

# Suffield Public Schools Grade 4 Math- Term 2 Report Card Companion Document



## Math

Students today are preparing to enter into a 21st century workforce that looks vastly different than what we have ever known. Gone are the days of memorizing formulas and carrying out lock step procedures. Instead, there is a critical need for students to **understand** the mathematical foundations that explain why and how concepts work. With a focus on developing number sense and critical thinking, the Common Core Standards in Mathematics stresses conceptual understanding of key ideas where students need to be able to reason mathematically and communicate their reasoning effectively to others. The development of solid conceptual understanding, a high degree of procedural skill and fluency, and the ability to apply the math they know to solve problems inside and outside the math classroom has broadened what it means to be able to do and learn math. **The following guide will help you gain a better sense of what each of the Common Core Standards requires students to achieve.**



### Grade 4 Math End of Term 2 Standards' Expectations

**The first 3 math objectives** are standards for mathematical practice - how your child approaches problems and communicates her/his mathematical reasoning. Throughout the year, your child will continue to develop these dispositions as they deepen their understanding of mathematical concepts and refine their approaches to problems.

**Math Practice 1- Make sense of problems and persevere in solving them:** Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. Mathematically proficient

students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?"

**Math Practice 3- Construct viable arguments and critique the reasoning of others:** Mathematically proficient students justify their conclusions with evidence, communicate them to others, and respond to the arguments of others. Mathematically proficient students can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

**Math Practice 6- Communicates reasoning using clear and precise language, vocabulary, and notation:** Mathematically proficient students try to communicate precisely to others by: using clear definitions, stating the meaning of symbols they choose, specifying units of measure and labeling accurately. Mathematically proficient students calculate accurately and efficiently and appropriately express numerical answers.

### Operations and Algebraic Thinking

**Uses the four operations with whole numbers to solve problems -**

Mathematically proficient students multiply a 2-digit number by 1-digit and small 2-digit numbers using strategies that involve breaking the numbers apart. They solve division problems including some that involve remainders and represent an unknown quantity in an equation with a letter.



**Gains familiarity with factors and multiples-** Mathematically proficient students determine whether numbers up to 100 are prime, square, or composite. They can find all factors of numbers up to 100 and recognize multiples of 1-digit numbers.

### Numbers and Operations in Base Ten

**Generalizes place value understanding for multi-digit whole numbers-**

Mathematically proficient students read, write and compare numbers up to 1,000,000 using base ten numerals, number names and expanded form. They use the  $<$ ,  $>$ ,  $=$  symbols to record the results of the comparison. Students can round round multi-digit whole numbers to the nearest 100,000.

**Uses place value understanding and properties of operations to perform multi-digit arithmetic-** Mathematically proficient students multiply 2-digit numbers by 1-digit and small 2-digit numbers (e.g. 12, 20), using strategies based on place value and breaking numbers apart. They illustrate and explain calculations through the use of equations, arrays, or area models. Mathematically proficient students fluently solve multi-digit addition and subtraction problems using a variety of strategies, including through the use of the standard algorithm.

**Demonstrates fluency with basic multiplication and division fact combinations to 10x10 and 100/10-** Mathematically proficient students multiply combinations up to 10x10 accurately and efficiently. Students solve problems within 3-5 seconds to demonstrate automaticity. They use concrete strategies to solve division facts within 100.

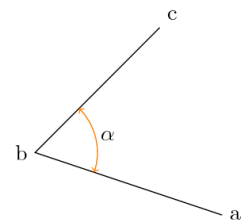
### Measurement and Data

**Solves problems involving measurement and conversion of measurement-** Mathematically proficient students accurately convert linear measurement from a larger unit to a smaller unit. They use two column tables as a strategy to record equivalent measurements. Mathematically proficient students use addition and subtraction to solve word problems involving measurement and the conversion of larger units to smaller units.

**Represents and interprets data-** Mathematically proficient students design data questions that involve measurement to compare two groups. They organize and represent data on line plots and are able to analyze and draw conclusions about their data.

**Understands concepts of angle and measures angles-**

Mathematically proficient students draw and identify lines and angles, including parallel and perpendicular lines, and classify polygons by properties of their sides and angles. Students use a protractor to measure angles and sketch angles of specific sizes. Mathematically proficient students add or subtract angles to determine the size of another angle.



# How can you support your child?

## General Math Support

- Ask questions to support your child with their homework:
  - o What do you already know about this problem?
  - o Can you draw a picture of what is happening?
  - o Does this remind you of a problem you have seen before?
  - o How did you solve this problem?
  - o How can you check your work?
  
- Offer manipulatives for your child to use at home to make concepts more concrete (exs. cereal, beans, pennies, blocks)

-Show that you have a growth mindset about math. Even if you struggle with math or don't have a clear understanding of a math concept, show your child you are excited to learn along with them.

-Make math fun and engaging for your child. Bring math into as many real world situations as possible. (ex. grocery shopping, baking, telling time, etc)

- Read the Family Letter for each unit to become familiar with the math concepts being introduced and what you can do to help. Letters are posted on the district website.

## Additional Resources:

- [Investigations Grade 4](#)
- [Common Core State Standards for mathematics](#)
- [Helping your child learn mathematics, activities for grades PreK-5](#)