Name_____ Date_____

Grade 5, Unit 1: Number Theory

Study Guide

Dear Parents,

Listed below are the skills that the students will be responsible for in Unit 1. Remember, Part B skills are not expected to be mastered. There will be other opportunities for reinforcement and is not a part of your child's unit assessment grade. Students are expected to demonstrate understanding of the Part A skills and these are the basis of the unit assessment grade. As always, basic fact review is important.

*The following will help you to prepare for your unit assessment.

*As you work through this study guide, please write any questions down that you have and we will go over them the week of the test.

Part A Skills

Outcome	Example	Practice Opportunities
Apply a strategy, i.e. draw a picture, guess and check, find a pattern, write an equation	Draw a **rectangular array**	***SRB:*** p. 10, 197, 198,286 ***Student Journal:*** p. 5, 8 (#3), 12 (#3), 13 (#4), 20, 23, 28 (#1) ***Study Link*** 1.2,1.7,1.8
Identify factors	List all of the **factors** for a given number. i.e. 36.	***SRB:*** p.10 ***Student Journal:*** p. 4 (#3), 10, 11 (#3), 17, 19 (#3), 23, 25, 26 ***Study Link:*** 1.4,1.8 ***Games:*** Multiplication Top-It (SRB p.333-334), Factor Top-It (SRB p.307), Factor Captor (SRB p. 306)
Identify or describe numbers as prime or composite	Is 36 a **prime** or composite **number?** See if your child can explain **how they know**. Change the number from **1 digit** up to **3 digit** numbers to see if your child is consistent in his/her response.	***SRB:*** p. 12 ***Student Journal:*** p.16 ***Study Link:*** 1.6
Explain mathematical ideas in written form	How can you tell, or how do you know a number is prime or composite?	***Student Journal:*** p. 13, 17, 18, 20 ***Study Link:*** 1.4, 1.7
Make and test generalizations	Play Factor Captor looking at the number grid, what which number would you choose next. In written form, explain why you chose that number.	***Game:*** Factor Captor (SRB p. 306)
Use inductive or deductive reasoning	Use the clues about numbers to solve the riddle using a number grid or calendar. The number is not and even number. It is **not** a **square number**.	***Practice Activity:*** • Use a calendar or number grid. One person picks a number on the grid and writes it on a piece of paper and hides it. • That person gives clues about the

	It is **not** a **prime number**. It **is** a **multiple** of 5.	number using the criteria of: odd or even, prime or composite, square numbers, multiple of, or divisible by • Switch roles ***Student Journal:*** p. 17, 20
Read, write, and represent decimals using symbols, words, and models		***SRB:*** p. 26–30 ***Student Journal:*** 4 (#2,6), 11 (#5), 15 (#4), 27 (#4), 28 (#1)
Identify and use rules of divisibility	Use the divisibility rules to help solve a story problem. Students will need to know divisibility rules for 2, 3, 4, and 5.	***SRB:*** p. 11 ***Student Journal:*** p. 13,14, 15 (#1), 22 (#1), 17 (#1) ***Study Link:*** 1.4, 1.5, 1.6 ***Games:*** Factor Captor (SRB p. 306), Divisibility Dash (SRB p. 302)
Present mathematical ideas using, words, symbols, visual displays, or technology	After solving a story problem, students must explain how they arrived at their answer using words, numbers, and/or pictures.	***SRB:*** p. 226-227, 242-245
Demonstrate proficiency with multiplication basic facts	Timed test of 16 **multiplication facts 7, 8 and 9**. Must be completed in 1 minute or 1 minute and 30 seconds.	***SRB:*** p 396 ***Student Journal:*** 4 (#4), 11 (#4) ***Games:*** Baseball Multiplication (SRB p. 297), Multiplication Top-It (SRB p. 333-334), Factor Captor (SRB p. 306)

The following skills are **Part B** skills. They will be on the assessment but will **NOT** count toward your child's grade.

- Determine prime factorizations for whole numbers and express them using exponential form.
- Calculate the power of integers.
- Read, write, and represent whole numbers in exponential form.
- Use the laws of exponents to simplify expressions.