



YALE NATIONAL INITIATIVE

to strengthen teaching in public schools®

Curriculum Units by Fellows of the National Initiative
2011 Volume VI: Great Ideas of Primary Mathematics

Cracking the Place Value Code

Guide for Curriculum Unit 11.06.03, published September 2011

by Kishayla Payne-Miller

This unit teaches addition and subtraction using the concepts of place value, with an intended audience of second-grade students. This unit could also be used with talented first-grade students that need additional challenges as well as with third-grade students who are still struggling with solving addition and subtraction problems. This unit emphasizes three main teaching strategies: conceptual, pictorial, and symbolic, modeled after the Singapore approach to mathematics. This unit emphasizes four steps, leading towards addition and subtraction of general two-digit numbers. These steps stress place value concepts and the understanding of a number according to its base-ten expansion. Within this unit, mathematical techniques are shared that will reach a wide variety of types of learners. The steps and strategies here crack the "place value code" allowing students to add and subtract with a deep understanding of the concepts involved.

(Developed for Mathematics, grade 2; recommended for Mathematics, grades 1-3)

<https://teachers.yale.edu>

©2023 by the Yale-New Haven Teachers Institute, Yale University, All Rights Reserved. Yale National Initiative®, Yale-New Haven Teachers Institute®, On Common Ground®, and League of Teachers Institutes® are registered trademarks of Yale University.

For terms of use visit https://teachers.yale.edu/terms_of_use