

Standards for Mathematical Practice

and Excel Math for Grade 2

The Common Core State Standards for Mathematical Practice are integrated into Excel Math lessons. Below are some examples of how we include these Practices into the tasks and activities your students will complete throughout the year.

Mathematical Practices

1. Make sense and persevere in solving problems. Mathematically proficient students examine problems and tasks, can make sense of the meaning of the task and find an entry point or a way to start the task. Second Grade students also develop a foundation for problem solving strategies and become independently proficient on using those strategies to solve new tasks. In Second Grade, students' work continues to use concrete manipulatives and pictorial representations as well as mental mathematics. They complete a task by asking, "Does this make sense?"

2. Reason abstractly and quantitatively. Mathematically proficient students make sense of quantities and relationships while solving tasks. This involves two processes—decontextualizing and contextualizing. In Second Grade, students represent situations by decontextualizing tasks into numbers and symbols. The processes of reasoning also impact other areas of mathematics such as determining the length of quantities when measuring with standard units.

3. Construct viable arguments and critique the reasoning of others. In Second Grade, mathematically proficient students accurately use definitions and previously established solutions to construct viable arguments about mathematics. During discussions about problem-solving strategies, students constructively critique the strategies and reasoning of their classmates. For example, while solving $74 - 18$, students may use a variety of strategies, and after working on the task, can discuss and critique each others' reasoning and strategies.

4. Model with mathematics. Mathematically proficient students model real-life mathematical situations with a number sentence or an equation, and check to make sure that their equation accurately matches the problem context. Second grade students use concrete manipulatives and pictorial representations to provide further explanation of the equation. Likewise, Second Grade students are able to create an appropriate problem situation from an equation. For example, students are expected to create a story problem when given an equation.

5. Use appropriate tools strategically. In Second Grade, mathematically proficient students have access to and use tools appropriately. These tools may include snap cubes, place value (base ten) blocks, hundreds number boards, number lines, rulers, and concrete geometric shapes (e.g., pattern blocks, 3-D solids). For example, while measuring the length of the hallway, students can explain why a yardstick is more appropriate to use than a ruler.

6. Attend to precision. Mathematically proficient students communicate clearly, using grade-level appropriate vocabulary accurately as well as giving precise explanations and reasoning regarding their process of finding solutions. For example, while measuring an object, care is taken to line up the ruler correctly in order to get an accurate measurement.

7. Look for and make use of structure. In Second Grade, mathematically proficient students carefully look for patterns and structures in the number system and other areas of mathematics. For example, students notice number patterns within the tens place as they connect skip counting by 10s the corresponding numbers on a 100s chart.

8. Look for and express regularity in repeated reasoning. Mathematically proficient students begin to look for regularity in problem structures when solving mathematical tasks. For example, after solving two-digit addition problems by decomposing numbers ($33 + 25 = 30 + 20 + 3 + 5$), students may begin to generalize and apply that strategy independently on future tasks.