jessica ate $\frac{5}{8}$ her candy bar. Janet ate $\frac{3}{4}$ of her candy bar.  Image by HISD Curriculum using Microsoft word If a line is drawn to divide $\frac{3}{4}$ into eighth-sized pieces, there are 6 pieces shaded in. $\frac{6}{8}$ is the same as $\frac{3}{4}$. Now, these two fractions can be compared since they have the same denominator. **Answer:** $\frac{5}{8} < \frac{6}{8}$ *Janet ate more of her candy bar.* **Practice Problems**: 1. Compare the following fractions using the symbols >, <, or =. $\frac{2}{9}$ and $\frac{3}{8}$ I think fraction____ is ___because____ $\frac{4}{8}$ and $\frac{8}{12}$ I think fraction___ is ___because___ $\frac{4}{6}$ and $\frac{8}{18}$ I think fraction___ is ___because____ $\frac{2}{7}$ and $\frac{3}{14}$ I think fraction___ is ___because___ 2. Kyle rode his bike the following fractions of a mile last week. • Tuesday: $\frac{5}{6}$ mile • Thursday: $\frac{2}{3}$ mile • Saturday: $\frac{4}{5}$ mile Which comparison of these fractions of a mile is true? **A.** . $\frac{5}{6} < \frac{2}{3}$ **B.** $\frac{4}{5} < \frac{2}{3}$ **C.** $\frac{2}{3} < \frac{4}{5}$ **D.** $\frac{5}{6} < \frac{4}{5}$ I chose answer _____ because _____.
Resources	Paper and pencil

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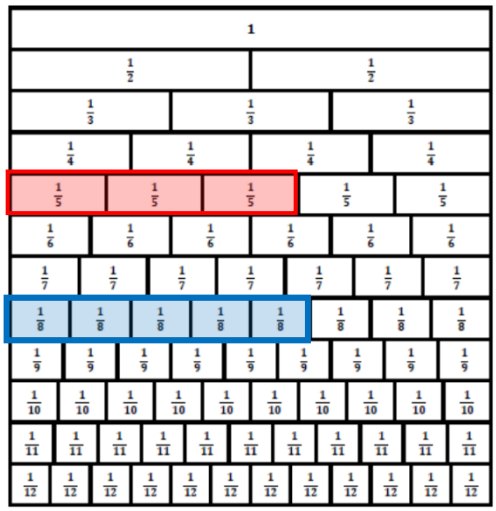
2019-2020 HISD @ H.O.M.E. – Distance Learning
Mathematics – Grade 4
May 11-22, 2020 – Week 1

Tuesday – 30 minutes

Activity	
I can compare two fractions with different denominators and numerators in various ways with symbols.	Review previous day example problem. **Read the Example Problem**: **Marcia ate $\frac{5}{8}$ of a pizza. Belinda ate $\frac{3}{5}$ of a pizza. Did Marcia or Belinda eat a greater fraction of a whole pizza?** **Solution:** Use the fraction bars sheet to the right to determine who ate a greater fraction of a whole pizza. Then compare the two fractions using the symbols >, <, or =. *We can see that* Marcia ate $\frac{5}{8}$ of her pizza. Belinda ate $\frac{3}{5}$ of her pizza. Belinda → Marcia →  Image by HISD Curriculum using Microsoft Word **Answer:** $\frac{5}{8} > \frac{3}{5}$ *Marcia ate more of the pizza.* **Examples of comparison statements** $\frac{5}{8} > \frac{3}{5}$ or $\frac{5}{8} < \frac{3}{5}$ **Practice:** The table shows the distances, in miles, four students each jogged during P.E. class.

Student	Distance Traveled (miles)
Mitchell	$\frac{2}{3}$
Briana	$\frac{3}{9}$
Jason	$\frac{4}{8}$
Tiffany	$\frac{6}{10}$

Image by HISD Curriculum using Microsoft Word

1. Write a comparison number sentence to compare the distances ran by Mitchell and Jason.
2. Write a comparison number sentence to compare the distances ran by Jason and Tiffany.
3. Briana says she ran a greater distance than Mitchell since her numerator, 3, is larger than Mitchell's numerator, 2. Is Briana correct? Justify your thinking.

Resources	Handout: Fraction Bars

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2019-2020 HISD @ H.O.M.E. – Distance Learning
Mathematics – Grade 4
May 11-22, 2020 – Week 1

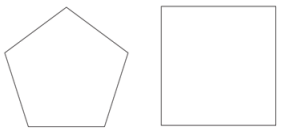
Wednesday – 30 minutes

Activity I can use formal geometric vocabulary to describe two-dimensional figures based on the presence and/or absence of angles of a certain size.	**Review the Vocabulary** → • **Acute angle:** An angle that is less than a right angle (less than 90°) • **Right angle:** An angle that forms a square corner (exactly 90°) • **Obtuse angle:** An angle that measures greater than 90° but less than 180° **Activity:** Cut the shapes provided, sort and classify them by angles in the table below.

Right angles only	Acute angles only	Obtuse angles only	Both Acute and Obtuse angles

Image by HISD Curriculum using Microsoft word

Practice Problem:
Two figures are shown below.



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Which statement about these figures is true?

A They all have right angles.

B They all have at least one acute angle.

C They all appear to have at least one pair of congruent angles.

D. They all at least one obtuse angle.

Resources	Handout: Sort and Classify by Angles Pencil, Scissors

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Thursday – 30 minutes

Activity

I can use formal geometric vocabulary to classify two-dimensional figures based on the presence and/or absence of parallel or perpendicular lines.

Review the Vocabulary →

- **Parallel lines:** Lines that are always the same distance apart and will never intersect
- **Perpendicular lines:** A special type of intersecting lines wherein a right angle is formed
- **Right angle:** An angle that forms a square corner (exactly 90°)

Activity:
Mark an X for each attribute that describes the figures shown. Make sure to identify the name of each figure using correct geometric terminology.

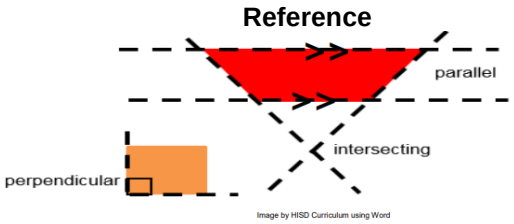


Image by HISD Curriculum using Word

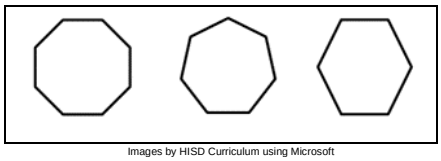
Figure	1 Pair of Parallel Sides	2 Pairs of Parallel Sides	Four Sides	Perpendicular Lines	Four Right Angles	Opposite Sides/Angles Congruent
						
						
						
						
etc.						

Images in table created by HISD Curriculum using Word

Practice Problems:

1. Which figure from the table above has exactly two pairs of parallel lines?

2. Jolanda sorted polygons into groups. The polygons shown belong in the same group.


Images by HISD Curriculum using Microsoft

Which description best represents this group?

A Polygons with parallel side pairs

B Polygons with only parallel lines

C Polygons with only acute angles

D Polygons with only obtuse angles

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Friday – 30 minutes

Activity

I can use essential attributes to classify two-dimensional figures based on the presence or absence of lines and/or angles.

Review the Vocabulary →

- **Two-dimensional figure:** A figure with only two dimensions (i.e., length and width)
- **Rectangle:** A parallelogram with four congruent, right angles
- **Rhombus:** A parallelogram with four congruent sides
- **Square:** A parallelogram that is a rhombus and a rectangle (a parallelogram with four congruent sides and four congruent angles)
- **Trapezoid:** A quadrilateral with exactly one pair of parallel lines
- **Parallelogram:** A quadrilateral with opposite sides congruent and parallel and opposite angles congruent

Look at the geometric riddle for a rhombus below based on it's essential attributes.

Example:

Rhombus

I have:

4 angles
2 acute angles
2 obtuse angles
4 congruent sides

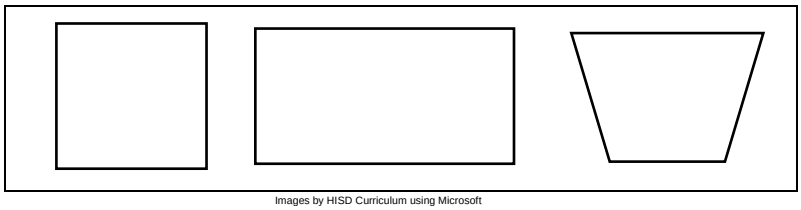
Think Aloud Solution:

"I know that the figure has 4 angles. I know the figure has 2 acute angles and 2 obtuse angles. I know that it has 2 pairs of parallel sides. I also know that all 4 sides are congruent. This figure is a rhombus."

Images by HISD Curriculum using Microsoft

Activity:

Using the two-dimensional figures below, write clues on an index card that describes the figure using the figure's essential attributes.



Images by HISD Curriculum using Microsoft

Practice Problem:
Mary says that the figure below has two sets of parallel lines, and two acute angles.
Do you agree or disagree with her? Explain your reasoning. What is the name of the figure shown below?

Image by HISD Curriculum using Microsoft Word

Resources

Paper, pencil, 3 index cards

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Monday – 30 minutes

Activity

I can represent, describe, and extend additive numerical patterns based on a given rule using an input-output table.

Julie receives $15 each week for completing chores around the house. She also earns extra money for walking dogs in her neighborhood. Julie created the following rule to calculate her weekly income from completing her chores and walking dogs.

money earned from walking dogs + $15 = total income

Use Julie's rule to complete the table.

Weekly Income

Amount of Money Earned Walking Dogs (Input)	Numerical Expression	Total Weekly Income (Output)
$9	***$9 + 15***	***$24***
$13		
$18		
$24		
$30		

Table by HISD Curriculum using Microsoft word

If Julie earned a total of $46 walking dogs last week, what was her total income?

If Julie wants a total weekly income of $84, how much money will she need to earn walking dogs?

Complete each table using the rule given.

1. Input + 38

Position (Input)	Expression	Output
1		
2		
3		
4		

Table by HISD Curriculum using Microsoft word

2. Input + 488

Position (Input)	Expression	Output
1		
2		
3		
4		

Table by HISD Curriculum using Microsoft word

3. Write your own rule and create a table with input, expression and output.

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Tuesday – 30 minutes

Activity

I can represent, describe, and extend multiplicative numerical patterns using an input-output table

We know that every triangle has three sides. To record the relationship between the number of triangles and the total number of sides on all the triangles, let's use an input-output table and numerical expressions

Sides on a Triangle

Input, Position Number of Triangle	Numerical Expression	Output, Value, Total sides
1	1 x 3	3
2	2 x 3	6
3	3 x 3	9
4	4 x 3	12

Table by HISD Curriculum using Microsoft word

1. What mathematical relationship do you see in the number pattern?

   The output is _____times the input or the input is _____of the output.

2. How can you use the rule to determine the total number of sides for 8 triangles?

3. How can you use the rule to determine the total number of sides for 19 triangles?

4. Based on the relationship between input and output values, what is the position for a value of 54? [In other words, if there are 54 total sides, how many triangles are there?]

5. If I have a 51 for my output value, what is my input? (Hint: how many triangles does it take to have 51 sides?)

Complete each table using the rule given.

1. Input x 8

Position (Input)	Expression	Output
1		
2		
3		
4		

Table by HISD Curriculum using Microsoft word

2. Input x 19

Position (Input)	Expression	Output
1		
2		
3		
4		

Table by HISD Curriculum using Microsoft word

3. Write your own rule and create a table with input, expression and output

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Wednesday – 30 minutes

Activity

I can describe the relationship of the values of a sequence and determine the value of an unknown term

A number pattern begins with the values shown below.

9, 18, 27, 36, . . .

Position	1	2	3	4	n
Numerical Expression	1 x 9	2 x 9	3 x 9	4 x 9	n x 9
Value	9	18	27	36	n x 9

Table by HISD Curriculum using Microsoft word

1. How can you describe the relationship between the values of a numerical sequence?

2. What would the 8th position in this sequence be?

3. What would the 12th position in this sequence be?

4. What would the 20th position in this sequence be?

5. What would the 25th position in this sequence be?

Practice: Complete the tables below.

1. Look at the sequence of numbers:

13, 26, 39, 52, …

What relationship do you see?
Can you guess the rule?
Write it and complete the table.

Position	Numerical Expression	Value

Table by HISD Curriculum using Microsoft word

2. Look at the sequence of numbers:

6, 12, 18, 24, …

What relationship do you see?
Can you guess the rule?
Write it and complete the table.

Position	Numerical Expression	Value

Table by HISD Curriculum using Microsoft word

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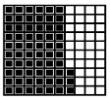
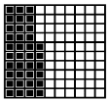
Thursday – 30 minutes

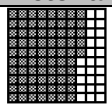
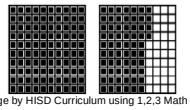
Activity

I can relate decimals to fractions that name tenths or hundredths using pictorial models.

Review the chart below.

Fraction	Pictorial Model	Decimal
$\frac{3}{10}$	 Image by HISD Curriculum using 1,2,3 Math Fonts	0.3
$\frac{63}{100}$	 Image by HISD Curriculum using 1,2,3 Math Fonts	0.63
$\frac{5}{10}$	 Image by HISD Curriculum using 1,2,3 Math Fonts	0.50
$\frac{36}{100}$	 Image by HISD Curriculum using 1,2,3 Math Fonts	0.36

Complete the table. Use the decimal squares handout to help you create any pictorial representations you need.

Fraction	Pictorial	Decimal	Word Form
	 Image by HISD Curriculum using 1,2,3 Math Fonts		
$4\frac{4}{100}$			
		0.8	
	 Image by HISD Curriculum using 1,2,3 Math Fonts		
			Four-tenths
$2\frac{6}{10}$			

Resources

Handout: Decimal Squares

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Friday – 30 minutes

Activity

I can relate fractions that do not name tenths or hundredths to decimals using pictorial models and numeric approaches.

Marci recorded the distances, in miles, that she jogged last week.

- She jogged $\frac{2}{5}$ of a mile on Monday.
- She jogged $\frac{4}{5}$ of a mile on Thursday.
- She jogged $\frac{3}{5}$ of a mile on Saturday.

Note: To write a fraction as a decimal, we must have a denominator of 10 or 100.

$\frac{2}{5} = \frac{4}{10} = 0.4$ and $\frac{3}{25} \times \frac{4}{4} = \frac{12}{100} = 0.12$

For the distance Marci jogged on Thursday, how can you use pictorial models, and numeric approaches to determine whether the fraction $\frac{4}{5}$ has an equivalent fraction with a denominator of ten? How can you relate the fraction $\frac{4}{5}$ to a decimal that names tenths?

Step 1: First, I can begin with the fraction $\frac{4}{5}$

Model by HISD Curriculum using Microsoft word

Step 2: I can partition my area model into ten equal parts to show an equivalent fraction

Model by HISD Curriculum using Microsoft word

$\frac{4}{5} = \frac{8}{10} = 0.8$ = eight tenths

$\frac{4}{5} \times \frac{2}{2} = \frac{8}{10} = 0.8$

Practice: Use the example above to complete the table below.

Fraction	Pictorial	Decimal	Equivalent Fraction	Word Form
$\frac{3}{5}$				
$\frac{1}{2}$				
$\frac{2}{25}$				
$\frac{4}{5}$				
$\frac{6}{50}$				

Table by HISD Curriculum using Microsoft Word

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Fraction Bars

1											
$\frac{1}{2}$											$\frac{1}{2}$
$\frac{1}{3}$										$\frac{1}{3}$	$\frac{1}{3}$
$\frac{1}{4}$									$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
$\frac{1}{5}$								$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$
$\frac{1}{6}$							$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$
$\frac{1}{7}$						$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$
$\frac{1}{8}$					$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{9}$				$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$
$\frac{1}{10}$			$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$
$\frac{1}{11}$		$\frac{1}{11}$	$\frac{1}{11}$	$\frac{1}{11}$	$\frac{1}{11}$	$\frac{1}{11}$	$\frac{1}{11}$	$\frac{1}{11}$	$\frac{1}{11}$	$\frac{1}{11}$	$\frac{1}{11}$
$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$

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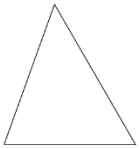
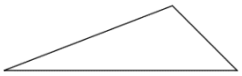
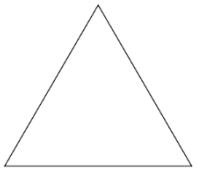
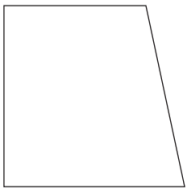
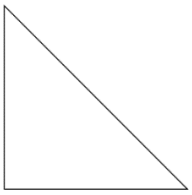
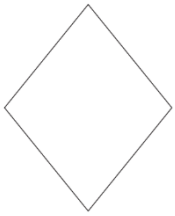
Updated: August 27, 2019

Sort & Classify by Angles

Directions: Cut the shapes below. Sort and classify the shapes. Use the angles to classify all figures.

 Image from © HMH Go Math 6-8 with permission	 Image from © HMH Go Math 6-8 with permission
 Image from © HMH Go Math 6-8 with permission	 Image from © HMH Go Math 6-8 with permission
 Image from © HMH Go Math 6-8 with permission	 Image from © HMH Go Math 6-8 with permission
 Image from © HMH Go Math 6-8 with permission	 Image from © HMH Go Math 6-8 with permission

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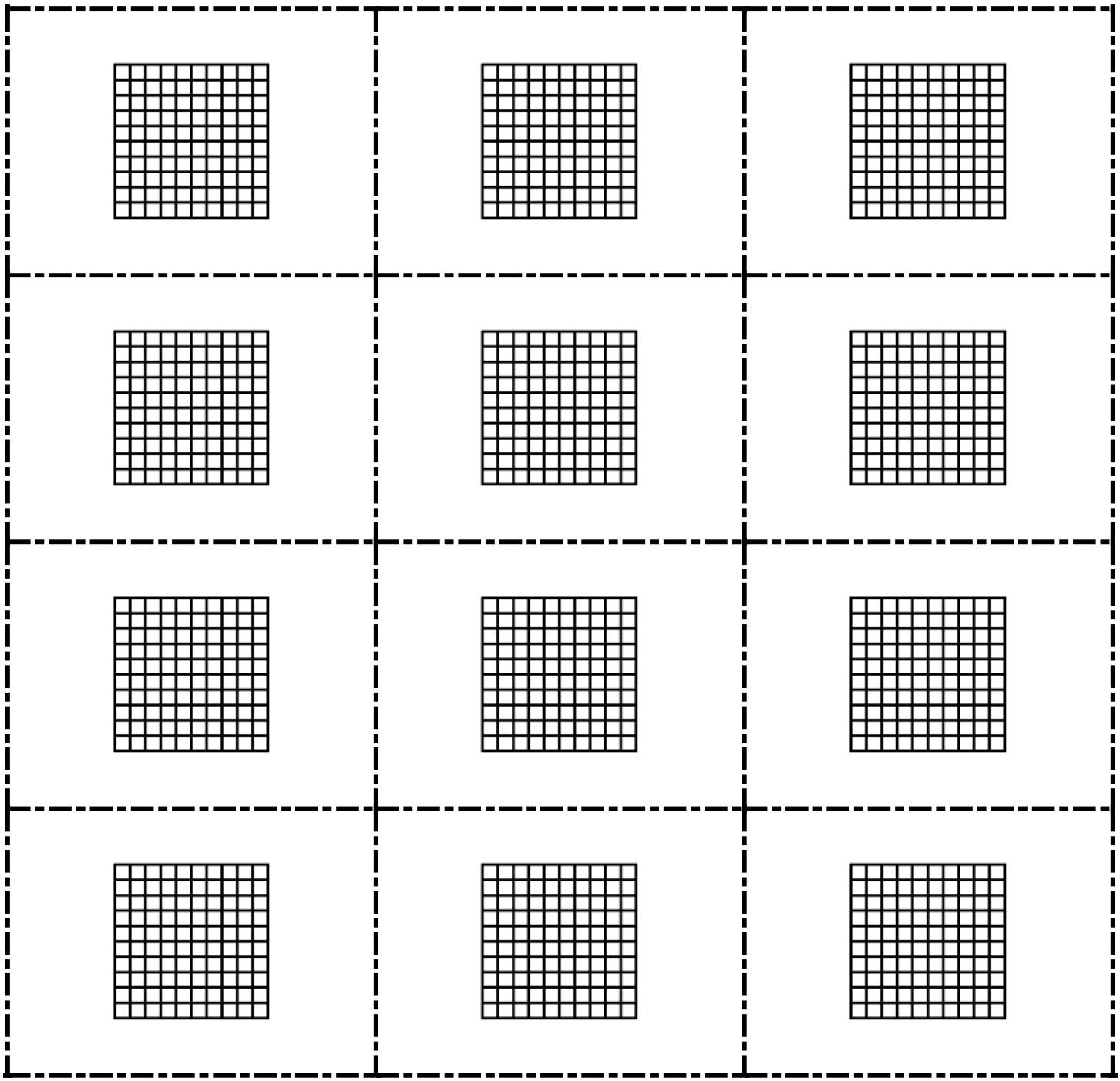
Decimal Squares



Decimal Grids by HISD Curriculum using 1,2,3 Math Fonts

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