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| **Unit Name:**  **Area and Perimeter** |
| **Common Core State Standards:**  **4.MD.3** Apply the area and perimeter formulas for rectangles in real world and mathematical problems. |
| **Essential Vocabulary:**   * multiplication/multiply * area * array * square unit * product * perimeter * length * width |
| **Unit Overview:**  In this unit, students will apply their understanding of area and perimeter of rectangles from 3rd grade to help them explore the understanding of the abstract formula *A = l x w*. In addition, students will generate and discuss the different pros and cons for the formulas for perimeter such as: *P = 2l + 2w* and *P = 2(l + w)*. The first formula has an additional step compared to the second formula with multiplying the length by two, multiplying the width by two and then adding both together. The second formula has the length and width added together and then multiplying it by two. **\*Apply understanding to formula does not mean write down a memorized formula and put in known values. Students do not need to do this until 6th grade.** |
| **Strategies/Skills:**  Students will build on their understanding of area and perimeter to make sense of the standard algorithms. They are expected to use a variety of models to support their reasoning about numbers.   * Rectangular Section/Arrays * Base Ten blocks * Area Model |
| **Video Support:**  Video support can be found on LearnZillion.   * <http://learnzillion.com> * Use area models to find the area of rectangles   <https://learnzillion.com/student/lessons/2374-use-area-models-to-find-the-area-of-rectangles>   * Find the area of a rectangle using the standard formula   <https://learnzillion.com/student/lessons/2535-find-the-area-of-a-rectangle-using-the-standard-formula>   * Find missing side lengths using the formula for area   <https://learnzillion.com/student/lessons/2425-find-missing-side-lengths-using-the-formula-for-area>   * Find the perimeter of a rectangle using area model   <https://learnzillion.com/student/lessons/2942-find-the-perimeter-of-a-rectangle-using-an-area-model>   * Find perimeter using the standard formula   <https://learnzillion.com/student/lessons/3047-find-perimeter-using-the-standard-formula>   * Find missing side lengths using the formula for perimeter   <https://learnzillion.com/student/lessons/3048-find-missing-side-lengths-using-the-formula-for-perimeter> |
| **Additional Resources:**  If you have limited/no internet access, please contact your child’s teacher for hard copies of the resources listed in this document.   * NCDPI Unpacking Document: [4th Grade Unpacking Document](http://www.ncpublicschools.org/docs/acre/standards/common-core-tools/unpacking/math/4th.pdf) |