

Hands-On Standards[®], Common Core Edition

Grade 1

Hands-On Standards®, Common Core Edition
Grade 1

hand2mind 78865

ISBN 978-0-7406-9430-1



Vernon Hills, IL 60061-1862

800-445-5985

www.hand2mind.com

© 2012 by ETA hand2mind™
All rights reserved.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher. Permission is granted for limited reproduction of those pages from this book with a copyright line in the inner margin for classroom use and not for resale.

Printed in the United States of America.

12 13 14 15 16 17 18 19 20 21 10 9 8 7 6 5 4 3 2 1

Contents

Introduction	1
A Walk Through a Lesson	2
A Walk Through a Student Page	4

Operations and Algebraic Thinking 6

Lesson 1 Addition Sentences	8
1.OA.1	
Lesson 2 Subtraction Sentences	12
1.OA.1	
Lesson 3 Adding Three Numbers	16
1.OA.2	
Lesson 4 Associative Property	20
1.OA.2, 1.OA.3	
Lesson 5 Commutative Property I	24
1.OA.3	
Lesson 6 Commutative Property II	28
1.OA.3	
Lesson 7 Fact Families	32
1.OA.6	
Lesson 8 Finding Missing Addends	36
1.OA.4, 1.OA.8	
Lesson 9 Finding Missing Subtrahends	40
1.OA.4, 1.OA.8	
Lesson 10 Explore Counting On	44
1.OA.5, 1.OA.6	
Lesson 11 Explore Counting Back	48
1.OA.5, 1.OA.6	
Lesson 12 Add Doubles	52
1.OA.6	
Lesson 13 Comparison Subtraction	56
1.OA.6	
Lesson 14 Connecting Addition and Subtraction	60
1.OA.6	
Lesson 15 Making 10 to Add or Subtract	64
1.OA.6	

Number and Operations in Base Ten 68

Lesson 1 Exploring Place Value	70
1.NBT.2a, 1.NBT.2b, 1.NBT.2c	
Lesson 2 Comparing Two-Digit Numbers	74
1.NBT.3	
Lesson 3 Ordering Numbers	78
1.NBT.2b	
Lesson 4 Adding Without Regrouping	82
1.NBT.4	
Lesson 5 Adding with Regrouping	86
1.NBT.4	
Lesson 6 10 More, 10 Less	90
1.NBT.5	
Lesson 7 Subtracting a Multiple of 10	94
1.NBT.6	

Measurement and Data 98

Lesson 1 Sorting by Length	100
1.MD.1	
Lesson 2 Nonstandard Units	104
1.MD.2	
Lesson 3 Time to the Half-Hour	108
1.MD.3	
Lesson 4 Bar Graphs	112
1.MD.4	
Lesson 5 Pictographs	116
1.MD.4	

Geometry 120

Lesson 1 Combining Shapes	122
1.G.2	
Lesson 2 Building Shapes	126
1.G.2	
Lesson 3 Tangram Puzzles	130
1.G.2	
Lesson 4 Equal Shares of Rectangles	134
1.G.3	

Blackline Masters

BLM 1	Centimeter Grid	138
BLM 2	Ten Frame	139
BLM 3	Place-Value Chart	140
BLM 4	Number Line	141
BLM 5	Hundred Chart	142
BLM 6	$\frac{3}{4}$ Inch Grid	143
BLM 7	Telling Time Recording Sheet	144
BLM 8	Graphing Grid	145
BLM 9	Tangram Puzzles	146
BLM 10	Equal Shares of Rectangles	147
Glossary of Manipulatives		148
Index		150

Introduction

How do we help children find meaning in mathematics? That is, how do we give children more than a rote script for reciting facts and churning out computations? How do we help children develop understanding?

Hands-On Standards®, Common Core Edition Grade 1 is an easy-to-use reference manual for teachers who want to help children discover meaning in mathematics. Each of the manual's 31 lessons demonstrates a hands-on exploration using manipulatives. The goal is to help children get a physical sense of a problem—to help children get their hands on the concepts they need to know and to help them “see” the meaning.

Each lesson in *Hands-On Standards* targets a clearly stated objective. The main part of a lesson offers a story problem that children can relate to and has children work on the problem using a hands-on approach. Full-color photographs demonstrate the suggested steps. In addition to the main activity, each lesson includes suggested points of discussion, ideas for more exploration, a formative assessment item, and practice pages to help children solidify their understanding. The instructional model is a progression from concrete to abstract.

The book is divided into four sections—Operations and Algebraic Thinking, Number and Operations in Base Ten, Measurement and Data, and Geometry. These correspond to the four content domains for Grade 1 as cited in the *Common Core State Standards for Mathematics*.

Each lesson in this book uses one or more of the following manipulatives:

Base Ten Blocks • Color Tiles • Cuisenaire® Rods •
DecaDots® • Geared Clocks • Graphing Mat • Pattern
Blocks • Snap Cubes® • Tangrams •
Two-Color Counters

Read on to find out how *Hands-On Standards, Common Core Edition Grade 1* can help the children in your class find meaning in math and build a foundation for future math success!



A Walk Through a Lesson

Each lesson in *Hands-On Standards* includes many features, including background information, objectives, pacing and grouping suggestions, discussion questions, and ideas for further activities, all in addition to the step-by-step, hands-on activity instruction. Take a walk through a lesson to see an explanation of each feature.

Try It! Arrow

In order to provide a transition from the introduction to the activity, an arrow draws attention to the Try It! activity on the next page. When the activity has been completed, return to the first page to complete the lesson.

Lesson Introduction

A brief introduction explores the background of the concepts and skills covered in each lesson. It shows how they fit into the larger context of children's mathematical development.

Objective

The **Objective** summarizes the skill or concept children will learn through the hands-on lesson.

Common Core State Standards

Each lesson has been created to align with one or more of the **Common Core State Standards for Mathematics**.

Talk About It

The **Talk About It** section provides post-activity discussion topics and questions. Discussion reinforces activity concepts and provides the opportunity to make sure children have learned and understood the concepts and skills.

Solve It

Solve It gives children a chance to show what they've learned. Children are asked to return to and solve the original word problem. They might summarize the lesson concept through drawing or writing, or extend the skill through a new variation on the problem.



Objective

Compute the sum of three numbers.

Common Core State Standards

■ 1.OA.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

Operations and Algebraic Thinking

Adding Three Numbers

In addition, the numbers being combined are addends, and the total is the sum. When adding more than two numbers, the numbers can be added in any order ($5 + 6 + 2 = 13$ or $2 + 5 + 6 = 13$) or grouped in any way ($(5 + 6) + 2 = 13$ or $5 + (6 + 2) = 13$). Working with this skill also reinforces the concept of making fives and tens. It is this type of strategy that helps children to develop not only their number sense, but also mental math computations.

Try It! Perform the Try It! activity on the next page.

Talk About It

Discuss the Try It! activity.

- Have children look at their DecaDots® tiles used in the Try It! activity.
- **Ask:** Which tiles show the T-shirts? Which show the sweatshirts? Which show the dress shirts?
- **Ask:** How many ten tiles can overlap the other tiles? What does the number of ten tiles represent?
- **Ask:** How many shirts did Corey pack? How did you know?

Solve It

With children, reread the problem. Invite children to draw pictures of Corey's shirts or use symbols to represent them. Next, have children label the picture with a numerical answer and write a sentence explaining the number of shirts Corey packed.

More Ideas

For other ways to teach about adding three numbers—

- Have children use different color Snap Cubes® to represent separate addends and then combine them into one long row and count to find the sum.
- Have children use counters or Snap Cubes to try adding the same three numbers in different orders to explore the Commutative Property of Addition. Also, Cuisenaire® Rods could be used to explore number properties such as commutative and associative.

Formative Assessment

Have children try the following problem.

Draw pictures to solve this problem, and write a number to show your answer. Mariah is buying bananas. She takes a bunch with 6 bananas, then one with 4 bananas, and then one with 3 bananas. How many bananas did she buy altogether?

More Ideas

More Ideas provides additional activities and suggestions for teaching about the lesson concept using a variety of manipulatives. These ideas might be suggestions for additional practice with the skill or an extension of the lesson.

Formative Assessment

Formative assessments allow for ongoing feedback on children's understanding of the concept.

Try It!

The **Try It!** activity opens with **Pacing** and **Grouping** guides. The **Pacing** guide indicates about how much time it will take for children to complete the activity, including the post-activity discussion. The **Grouping** guide recommends whether children should work independently, in pairs, or in small groups.

Next, the **Try It!** activity is introduced with a real-world story problem. Children will “solve” the problem by performing the hands-on activity. The word problem provides a context for the hands-on work and the lesson skill.

The **Materials** box lists the materials that children will use to complete the activity, including manipulatives such as Color Tiles and Pattern Blocks.

This section of the page also includes any instruction that children may benefit from before starting the activity, such as a review of foundational mathematical concepts or an introduction to new ones.

Try It! 30 minutes | Pairs

Here is a problem for adding three numbers.

Corey packed 7 T-shirts, 8 sweatshirts, and 6 dress shirts for his trip. How many shirts did he pack in all?

Introduce the story problem. Then have children do the activity to solve the problem.

Follow steps below to help determine how many shirts Corey packed.

Materials

- 1 DecaDots® wallet set per pair



1. To begin, have children choose tiles to show the numbers of T-shirts, sweatshirts, and dress shirts Corey packed.



2. Have children place the tiles in a row so that as many dots are next to each other as possible. You may overlap part of a tile with another.



3. Finally, have children place a ten tile on top of a group of 10 dots. Repeat if another group of 10 dots exists. **Ask:** How many shirts did Corey pack in all? What number is represented by the DecaDots?

Look Out!

Watch for children who do not know where to begin when adding three numbers. Remind children to add two numbers first and then add the third number.

Look Out!

Look Out! describes common errors or misconceptions likely to be exhibited by children at this age dealing with each skill or concept and offers troubleshooting suggestions.

Step-by-Step Activity Procedure

The hands-on activity itself is the core of each lesson. It is presented in three—or sometimes four—steps, each of which includes instruction in how children should use manipulatives and other materials to address the introductory word problem and master the lesson’s skill or concept. An accompanying photograph illustrates each step.

A Walk Through a Student Page

Each lesson is followed by a corresponding set of student pages. These pages take the child from the concrete to the abstract, completing the instructional cycle. Children begin by using manipulatives, move on to creating visual representations, and then complete the cycle by working with abstract mathematical symbols.

Exercise

Concrete and Representational exercises (pictorial representations of the featured manipulative) help children bridge conceptual learning to symbolic mathematics.

Standards-Based Math Practice

Abstract exercises provide standards-based math practice to allow children to deepen their understanding of the featured skill.

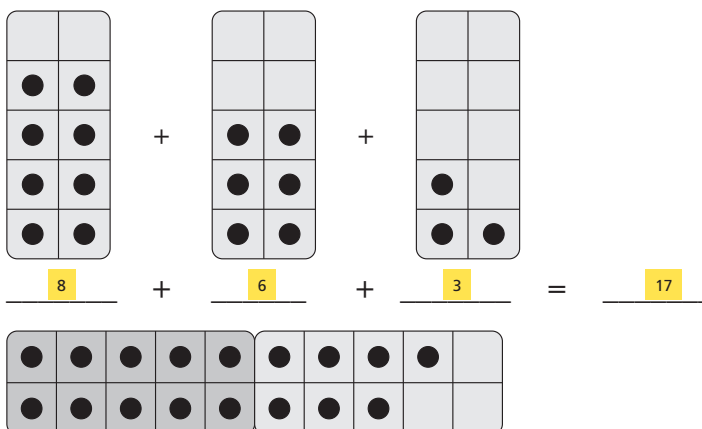
Lesson
3

Operations and Algebraic Thinking

Answer Key

Use DecaDots. Add the numbers modeled. Write the sentence and sum. (Check students' work.)

1.



Use DecaDots. Model the addition. Draw the model. Write the sum.

2. $6 + 8 + 5 =$ 19

Find the sum.

3. $7 + 7 + 4 =$ 18

4. $3 + 8 + 9 =$ 20

Extended Response

Extended Response exercises feature an open-ended constructed response question to help teachers gauge children's understanding.

Answer Key

Challenge! Find three numbers that add to 16. Write a number sentence for these numbers.

Challenge: (Sample) 10, 4, and 2; $10 + 4 + 2 = 16$

Answers for the Teacher

Answers are provided for teachers on the included student pages.

Student Pages Download

Download clean copies of the student pages by visiting the URL listed.

© ETA hand2mind™



Download student pages at hand2mind.com/hosstudent.

Hands-On Standards, Common Core Edition

19