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| **Goal** | |  |
| ***At St. Mary School, our students will see themselves as mathematical thinkers who are able to use their God-given talents and mathematical knowledge and skills to analyze and solve real-world issues.*** | |
| **Achieving** | **Believing** | **Belonging** |
| Use of meaningful and authentic math problems with a focus on math processes as well as math solutions will lead to deeper learning and understanding in math for all students. | Students will be given opportunities to consider real-world issues in terms of our Catholic Social Teachings and to think critically about these issues in order to determine solutions. | Together, educators and students will create learning communities where it is safe to respectfully question and challenge one another’s mathematical thinking |
| **How do we achieve deep understanding in Math?**   * *When we ask students to perform a* ***procedure*** *such as solving an equation, students can often follow an example and get a correct answer without* ***understanding* how *or* why the procedure works.** * *Tests, exams, and quizzes aimed at students producing correct answers highlight their abilities to use memorized math algorithms, but do not tell us whether they have conceptual understanding of why these algorithms work* * *Math instruction needs to focus on teaching students how to develop* ***mathematical thinking******that relates to being able to pose and solve relevant meaningful questions*** *that exist in the real world. Wolfram(2010)* * *Students should be* ***encouraged to reason from the evidence they find in their explorations and investigations or from what they already know to be true,*** *and to recognize the characteristics of an acceptable argument in the mathematics classroom.* * *Teachers* ***help students revisit conjectures that they have found to be true in one context to see if they are always true.*** *Ontario Mathematics Curriculum Gr 1-8 p. 14* * ***Observing mathematical strategies and talking about them help make us aware of our mathematical thinking. When we explain our thinking and reasoning, we all learn more.*** *Ontario Kindergarten Program p. 243* | | * What math knowledge and skills would students need to answer this question? * What other questions could they ask about this real-life situation?     *We are building a new outdoor playground for our kindergarten students. How would you design the yard? What would be the ratio of pavement to grass in your design? If sod costs $0.25 per sq ft and pavement costs $1.25 per sq ft, what would be the total cost?* |