# TPSD 3rd grade Math Syllabus
## 1st 9 Weeks

**Unit 1**: **Understand Multiplication and Division of Whole Numbers and Multiplication of Patterns**

**Unit Summary**: In Grade 2 students have added groups of objects by skip--counting and using repeated addition (2.OA.C.4). In this unit students connect these concepts to multiplication and division by interpreting and representing products and quotients.
Students begin developing these concepts by working with numbers with which they are more familiar, such as 2s, 5s, and 10s, in addition to numbers that are easily skip counted, such as 3s and 4s. Since multiplication is a critical area for Grade 3, students will build on these concepts throughout the year, working towards fluency by the end of the year.

**Performance Skills**:

- ❑ use addition or multiplication to join equal groups
- ❑ use a number line to represent and solve multiplication facts
- ❑ use arrays to show and solve multiplication problems
- ❑ multiply factors in any order to solve multiplication problems
- ❑ use objects or pictures to see how objects can be divided into equal groups
- ❑ use repeated subtraction to understand and solve division problems
- ❑ use patterns to multiply by 2 and 5
- ❑ use patterns to multiply by 9
- ❑ use patterns and properties to multiply by 0 and 1
- ❑ use patterns to multiply by 10
- ❑ use basic multiplication facts to solve problems

**Academic Vocabulary/Words to Understand:**
equal groups, unknown, number line, array, row, column, multiplication, commutative property of multiplication, factors, product, division, identity property of multiplication, equation, zero property of multiplication

***Note-***This is NOT an all inclusive list of terms.

**Unit 2**: **Apply Properties: Facts 3, 4, 6, 7, 8**

**Unit Summary**: In Grade 2 students have added groups of object by skip-counting and using repeated addition (2.OA.C.4). In this unit students connect these concepts to multiplication and division by interpreting and representing products and quotients.
Students begin developing these concepts by working with numbers with which they are more familiar, such as 2s, 5s, and 10s, in addition to numbers that are easily skip counted, such as 3s and 4s. Since multiplication is a critical area for Grade 3, students will build on these concepts throughout the year, working towards fluency by the end of the year.

**Performance Skills**:

- ❑ break apart unknown facts to known facts and solve multiplication problems
- ❑ tools and properties strategically to solve problems when multiplying by 3
- ❑ what I know about multiplying by 2s and properties to multiply by 4
- ❑ make and use models to solve multiplication problems that have 6 and 7 as factors
- ❑ use known facts and properties to multiply by 8
- ❑ use strategies and tools to represent and solve multiplication facts
- ❑ multiply 3 factors in any order to find the product
- ❑ reasoning to look for and describe general strategies for finding product

**Academic Vocabulary/Words to Understand:**
equal groups, unknown, number line, array, row, column,multiplication, commutative property of multiplication, factors, product, division,identity property of multiplication, equation, zero property of multiplication
***Note-***This is NOT an all inclusive list of terms.

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| **Unit 3: Use Multiplication to Divide: Division Facts**<br><br>**Unit Summary**: The emphasis of this unit is for students to develop a solid understanding of the connection between multiplication and division. Students recognize that multiplication strategies can be used to make sense of and solve division problems. This unit provides students a solid foundation in solving problems with equal groups and arrays, which is necessary to support future success with measurement problems.<br><br>**Performance Skills**:<br>❑ use fact families to see how multiplication and division are related<br>❑ divide by 2, 3, 4, and 5 by thinking about how I multiply with those numbers<br>❑ divide by 6 and 7 by thinking about how I multiply with those numbers<br>❑ divide by 8 and 9 by thinking about how I multiply with those numbers<br>❑ find and explain patterns for even and odd numbers.<br>❑ understand the patterns of division with 0 and 1<br>❑ patterns and related facts to solve multiplication and division problems<br>❑ use multiplication and division facts to find unknown values in an equation<br><br>**Academic Vocabulary/Words to Understand:**<br>dividend, divisor, fact family, quotient, even, odd, inverse<br><br>***Note-***This is NOT an all inclusive list of terms. | **Unit 4**: **Fluently Multiply and Divide Within 100**<br><br>**Unit Summary**: Students are strengthening his or her ability to multiply up to 10 × 10 by identifying patterns in order to solve problems with efficiency and accuracy. Skip counting is one strategy that can help him or her with multiplication facts using 2, 5, or 10 as factors. For example, to find 7 × 5, skip count by 5s seven times. 5, 10, 15, 20, 25, 30, 35 7 × 5 = 35 Your child will also continue to use the Distributive Property, which states that a multiplication fact can be broken apart into the sum of two other multiplication facts. For example, 7 × 5 is the same as the product of 7 × 2 plus the product of 7 × 3. 7 × 2 = 14 7 × 3 = 21 14 + 21 = 35 = 7 × 5<br><br>**Performance Skills**:<br>❑ use structure and properties to explain patterns for multiplication facts<br>❑ use reasoning and the relationship between multiplication and division to find basic facts<br>❑ use different strategies to solve multiplication problems<br>❑ use strategies to solve word problems that involve multiplication and division<br>❑ write and solve math stories for multiplication equations<br>❑ write and solve math stories for division equations<br><br>**Academic Vocabulary/Words to Understand:**<br>multiple, factors, products, distributive property, unknown, associative property of multiplication, commutative property of multiplication<br><br>***Note-***This is NOT an all inclusive list of terms. |