SAO Planning Pages

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| **Course/Grade Level Information** | |
| Course Name | Mathematics |
| Brief Course Description | The hour long math time in second grade is used to teach students the grade level domains in math. Students are expected to recall facts and apply their knowledge of skills and concepts in problem solving situations. |
| Grade Level(s) | Grade 2 |
| Course Length | Year-long |

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| **Teacher Information** | |
| Teacher Name | Jeff Sampson |
| School Name | My Elementary School |
| District name | Polk County School District |

**Directions for Establishing a Learning Goal:** After completing the entire table, use the planning information and the SMART Review to write the description of the learning goal.

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| **Learning Goal:** A description of what students will be able to do at the end of the course or grade based on course- or grade-level content standards and curriculum. | |
| **Planning Information for Writing the Learning Goal:** | |
| Which big idea is supported by the learning goal? | An understanding of numbers and operations are necessary skills for people to solve real world problems. |
| Which content standards are associated with this big idea?  *List all standards that apply, including the text of the standards (not just the code).* | Operations and Algebraic Thinking  MAFS.2.OA.1.1: Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.  MAFS.2.OA.1.a: Determine the unknown whole number in an equation relating four or more whole numbers. For example, determine the unknown number that makes the equation true in the equations 37 + 10 + 10 = \_\_\_\_\_\_ + 18, ? – 6 = 13 – 4, and 15 – 9 = 6 + □.  Number and Operations in Base Ten  MAFS.2.NBT.1.4: Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.  MAFS.2.NBT.2.7: Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds. |
| Why is this learning goal important and meaningful for students to learn? | In order for students to demonstrate competence in mathematics they must be able to show deep understanding of real world problems and be flexible when choosing a strategy to solve with, depending on the different contexts. This goal moves students beyond reading and writing numbers and fluently counting, and expects them to demonstrate their use of these skills for the purpose of problem-solving. |
| In what ways does the learning goal require students to demonstrate deep understanding of the knowledge and skills of the standards or big idea being measured? | The learning goal being measured requires students not only to efficiently solve real world problems independently but also to solve these problems in more than one way, showing flexibility and a deeper understanding of math concepts. This Learning Goal, therefore, represents a DOK Level 2 as identified in the standards. |
| Describe the instruction and strategies you will use to teach this learning goal.  *Be specific to the different aspects of the learning goal.* | 1. Students will engage in bi-weekly real world problem solving using the practice of “I do, We do, You do”. Different strategies will be introduced during this time. 2. Direct instruction on problem-solving strategies. 3. Whole group discussions and sharing of selection of strategies. 4. Small group work and pairs to identify problem-solving strategies and to solve problems. Students will receive peer feedback and teacher feedback. 5. Group work to develop individual real world problems.   For example, students will be asked to write an addition word problem for their classmates to solve which requires adding four two-digit numbers with 100 as the answer. Students then share, discuss and compare their solution strategies after they solve the problems.  Students struggling with number sense will receive more intense instruction on reading and writing numbers in order to access the content of the problem-solving situations. |
| Identify the time span for teaching the learning goal (e.g., daily class-45 minutes for the entire school year). | This learning goal is a year-long focus that occurs approximately 3-4 days per week at least 15 minutes per day.  Additionally, problem solving will continue during science investigations, as appropriate. |
| Explain how this time span is appropriate and sufficient for teaching the learning goal. | This time is appropriate to embed problem solving into the teaching of the basic skills and other domains as necessary for second grade students to know and demonstrate. |

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| **Check:** **SMART Review of the Learning Goal for this SLO** | |
| Use the SMART protocol to confirm that the Learning Goal has the right size, detail, and depth necessary.  Check the boxes that apply. | The Learning Goal is:  **Specific** –focused on the big idea and content standards.  **Measurable** – able to be appropriately and adequately assessed (note the Assessments section will identify the specific assessment to be used).  **Appropriate –** within the teacher’s control to effect change and is important, meaningful for students to learn during the identified time span.  **Realistic –** while ambitious, it is achievable for both teachers and students, during the time span identified.  **Time Limited** **–** can be summatively evaluated within the time under the teacher’s control. |

**Directions for Documenting Assessments and Scoring:** After completing the entire table, use the planning information to write the description and use of assessments and scoring criteria or rubrics.

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| **Assessments and Scoring:** Assessments should be standards-based, of high quality, and designed to best measure the knowledge and skills found in the learning goal of this SLO. The assessment should be accompanied by clear criteria or rubrics to describe what students have learned. | |
| **Planning Information for Explaining the Use of Assessments and Scoring:** | |
| How often will you collect data to monitor student progress toward this learning goal? | Formative story problems will be administered every 2 weeks to plan for differentiated instruction. During instructional time, students will work as pairs and small groups to solve and create their own story problems which will be monitored on a regular basis. |
| How will you use this information to monitor student progress and to differentiate instruction for all students toward this learning goal? | The collected data will reveal specific information about the students’ ability to add and subtract, as well as to solve real-world story problems and to develop flexible strategies. Consequently, tiered student groups can be formed based on the data with an instructional focus on the exact skills needed. Student work and classroom performance, both formal and informal, will be observed daily and analyzed for the students’ ability to demonstrate an understanding of number sense. |

**Directions for Establishing Targets:** Use the planning information to guide how you will use previous performance to set baseline data as well as to establish expected targets.

| **Targets:** identify the expected outcomes by the end of the instructional period for the whole class as well as for different subgroups, as appropriate. | |
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| **Planning Information for Writing the Target Used to Define Teacher Performance:** | |
| Describe the courses, assessments, and/or experiences used to establish starting points and expected outcomes for students’ understanding of the learning goal. | The baseline data used to establish the starting points for students include:   * District benchmark scores for early numeracy skills from the first grade year. These assessments evaluated student’s ability to understand sequencing of numbers and the order of numbers through 20. * A benchmark story problem was administered to the students. * Observations of students’ selection of strategies learned in grade 1. * Student attendance rate from first grade. * Special education referrals.   These data points were used to set students actual performance in the 3-tiered groups for the SAO targets. |
| Explain how the expected targets identified demonstrate ambitious, yet realistic goals, for measuring students’ understanding of the learning goal. | These targets are both ambitious and realistic for a second grade yearlong math goal. Students will be given many opportunities within the 6 week cycle to learn and use different modalities to help build both number sense and comprehension skills. Students who perform significantly below proficiency will also be working with the math specialist to help build foundational skills; therefore they should be able to demonstrate growth by at least one level on the rubric. |