

Name _____

3rd Grade Unit 1: Extending Addition and Subtraction Understanding

The school district wants to have a Family Math Night in the fall. It would be something like Family Reading Night. Families would come to school to learn about the great things going on in math classes. Families could experience the fun of math together.

The school leaders want to call the night “Experience the Magic of Mathematics.” Each grade is in charge of designing family activities. The activities should match the theme of the night and relate to their grade level. Some third grade teachers say that third graders could show Sudoku puzzles since they are working with addition and subtraction in class.

Task 1: Look below to learn how to complete various levels of Sudoku puzzles. Which math practices are you using when learning and working on Sudoku puzzles?

Fill the grid with the numbers 1 to 4 in such a way that each number appears only once in each row, column and region (a 2 by 2 block).

2	3	1	
3		2	

		2	
	4		
	3	1	

2			4
			3
1			

	1		
	2	4	
		3	

You can find more printable Sudoku puzzles on this website if you want to continue the fun.

<http://www.mathinenglish.com/Sudoku.php>

Task 2: Some third graders say the Sudoku puzzles are not too magical. In response, some teachers suggest that the third grade activity be Magic Squares. Look below to learn how to complete various magic squares. Which math practices are you using when learning and working on Magic Squares?

In a Magic Square, the numbers in each row, column, and diagonal have to same sum – the magic sum. Complete this original form of Magic Square with a magic sum of 15 using whole numbers from 1 to 9.

Here are some more Magic Squares to try. (You may need to use multi-digit numbers to complete these.)

Magic Number: 18

Magic Number: 24

Magic Number: 45

9		
		8
5		3

11		7
	8	
	10	

	21	
3		27
		12

You can find more printable magic squares on this website if you want to continue the fun.

<http://www.timvandevall.com/math/magic-squares-worksheets-3x3-4x4-puzzles/>

Task 3: The Magic Squares are cool, but some third graders say that in second grade they learned all about adding single digits and adding with more than two addends. The third graders wonder if the Family Math Night activity should be a little more challenging. Since in math class third graders are working with multi-digit addition and subtraction, one third grader suggests, “We could have people Reverse and Add. Here is how you do it. Write a two-digit number. Reverse the ones and tens digits to create a second two-digit number, and find the sum of the two numbers.”

Experiment with the Reverse and Add algorithm or procedure. See if you can uncover any patterns. What do you notice? Which math practices are you using when working to find a Reverse and Add sum?

- Record your wonderings
- Record what you notice as you experiment with this procedure
- List the mathematical practices you have been using in this task

Task 4: A student from another class wonders if they could make a sum of 100 using Reverse and Add? Continue working with the Reverse and Add algorithm to see if you can find two numbers with the same digits in different positions that have a sum of 100. Which math practices are you using when searching a 100 sum?

- Record all of your guesses
- Record your wonderings
- Record what you notice as you experiment with this procedure
- List the mathematical practices you have been using in this task

Task 5: Thinking about the options explored in this RWE, write a proposal that tells which activity third graders should do for Family Math Night. Make sure you explain your thinking fully so that others will agree with your idea.

Be sure to include:

- The specific activity
- How to do the activity
- The math practices used throughout the activity
- How the activity matches the theme Magic of Mathematics
- How the activity matches what third graders are learning and are able to do

Meeting	<ul style="list-style-type: none"> • Student explains his/her thinking so that others can understand • Student explains the specific activity completely • Student explains how to do the activity • Student explains the math practices used throughout the activity • Student explains how the activity matches the theme, Magic of Mathematics • Student explains how the activity matches what third graders are learning and are able to do
Developing	Student meets 4 of the 6 require criteria
Beginning	Student meets less than 4 of the required criteria Student should rework task 5 after more instruction
Notes	