

Read
this first!

KINDERGARTEN IMPLEMENTATION GUIDE

Everything you need to know to get the most
out of the TouchMath Kindergarten Program



TOUCHMATH®



INNOVATIVE LEARNING CONCEPTS INC.
creators of TOUCHMATH®

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The philosophy of TouchMath.



Janet Bullock
President/CEO

The TouchMath philosophy may be stated in five easy words: REACH AND TEACH ALL LEARNERS. The educators who have developed and expanded the TouchMath Program throughout the last 40 years have worked constantly to meet this goal. Every TouchMath unit, module, and worksheet reflects their dedication.

The success TouchMath has experienced is largely due to its multisensory approach. It is unique in that it combines the use of the four major senses of seeing, saying, hearing, and touching with hands-on manipulatives and paper/pencil written activities. As students engage all of their senses, each individual within the group has the opportunity to assimilate information whether they are visual, auditory, or tactile/kinesthetic learners.

TouchMath activities are meticulously scaffolded and provide all learners with ample opportunities for success. As each skill is mastered, the next simple step is introduced. The TouchMath worksheets are clean and uncluttered with age-appropriate artwork. The variety, quantity, and quality of the activities provided make reinforcement immediately available on an as-needed basis. Testing and tracking materials provide instant feedback.

Teacher materials are straightforward and easy to use. Skills on each page are clearly defined, connected to the Common Core State Standards, and presented using specific methodology. Instructional strategies include real world connections, books to read, group and individual games, coloring, cutting-and-pasting, dot-to-dots, and a host of other inviting motivators.

The TouchMath materials in this unit may be used as a complete core program or as a supplementary approach for struggling students. The materials are effective in large group situations, in small groups, or for individual learners. Students master each concept as they **see it, say it, hear it, touch it, learn it.**

Overview of the TouchMath Kindergarten Program.

The TouchMath Kindergarten Program is designed to ensure learner success with two critical concepts: (1) understanding number associations and using them in addition and subtraction operations, and (2) learning basic geometry concepts. The content was built around the Common Core State Standards, and each module includes a correlation to the standards. For easy reference, a complete list of the kindergarten standards can be found on pages 29–30.

The TouchMath approach scaffolds the learning from using concrete objects to using pictures to using numbers. Multiple representations are included on the pages so that learners at all developmental levels are successful. Students will move naturally from the concrete level to the abstract level as they are ready.

Three of the four Kindergarten Units relate to numbers and operations. These first three units are organized to present small clusters of numbers within addition and subtraction, continually relating the two operations to each other. Unit I focuses on number concepts and operations within 5. Unit II extends the learning within 9. Unit III introduces the understanding within 20. The units build on the foundation of each previous unit, providing students with varied experiences with numbers through 20. The goal of these first three units is for students to add and subtract fluently within 5 by the end of kindergarten. Meaningful repetition using multiple representations coupled with the tactile, visual approach and TouchPoints provide all learners with the support they need to meet and/or exceed the goal of applying addition and subtraction within 5 consistently.

Unit IV presents experiences with measuring, comparing, and identifying shapes. Skill development moves naturally from identifying objects and shapes in their environment to defining shapes by their attributes.

Word problems are scaffolded throughout all four units. In Unit I, objects and drawings are used to demonstrate joining together and taking away. The Instructional Strategies model opportunities to share verbal word problems with students. This is expanded in Unit II as the whole/part relationship is identified in addition and subtraction equations. A visual cue is incorporated to emphasize this relationship, which includes displaying the whole in a black ring and the parts in gray rings. Visual cues for the operation signs (e.g., a trailer hitch for an addition sign) and indications to color the signs further develop the understanding of addition and subtraction and reinforce knowledge of the operations. An extra added feature encourages students to Draw, Write, and Share specific learning. Unit II concludes with an introduction of rebus word problems with visual cues, and the words how many are introduced in print. In Unit III, the learning is extended to all word problems being presented with rebuses and drawings, as well as cut and paste activities. The printed words in all and left are used consistently. All presentation of concepts reinforce the application of expressions and equations in word problems.

Cross-curricular examples are included throughout all four units. The pictures on student pages cross all curriculum areas, and interesting information about science-related pictures is included (e.g., Snails can't hear. Snails have thousands of teeth, but adult humans have only 32 teeth.) These facts are connections to the world of kindergartners and stimulate enthusiastic conversation.

Vocabulary for each unit is included in each unit overview. Within the Instructional Strategies, these vocabulary words are identified in boldface. The vocabulary builds on each previous unit, continually strengthening oral fluency, and is intended to be used by the teacher and reinforced in language with the students. The words are not presented in print to the students except in word problems.

Sequence of skills

The Sequence of Skills is provided for an easy reference to all of the skills in the Kindergarten Program and is organized to mirror the order in which the skills are presented in the material. Included skills are scaffolded from the concrete to the more abstract, ensuring the learners' understanding, and are correlated to the kindergarten Common Core State Standards. (Please access *TouchMath PLUS* for a correlation by standard.)

Use the Sequence of Skills to track the skills you have taught, recording dates to provide evidence of instruction. Or, make copies of it to record individual student performance for each skill. Used in conjunction with the Progress Monitoring Record, this can be useful for IEPs, parent conferences, and differentiated instruction.

► COUNTING AND CARDINALITY

Count to 100 by Ones and Tens

- K.CC.1** **1** Count to 100 verbally (and trace)
- Sequence numbers
 - Count and fill in missing numbers
 - Name numbers before and after given numbers
 - Count to 10
 - Count 10 to 20
 - Count 21 to 30
 - Count 31 to 40
 - Count 41 to 50
 - Count 51 to 60
 - Count 61 to 70
 - Count 71 to 80
 - Count 81 to 90
 - Count 91 to 100
 - Identify numbers out of sequence
- K.CC.2**
- K.CC.1** **2** Count to 100 by tens
- Count to 50
 - Count 60 to 100

Represent Numbers Using Manipulatives, Pictures, and TouchPoints

- K.CC.3** **1** Represent numbers with manipulatives
- Count objects in groups
 - Associate groups of objects to numbers
 - Use matching and counting strategies
 - Represent Zero–Number 5
 - Represent Numbers 6–9
 - Represent Number 10
 - Represent Numbers 10–15
 - Represent Numbers 16–20
- K.CC.3, 4, 5** **2** Write numbers and associate to quantities
- Write numbers
 - Answer how many
 - Write and associate numbers 1–5
 - Write and associate numbers 6–9
 - Write and associate number 10
 - Write and associate numbers 10–15
 - Write and associate numbers 16–20

© Kindergarten

- K.CC.3** **3 Represent numbers with pictures**
- Connect pictures and TouchPoints as representations
 - Represent quantities in multiple ways
 - Apply understanding of counting to quantities
 - Demonstrate the correct Touching/Counting Patterns
 - Use TouchPoints to reinforce counting for numbers 1–5
 - Use TouchPoints to reinforce counting for numbers 6–9
 - Represent number 10
 - Correspond numbers 10–15 to quantities in pictures
 - Correspond numbers 16–20 to quantities in pictures
- K.CC.6, 7** **4 Compare quantities with pictures and numbers**
- Identify more with pictures
 - Identify less with pictures
 - Identify equal with pictures
 - Use mixed comparisons with pictures
 - Compare quantities with pictures and numbers
 - Compare quantities with numbers

► OPERATIONS AND ALGEBRAIC THINKING

Add Using Manipulatives, Pictures, and TouchPoints

- K.OA.1, 2, 5** **1 Represent addition problems**
- Recognize combining parts to make a whole
 - Apply counting strategies to find the whole
 - Use fingers to represent the problem
 - Show the problem using an equation
 - Tell word problems using pictures
 - Demonstrate addition with TouchPoints
 - Write addends in boxes
- 2 Sums within 5**
- Use counters to show the problem
 - Recognize multiple representations of problems
 - Master adding fluently within 5
- 3 Sums within 9**
- Use pictures to show the problem
 - Recognize multiple representations of problems

Subtract Using Manipulatives, Pictures, and TouchPoints

- K.OA.1, 2, 5** **1 Represent subtraction problems**
- Recognize taking parts from the whole
 - Apply counting strategies to the problem
 - Use fingers to represent the problem
 - Show the problem using an equation
 - Tell word problems using pictures
 - Demonstrate subtraction with TouchPoints on both numbers
 - Write missing addends in boxes
 - Use backward counting as a subtraction strategy
 - Apply using TouchPoints on the subtrahend only
- 2 Minuends within 5**
- Use counters to show the problem
 - Recognize multiple representations of problems
 - Master subtracting fluently within 5

3 Minuends within 9

- Use objects being black to show taking away
- Recognize multiple representations of problems

Add and Subtract Using Pictures and TouchPoints

K.OA.2

1 Sums and minuends within 9

- Recognize operation signs (+ and -)
- Connect pictures and TouchPoints as representations
- Use objects being crossed out to show taking away
- Tell word problems using pictures
- Read word problems using pictures

K.OA.1–5

2 Sums and minuends within 10 in word problems

- Associate quantities with TouchPoints
- Identify information not needed to solve the problem
- Demonstrate fluency within 5

Compose and Decompose Numbers Using Manipulatives and Pictures

K.OA.3, 4

1 Compose Numbers

- Transfer learning of combining parts to composing numbers
- Relate addition to composing numbers
- Demonstrate building a number more than one way
- Record each composition

2 Decompose Numbers

- Transfer learning of finding parts to decomposing numbers
- Relate subtraction to decomposing numbers
- Demonstrate breaking down a number into pairs more than one way
- Record each decomposition

3 Compose and decompose numbers within 9

- Use objects in 2 groups to build a number
- Build each number more than one way
- Use breaking down a group of objects into 2 groups
- Break down each number more than one way

4 Compose and decompose number 10

- Use combining objects in groups to build 10
- Build 10 using each pair of numbers
- Use breaking down a group of 10 objects into 2 groups
- Break down 10 using each pair of numbers

► NUMBER AND OPERATIONS IN BASE TEN

K.NBT.1

1 Compose and decompose numbers 11–20

- Use objects in 2 groups to build a number
- Build each number more than one way
- Use objects in 3 groups to build a number
- Build each number in more than one way
- Use objects in 4 groups to build a number
- Build each number more than one way
- Use breaking down of groups of objects into 2 groups
- Break down each number using each pair of numbers
- Use breaking down of 2 groups of objects into 4 groups

Extend Place Value for 10–20

- K.CC.1–5** **1 Use various models to represent 10–20 as a group of 10 + ones**
- K.OA.1–5**
- K.NBT.1**
- Represent with bundles of straws
 - Use Touch2Learn Math Fans
 - Demonstrate with sticks in cups
 - Make strings of beads
- 2 Use multiple representations of the numbers**
- Associate the various representations
 - Record each representation as 10 + ones
 - Recognize 20 as 2 sets of 10 + 0 ones

► MEASUREMENT AND DATA

Describe Measurable Attributes of Objects

- K.MD.1** **1 Describe measurable attributes of objects using picture**
- Describe lengths of objects using nonstandard units
 - Describe weights of objects using sink and float
 - Describe length and width of a single object
- K.MD.2** **2 Compare measurable attributes of objects using pictures**
- Compare lengths of objects
 - Compare weights of objects
 - Compare length and weight of an object to another object
- K.MD.3** **3 Sort, count, and classify objects by measurable attributes**
- Sort, count and classify by length
 - Sort, count, and classify by weight
 - Classify by length and weight

► GEOMETRY

2-D Shapes: Circle, Triangle, Rectangle, and Square

3-D Shapes: Sphere, Cone, Cube, and Cylinder

- K.G.1, 3** **1 Describe 2-D and 3-D shapes in the environment**
- Describe shapes by kind of line and number of sides and corners
 - Describe relative positions of objects (e.g., over/under)
 - Distinguish between 2-D and 3-D shapes
- K.G.2, 4, 6** **2 Define 2-D shapes**
- Distinguish each shape from other shapes in pictures
 - Match each shape by in pictures regardless of size, color, or orientation
 - Name each shape by its defining attributes
 - Analyze and compare 2-D shapes
 - Describe similarities and differences of 2-D shapes
 - Compose larger shapes from smaller shapes using manipulatives
 - Compose larger shapes from smaller shapes using cutting and pasting
- K.G.2, 4, 5, 6** **3 Define 3-D shapes**
- Distinguish shapes using 3-D solid and paper models
 - Distinguish each shape from other shapes in pictures
 - Match each shape by size and orientation in pictures
 - Match each shape in pictures regardless of size, color, or orientation
 - Match each shape to an object in the environment
 - Describe similarities and differences of 3-D shapes
 - Describe similarities and differences of 2-D and 3-D shapes
 - Build 3-D shapes from readily available materials
 - Compose larger shapes from smaller shapes using cutting and pasting

TouchMath Kindergarten Contents

What is in the box?

Examining the Kindergarten box contents.

Four unit boxes make up the Kindergarten Program. These boxes contain the basic TouchMath materials needed in each unit and are designed for effortless organization, ease of use, and clutter-free storage. When using a particular unit, turn the inner module folders around 180 degrees and slide them back into the box backward, which allows for easy examination. Once you have completed the unit, turn the inner folders back around for space-efficient storage.

The titles of the Kindergarten Units are as follows:

- Unit I Counting, Adding, and Subtracting within 5
- Unit II Adding and Subtracting within 9
- Unit III Understanding Numbers 1 to 20
- Unit IV Measurement, Data, and Geometry

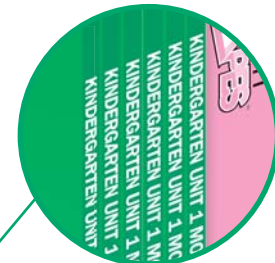
In an upright position, the Kindergarten Unit box allows for easy access to materials while stored on a bookshelf or desktop; from a horizontal position, materials are within reach when stored in a drawer or filing cabinet.



There is also one box of 108 geometric attribute manipulative shapes in each Kindergarten Unit. These include six shapes in six colors and three sizes each. They are coordinated to be used with many of the worksheets in the units and also designed for individual or learning center team exploration.



Touch2Learn TouchShapes [Included]
Order extra sets! TM1160



Included are six readiness modules inside each of the Kindergarten Unit boxes (24 modules if you have all four units). Each module title is printed on the module spine.

Each module contains 25 reproducible student activities (left), plus a complete Module Guide with Instructional Strategies and answer keys (right).



The code included on the outside of the Kindergarten Unit will allow you to access TouchMath PLUS, the online portion of the Kindergarten materials. These materials include the same pages available in this Kindergarten Unit. They enable you to have computer fingertip access to all activities and Module Guides anytime, anywhere for planning and preparation.



Unit 1: Counting, Adding, and Subtracting Within 5

This unit is designed to build the foundation for understanding operations with numbers within 5. Since counting is the most basic skill, it is introduced in the first module. Counting to 100 in sequence and knowing the number names are basic to beginning formal math instruction. Just as students learn the alphabet, they also learn to count. The next step after counting is associating the numbers with quantities. *Touch2Learn TouchShapes* are included for introducing this concept at the concrete level. After that, the students learn to write the numbers (through 5), associate them with quantities, and match the two. This is followed by representing the quantities with pictures. Throughout the first four modules, the focus is on connecting counting to quantities and answering questions of how many are in a group. Matching and counting strategies are used to extend the learning to comparing groups of objects. The last two modules of the unit introduce putting together and taking apart groups of objects, again at the concrete level and then pictorial level. Students have a significant number of experiences building the concept of adding and subtracting with five.



Vocabulary for Unit 1:

Number Names

One
Two
Three
Four
Five

Number Concepts

After
Before
Compare
Equal
How many
Hundred grid
Less
More
Number line
Ones
Tens
TouchPoints

Number Operations

Add
Addition sign (+)
Altogether
Equal sign (=)
In all
Join together
Left
Minus
Plus
Subtract
Subtraction sign (-)
Take away

Geometry

Circle
Hexagon
Rectangle
Rhombus
Square
Triangle

Unit 2: Adding and Subtracting Within 9

This unit builds on the basic introduction in the previous unit. The same processes are used to build the numbers 6 through 9 in the first four modules, incorporating the writing and comparing of these numbers. In Module 5, the focus is on composing (building) and decomposing (breaking down) numbers, concepts which are essential to extending an understanding of our number system. They contribute to building strategies for adding and subtracting. TouchPoints also reinforce the relationship between quantities and numbers. The last module presents mixed adding and subtracting in word problems with pictures, and each example stresses the operation presented on the page. The concepts of putting together and taking apart are used to build success with adding and subtracting within 9 and to introduce a basic relationship between addition and subtraction.

Vocabulary for Unit 2:

All vocabulary words used in Unit I, as well as those listed below

Number Names

Six
Seven
Eight
Nine

Number Operations

Break apart
Compose
Decompose
Part
Take apart
Whole



Unit 3: Understanding Numbers 1–20

Unit III extends the learning of one-digit numbers to two-digit numbers up to 20. This unit introduces building 10, transferring the knowledge of composing and decomposing numbers presented in the previous unit. Writing and comparing numbers 10–20 also extend previous learning. Various models introduce place value so that students can associate different representations and identify those that are most meaningful to them. Applying their understanding of place value, students compose and decompose the numbers 11–20, concepts which are foundational to understanding regrouping in addition and subtraction. The unit ends with a mixed review of adding and subtracting in word problems. These extended experiences using simple pictures, limited vocabulary, cutting and pasting, placing a ring around identified quantities, and TouchPoints combine to reinforce adding and subtracting within 20.

Vocabulary for Unit 3:

All vocabulary words used in Units I and II, as well as those listed below

Number Names

Ten
Eleven
Twelve
Thirteen
Fourteen
Fifteen
Sixteen
Seventeen
Eighteen
Nineteen
Twenty

Number Operations

Addend
Build
Bundle
Math Fan



Unit 4: Measurement, Data, and Geometry

Unit IV extends the learning of one-digit numbers to two-digit numbers up to 20. This unit introduces building 10, transferring the knowledge of composing and decomposing numbers presented in the previous unit. Writing and comparing numbers 10–20 also extend previous learning. Various models introduce place value so that students can associate different representations and identify those that are most meaningful to them. Applying their understanding of place value, students compose and decompose the numbers 11–20, concepts which are foundational to understanding regrouping in addition and subtraction. The unit ends with a mixed review of adding and subtracting in word problems. These extended experiences using simple pictures, limited vocabulary, cutting and pasting, placing a ring around identified quantities, and TouchPoints combine to reinforce adding and subtracting within 20.

Vocabulary for Unit 4:

Measurement

Fewer
Heavy
Heavier
Heaviest
Large/Larger/Largest
Length
Less
Light/Lighter/Lightest
Long/Longer/Longest
Measure
Medium
More
Ruler
Short/Shorter/Shortest
Small/Smaller/Smallest
Tall/Taller/Tallest
Weight

Data

Category
Classify
Sort

Relative Position

Above
Below
Behind
Beside
In front of
Inside
Middle
Next to
Outside
Over
Under

Geometry

2-D shapes
3-D shapes
Build
Circle
Compose
Cone
Cube
Cylinder
Environment
Hexagon
Rectangle
Rhombus
Shape
Sphere
Square
Triangle



Four Units. 24 modules. One complete program.

► UNIT 1:

Counting, Adding, and Subtracting within 5

Module 1: Count by Ones and Tens to 100

Module 1 offers a variety of experiences with counting by ones as students count while tracing the numbers, finishing dot-to-dot pictures, and finding their way through mazes. Children will also get practice counting forward from a given number in a sequence and identifying numbers that do not belong in a sequence. The counting practice progresses to counting to 100 by tens. Module 1 provides a good foundation for the activities in the following modules. When this module has been successfully completed, students will be able to count to 100 by ones and tens and count forward from a given number in a sequence.

► *The goal is for children to count orally to 100. The activities included in this module are designed to support the oral reciting of numbers. If children are not ready for some of the experiences, use the pages as a visual cue in learning to count in sequence.*

Module 2: Representing Numbers Using Manipulatives

Module 2 extends the counting from Module 1 and provides hands-on experiences using the included TouchShapes or other classroom counters to represent a number of objects alongside a written number. Number lines are displayed at the top of the pages to reinforce the sequence of numbers. Consistent use of these number lines contributes to understanding that as the numbers increase, the quantities become larger. Frequent reviews are included to ensure comprehension. When students complete this module, they will be able to count a group of objects to answer how many and demonstrate the relationship between numbers and quantities.

Module 3: Writing and Comparing Numbers

Module 3 builds on the foundation that was started in Modules 1 and 2. Students continue using activities to associate groups of objects and numbers. These activities incorporate the use of pictures, moving gradually from manipulatives into more abstract representations. Practice writing the numbers is also emphasized. Visual cues are used to indicate where to start, the direction to go from the starting point, and how to form the number. Dotted lines for tracing are provided. Additionally, students begin to compare groups of objects and their numbers. When students complete this module, they will be able to consistently demonstrate associating, writing, and comparing numbers 1–5.

Module 4: Representing Numbers Using Pictures

Module 4 uses objects, picture TouchPoints, and TouchPoints on numbers to teach the connection between quantities and numerals. The use of TouchPoints in this module involves visual, auditory, and kinesthetic experiences. With TouchPoints, children learn that 2, for example, is not just a number; it represents a concept, a quantity. The activities included are scaffolded to move carefully from pictures to more abstract concepts, such as the numerals themselves. When children complete this module, they will be able to represent numbers using pictures and TouchPoints.

Module 5: Adding Using Manipulatives and Pictures

Module 5 incorporates the learning in the previous modules, especially multiple representations of *number*. The learning is scaffolded in that it shows the combining of groups of objects, the transfer of this concept to using TouchPoints, and the reinforcement of counting the quantities to find the total. The objective of the module is for students to see the quantities connected to the numbers in addition. This is accomplished by showing pictures apart from the numbers and on the numbers. When children complete this module, they will have had many experiences that contribute to their mastery of adding fluently within 5.

► *Since counting forward is the most basic math skill that children acquire, there is a high probability that they will count to add. If they do, have them count in the correct Touching/Counting Pattern learned in Module 4.*

Module 6: Subtracting Using Manipulatives and Pictures

Module 6 presents a basic introduction to the relationship between addition and subtraction. Laddering of the conceptual approach is further developed based on the activities used in Module 5. The emphasis is on taking away from the whole, transferring this concept to using TouchPoints on both the minuend and subtrahend to identify the quantity that remains, and reinforcing the counting of the quantities to find how many are left. This approach is an adaptation of the traditional TouchMath approach, which has been used to build the understanding of the concept of subtraction. The traditional approach incorporates backward counting, a skill difficult for kindergarteners. When children complete this module, they will have had many experiences that contribute to their mastery of subtracting fluently within 5.

► *An alternative subtraction approach is provided in TouchMath PLUS, which implements counting backward*

Module Descriptions

and includes TouchPoints only on the subtrahend. Children say the minuend and count backward the number of steps indicated by the TouchPoints on the subtrahend to find the difference. The pages mirror those included in the module. Select the approach that best fits the needs of your students.

► UNIT 2:

Adding and Subtracting within 9

Module 1: Writing and Comparing Numbers

Module 1 builds on the foundation that was started in Unit 1, Module 3, which taught writing and comparing of numbers 1–5. Students continue using activities to associate groups of objects and numbers. These activities incorporate the use of pictures, moving gradually from manipulatives into more abstract representations. Practice writing the numbers is also emphasized, and dotted lines for tracing are used to indicate how to form the number. When students complete this module, they will be able to consistently demonstrate associating, writing, and comparing numbers 6–9.

Module 2: Representing Numbers Using Manipulatives and Pictures

Module 2 builds on the foundation established in Unit 1, Module 4. It uses objects, picture TouchPoints, and TouchPoints on numbers to teach the connection between quantities and numbers. The activities included are scaffolded to move carefully from manipulatives to more abstract concepts, such as the numbers themselves. When students complete this module, they will be able to represent numbers 6–9 using manipulatives, pictures, and TouchPoints.

Module 3: Adding Using Manipulatives and Pictures

Module 3 incorporates the learning in the previous modules, especially multiple representations of number. The learning is scaffolded, guiding students through the combining of groups of objects, the transfer of this concept to using TouchPoints, and the reinforcement of counting the quantities to find the total. When students complete this module, they will have had many experiences that contribute to their mastery of adding fluently within 9.

Module 4: Subtracting Using Manipulatives and Pictures

Module 4 uses activities that incorporate the learning from previous modules. The models used here present a basic introduction to the relationship between addition and subtraction. Laddering of the conceptual approach is further developed, based on the activities in Unit I. The emphasis is on taking away from the whole, transferring this concept to using TouchPoints

on both the minuend and subtrahend to identify the quantity that remains. This use of objects in pictures is foundational to solving subtraction word problems. When students complete this module, they will have had many experiences that contribute to their mastery of subtracting fluently within 9.

► An alternative subtraction approach is provided in TouchMath PLUS, which implements counting backward and includes TouchPoints on only the subtrahend. Children say the minuend and count backward the number of steps indicated by the TouchPoints on the subtrahend to find the difference. The pages mirror those included in the module. Select the approach that fits the needs of your students.

Module 5: Composing and Decomposing Numbers

Module 5 focuses on composing and decomposing numbers. Composing numbers refers to combining them to build a larger number. For instance, the number 8 can be composed by putting together (adding) $4 + 4$, $5 + 3$, $6 + 2$, etc. Decomposing numbers refers to taking apart a number to make smaller numbers. Using the above example, the number 8 can be decomposed into groups of $4 + 4$, $5 + 3$, $6 + 2$, etc. Whole/part relationships are built throughout the process. Composing and decomposing numbers extend the understanding of a number system and contributes to strategies for accurate computation in addition and subtraction. When students complete this module, they will have had many experiences putting together and taking apart numbers that will lead to higher success in adding and subtracting numbers in Module 6.

Module 6: Adding and Subtracting

Module 6 provides a mixed review of adding and subtracting. The pages within the module alternate between addition and subtraction, emphasizing the recognition of the operation sign. Students color the sign to reinforce the operation that is being used on the page. The models used present a basic introduction to the relationship between addition and subtraction. The emphasis in addition is on combining groups, transferring this concept to TouchPoints, and reinforcing counting the quantities to find the total. The emphasis in subtraction is on taking away from the whole, transferring this concept to TouchPoints to identify the quantity that remains, and reinforcing the counting of the quantities to find how many are left. The use of objects in pictures is foundational to solving addition and subtraction word problems, and children are encouraged to use the pictures to create the word problem. When students complete this module, they will have had many experiences that contribute to their success in adding and subtracting fluently within 9.

Module Descriptions

► UNIT 3:

Understanding Numbers 1–20

Module 1: Composing, Decomposing, and Comparing 10

Module 1 focuses on composing, decomposing, and comparing 10, using the processes introduced in Unit II, Module 5 to combine smaller numbers to form 10 and break down 10 into smaller numbers. Whole/part relationships are again built throughout the activities provided since composing and decomposing numbers extend the understanding of a number system and contribute to strategies for accurate computation in addition and subtraction. Also in this module is a focus on 10 as the basis for our number system. The experiences in this module contribute to a recognition of place value, which will be introduced in Module 4, and establish the groundwork for understanding regrouping in addition and subtraction.

Module 2: Writing and Comparing 10–15

Module 2 focuses on writing and comparing the numbers 10–15, which includes associating quantities and numbers. It builds on the foundation that was started in Unit I, Module 3, which taught writing and comparing numbers 1–5, and in Unit II, Module 1, which extended this work through the number 9. Activities incorporate the use of pictures, moving gradually from counters into more abstract representations. Practice writing the numbers is also emphasized, using dotted lines for tracing that indicate how to form each number. When students complete this module, they will be able to consistently demonstrate associating, writing, and comparing numbers 10–15.

Module 3: Writing and Comparing 16–20

Module 3 focuses on writing and comparing the numbers 16–20 and further develops the work begun in the previous module. Students continue using activities to associate groups of objects and numbers, moving gradually from counters to more abstract pictorial representations. Practice writing the numbers is also emphasized, incorporating dotted lines for tracing that indicate how to form each number. When students complete this module, they will be able to consistently demonstrate associating, writing, and comparing numbers 16–20.

Module 4: Place Value 10–20

Module 4 focuses on place value 10–20. Place value models incorporate straws in a bundle, *Touch2Learn Math Fans*, sticks in a cup, beads on a string, gumballs, and linking cubes to demonstrate how the numbers 10–20 are composed of a group of 10 and individual ones. The variety of representations allows students

to choose what works best for them if they gain more understanding from one of the models than from the others. The lessons included in this module progress from encouraging students to count each item in the bundle of 10 to a more condensed representation with the number 10 written on the bundle. Number sentences are included on each page so students begin to associate the place value model with written numbers.

Module 5: Composing and Decomposing 11–20

Module 5 focuses on composing and decomposing 11–20, using the same processes introduced in Unit II, Module 5 and strengthened in Unit III, Module 1. The activities extend the learning on place value from the previous module to emphasize the whole/part relationship of numbers. Composing and decomposing numbers contribute to a student's understanding of a number system and establish the groundwork for regrouping in addition and subtraction. When students complete this module, they will be able to compose and decompose numbers 11–20 using several different combinations.

Module 6: Adding and Subtracting in Word Problems

Module 6 focuses on mixing addition and subtraction word problems. The included activities reinforce the learning of the previous modules, especially adding and subtracting using pictures. Each page presents a simple word problem using **how many**, **in all**, and **are left**, as well as a picture representing the problem. Initially, students cut and paste objects to model the operations, and then they progress to ringing the pictures to demonstrate the addition and subtraction. TouchPoint numbers are written inside circles on each page to record the parts and the whole in a number sentence. When students complete this module, they will have had many experiences that contribute to their mastery of adding and subtracting fluently within 10.

► UNIT 4:

Measurement, Data, and Geometry

Module 1: Describing and Comparing Objects by Length and Weight

Module 1 focuses on describing objects by length using measurable attributes, such as counting spots on a giraffe or marks on a monkey's tail. Students compare the lengths of objects, using *more* or *less* to describe the differences. The concept of measuring length using a ruler is introduced, with the students using a ruler they cut out to describe the length of an object by counting how many marks long it is. The concept of objects sinking and floating is used to help the students describe the weight of objects. They decide whether objects sink

Module Descriptions

or float to determine if they are light or heavy, or to decide which object is heavier or lighter than the other. When children complete this module, they will be able to consistently describe objects by length and weight and compare objects using these same measurable attributes.

Module 2: Sorting and Classifying Objects by Length and Weight

Module 2 incorporates and extends the learning in the previous module. Children classify objects by length using measurable attributes, such as stripes on straws, beads on strings, or the number of things that fit on an object (e.g., a tree branch or a shelf). They compare the lengths of objects, identifying them as long, medium, or short, and count to determine how many objects are sorted into each category. Students also classify objects by weight and determine if they are light, heavy, or in between (medium). This is introduced through such real world items as common fruits, vehicles, and classroom objects. When children complete this module, they will be able to consistently describe objects by length and weight and compare objects using these same attributes.

Module 3: Interpreting Data

Module 3 extends the learning from Module 2. Students classify shapes using manipulatives, identifying such attributes as size and number of sides to sort and find how many are in each category or group. These concepts of classifying and sorting objects are then extended by using pictures of objects. When children complete this module, they will be able to consistently describe objects by their attributes and sort and count to find how many are in each category.

Module 4: Describing Shapes in the Environment

Module 4 features six 2-D shapes (circle, triangle, square, rectangle, rhombus, and cylinder) and four 3-D shapes (sphere, cone, cube, and cylinder). Activities use music, movement, arts and crafts, and games to make learning engaging and fun. The pages offer students ample practice naming, describing, and recognizing the shapes, plus opportunities to find them in the everyday world. Students also learn how to describe the positions of objects using words such as above or below, inside or outside, over or under, and middle. When the children finish this module, they will be able to identify shapes and talk about positions of objects in their environment.

Module 5: Mastering 2-D Shapes

Module 5 features the circle, triangle, square, and rectangle. Students have ample practice naming, describing, and recognizing them. They recognize and identify the shapes in their world and learn how to compose larger shapes using smaller shapes. Activities move from TouchShapes manipulatives to paper models. When the children finish this module, they will be able to identify shapes and define them based on composition, distinguishing between defining and non-defining attributes.

Module 6: Mastering 3-D Shapes

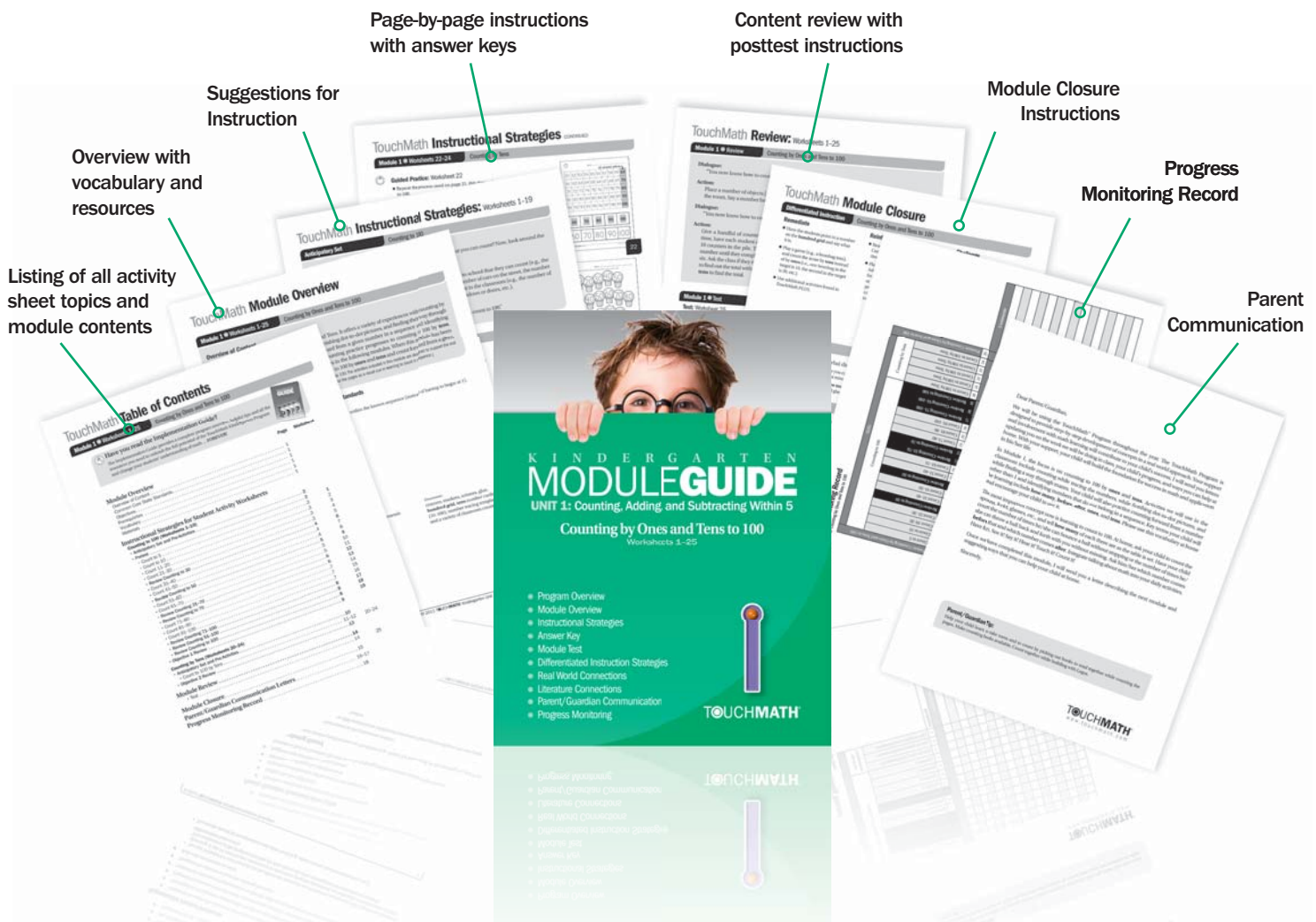
Module 6 features the sphere, cube, cone, and cylinder, including a three-page presentation of each. The first page for each shape provides a paper model (net) that the teacher can cut out and fold to help students identify the attributes of the corresponding 3-D shape. The second page in each shape's set provides opportunities for the students to distinguish the specified shape from other 3-D shapes, using shading to create the 3-D effect. The third page of each set offers practice matching sizes of the 3-D shape. Review pages have students find the 3-D shapes in the everyday world. When the children finish this module, they will be able to identify 3-D shapes and identify these objects in their environment.

How to Use the Module Guides

A look at the module guide.

Each Kindergarten unit has six modules, and each module includes a Module Guide. These six guides are the components that coordinate the lessons. The Module Guide in the first module contains a complete overview of the entire unit. Each of the other Module Guides summarizes the content for that module, provides Instructional Strategies paired with the student activity worksheets (including answer keys), contains the Parent/Guardian Communication Letters, and includes a Progress Monitoring Record. These essential Module Guides are organized for quick reference and easy use in a busy classroom. They contain the following:

- An overview that provides the scope of content
- Correlation of the Kindergarten Common Core State Standards to the content
- Objectives that define a focus for the skills presented
- Prerequisites that identify experiences needed prior to the lessons
- Vocabulary that emphasizes teacher language to be used in concept building
- Materials that will be necessary for the lessons
- Instructional Strategies matched with student activity sheets
- Tests as formative assessment tools
- Parent/Guardian Communication letters and suggestions for parents/guardians
- A Progress Monitoring Record to track student progress and to plan differentiated instruction



Instructional Strategies

Support right at your fingertips.

Each Module Guide includes Instructional Strategies to be used with the student activity worksheets. These are designed to provide suggestions for the teacher to help implement the TouchMath Program. The strategies are based on a modified direct instruction model, featuring effective principles of teaching and learning. Meaningful repetition incorporates a variety of approaches to ensure multiple experiences for the learners. Suggested directions for pages with apple and pencil icons are included in the Instructional Strategies instead of being printed directly on the corresponding student activity worksheets. This eliminates interference by words that most students cannot read and makes it easy for the teacher to modify the directions. However, simple directions are included on the take-home pages. Comments for the teacher (not necessarily to be shared with the students) are indicated with brackets in the Instructional Strategies. As frequently as possible, lesson presentations relate math to the child's world and are cross-curricular, using a variety of classroom settings (e.g., circle time and center activities) for practical use in a kindergarten classroom.

- **Anticipatory Sets**—activities to engage students in the lesson and show them the focus of the skills being presented
- **Suggested Pre-Activities**—concrete, hands-on suggestions that establish a foundation for the activity sheets
- **Review and Closure**—a capsule of the learning and restatement of the skill
- **Real World Connections**—application of the skills in the learners' world
- **Literature Connections**—sample books that are relevant to the skill taught
- **Remediate, Reinforce, and Challenge**—differentiation activities that provide for individual student needs
- **Test Directions**—modifiable script for test administration

Special symbols used on the Activity Sheets:



Guided Practice

Suggested directions for and implementation of the activity sheets, to be monitored by the teacher in a whole-class setting or by a paraprofessional or parent volunteer in a small group



Independent Practice

Pages for student application of the skill with little supervision



Take Home

Pages for reinforcement of the skill at home

Special symbols used in the Module Guides:



Stop Signs

Visual reminders not to proceed past a review page unless students demonstrate learning of the skill



Did You Know?

Interesting facts related to the pictures



Draw, Write, Share

Opportunities for students to apply the learning and share it with a partner

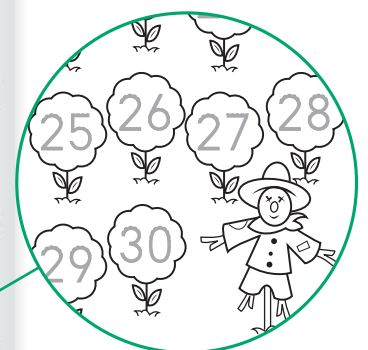
Anticipatory sets help introduce students to lesson concepts.

Pre-activity ideas help maximize students' learning potential and readiness.

Pretests and posttests serve to gauge student understanding of concepts.



Strategies for each activity sheet are displayed on the page.



Activity sheet thumbnails with answer keys.

Reproducible Activity Sheets

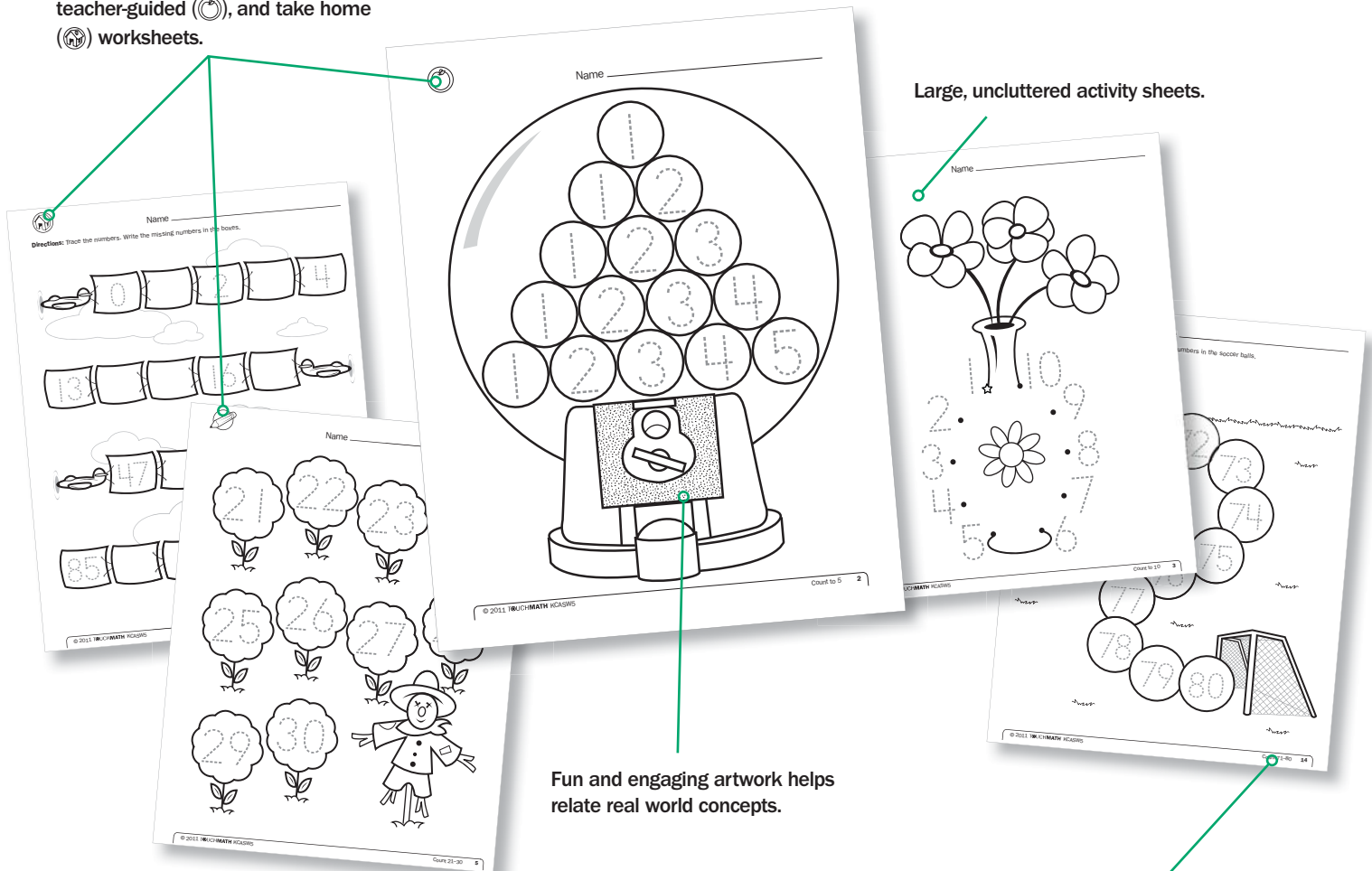
Build a foundation of key concepts.

Each unit in the TouchMath Kindergarten Program contains 150 reproducible student activity sheets, which are organized by skill into six modules of 25 easy-to-use worksheets each. These pages are aligned with the Common Core State Standards and are designed to prepare children for the skills that they will need to complete kindergarten. All skills are transparent and are organized from the concrete to the abstract—from simple to more complex.

The icon in the upper left corner of each activity sheet identifies the intended use. An apple icon (🍏) emphasizes that the page is to be done with the guidance and support of the teacher. A pencil icon (✎) indicates that some students may be able to complete the page independently, with simple directions and limited support of the teacher. The house icon (🏠) references a page that can be taken home for student reinforcement of the skills being taught. Answer keys to all worksheets can be found in the appropriate Module Guide alongside the Instructional Strategies.

The worksheets are designed to incorporate classroom counters as well as the manipulatives provided in each unit. They feature opportunities to discuss and build mathematical language naturally. The clean, uncluttered pages also allow students the necessary space to develop tactile skills as they master new concepts. As children *see, say, hear,* and *touch* while they practice math, they learn and remember.

Icons denote individual practice (✎), teacher-guided (🍏), and take home (🏠) worksheets.



Large, uncluttered activity sheets.

Fun and engaging artwork helps relate real world concepts.

Activity sheet footers list skill or topic covered on page.

Literature Connections included in the Kindergarten Module Guides.

UNIT I

Aker, Suzanne, and Bernie Karlin. *What Comes in 2's, 3's, & 4's?* New York: Simon & Schuster Books for Young Readers, 1990.

Aruego, Jose, and Ariane Dewey. *Five Little Ducks*. New York: Crown, 1989.

Bader, Bonnie, and Bryan Hendrix. *100 Monsters in My School*. New York: Grosset & Dunlap, 2002.

Brown, Margaret Wise, and Christopher Raschka. *Another Important Book*. New York: HarperCollins, 1999.

Bryant, Megan E., Monique Z. Stephens, and Liz Conrad. *Apples Add Up!* New York: Grosset & Dunlap, 2003.

Carle, Eric. *Rooster's Off to See the World*. New York: Simon & Schuster, 1991.

Christelow, Eileen. *Five Little Monkeys Jumping on the Bed*. New York: Clarion Books, 1989.

deRubertis, Barbara, and Rebecca McKillip Thornburgh. *Count on Pablo*. New York: Kane Press, 1999.

Gallup, Joan. *Silly 123s*. Philadelphia: Courage Books, 2002.

Hoban, Tana, and Robert L. Egolf. *Count and See*. New York: Macmillan, 1972.

McGrath, Barbara Barbieri, Rob Bolster, and Frank Mazzola. *The Cheerios Counting Book*. New York: Scholastic, 1998.

Murphy, Stuart J., and Frank Remkiewicz. *Just Enough Carrots*. New York: HarperCollins, 1997.

Murphy, Stuart J., and Michael Rex. *Jack the Builder*. New York: HarperCollins, 2006.

Nilsen, Anna, and Mandy Stanley. *I Can Add*. New York: Kingfisher, 2000.

Nilsen, Anna, and Mandy Stanley. *I Can Subtract*. New York: Kingfisher, 2000.

Pallotta, Jerry, and Ralph Masiello. *The Icky Bug Counting Book*. Watertown, MA: Charlesbridge, 1992.

Pinczes, Elinor, and Bonnie Mackain. *One Hundred Hungry Ants*. New York: Houghton Mifflin, 2000.

Pomeroy, Diana. *One Potato: A Counting Book of Potato Prints*. San Diego: Harcourt Brace, 1996.

Rey, H. A., and Anna Grossnickle Hines. *Curious George Learns to Count from 1 to 100*. Boston: Houghton Mifflin, 2005.

Sloat, Teri. *From One to One Hundred*. New York: Dutton Children's Books, 1991.

Wier, Alison, and Judith Moffatt. *The Sun-Maid Raisins Play Book*. New York: Simon & Schuster, 2000.

UNIT II

Arnold, Caroline. *Who Has More? Who Has Fewer?* Watertown, MA: Charlesbridge, 2004.

Baker, Keith. *Quack and Count*. San Diego: Harcourt Brace, 1999.

Dahl, Michael, and Todd Ouren. *One Big Building: A Counting Book about Construction*. Minneapolis: Picture Window Books, 2004.

Gerth, Melanie, and Laura Beith. *Ten Little Ladybugs*. Santa Monica: Piggy Toes Press, 2000.

Grossman, Bill, and Kevin Hawkes. *My Little Sister Ate One Hare*. New York: Crown, 1996.

Harvey, Jayne, and Tamara Petrosino. *Cat Show*. New York: Grosset & Dunlap, 2003.

Hutchins, Pat. *I hunter*. New York: Greenwillow, 1982.

McCourt, Lisa, and Brad Tuckman. *Candy Counting: Delicious Ways to Add and Subtract*. Mahwah, NJ: Bridgewater, 1999.

McGrath, Barbara Barbieri. *The M&M's Subtraction Book*. New York: Scholastic, 2006.

Merriam, Eve, and Bernie Karlin. *12 Ways to Get to 11*. New York: Simon & Schuster Books for Young Readers, 1993.

Moss, Lloyd. *Zin! Zin! Zin!: A Violin*. New York: Simon & Schuster Books for Young Readers, 2000.

Murphy, Stuart J., and G. Brian Karas. *Elevator Magic*. New York: HarperCollins, 1997.

Murphy, Stuart J., and R. W. Alley. *Animals on Board*. New York: HarperCollins, 1998.

Murphy, Stuart J., and Scott Nash. *Monster Musical Chairs*. New York: HarperCollins, 2000.

Nilsen, Anna, and Mandy Stanley. *I Can Add*. New York: Kingfisher, 2000.

Runnells, Treesha, and Sarah Dillard. *Ten Wishing Stars: A Countdown to Bedtime Book*. Santa Monica: Piggy Toes Press, 2003.

Samton, Sheila White. *Moon to Sun*. Honesdale, PA: Caroline House, 1991.

Sendak, Maurice. *One Was Johnny: A Counting Book*. New York: HarperCollins, 1962.

Sheppard, Jeff, and Felicia Bond. *The Right Number of Elephants*. New York: Harper & Row, 1990.

Sierra, Judy, and Will Hillenbrand. *Counting Crocodiles*. San Diego: Harcourt Brace, 1997.

Stickland, Paul. *Ten Terrible Dinosaurs*. New York: Dutton Children's Books, 1997.

Swinburne, Stephen R. *What's a Pair? What's a Dozen?* Honesdale, PA: Boyds Mill Press, 2000.

Ultimate Fact Family Flash Cards: Addition and Subtraction. Greensboro: Frank Shaffer Publications, 2007.

Walsh, Ellen Stoll. *Mouse Count.* San Diego: Harcourt Brace Jovanovich, 1991.

UNIT III

Beaton, Clare. *One Moose, Twenty Mice.* New York: Barefoot Books, 1999.

Bonder, Dianna. *Eleven Lazy Llamas.* North Vancouver: Walrus Books, 2004.

Bruchac, Joseph. *Thirteen Moons on Turtle's Back: A Native American Year of Moon.* London: Puffin, 1997.

Cristaldi, Kathryn, and Hank Morehouse. *Even Steven and Odd Todd.* New York: Scholastic, 1996.

Fry, Jenny, and Jacqueline East. *Building Numbers: Learn Addition and Subtraction with These Giant Construction Machines.* Hauppauge, NY: Barron's, 2002.

Hall, Kirsten, and Bev Luedecke. *Birthday Beastie: All about Counting.* New York: Children's Press, 2003.

Hoban, Tana. *More, Fewer, Less.* New York: Greenwillow, 1998.

Hooked on Math Addition and Subtraction 1st Grade. Danbury, CT: Hooked on Phonics, 2006.

McGrath, Barbara Barbieri, and Brian Shaw. *The Baseball Counting Book.* Watertown, MA: Charlesbridge, 1999.

McGrath, Barbara Barbieri, Peter Alderman, and Pau Estrada. *Soccer Counts!* Watertown, MA: Charlesbridge, 2003.

Merriam, Eve, and Bernie Karlin. *12 Ways to Get to 11.* New York: Simon & Schuster Books for Young Readers, 1993.

Murphy, Patricia J. *Adding Puppies and Kittens.* Library ed. Berkeley Heights, NJ: Enslow Elementary, 2008.

Murphy, Stuart J., and David Wenzel. *More or Less.* New York: HarperCollins, 2005.

Murphy, Stuart J., and Jon Buller. *Ready, Set, Hop!* New York: HarperCollins, 1996.

Murphy, Stuart J., and Renée Andriani. *Earth Day-Hooray!* New York: HarperCollins, 2004.

Pallotta, Jerry, and Ralph Masiello. *The Icky Bug Counting Book.* Watertown, MA: Charlesbridge, 1992.

Rose, Deborah Lee, and Carey Ellis. *The Twelve Days of Kindergarten: A Counting Book.* New York: H.N. Abrams, 2003.

Slobodkina, Esphyr. *Caps for Sale.* New York: HarperCollins, 1987.

Tang, Greg, and Heather Cahoon. *Math Fables: Lessons That Count.* New York: Scholastic, 2004.

Tang, Greg, and Taia Morley. *Math Fables Too: Making Science Count.* New York: Scholastic, 2007.

Wells, Rosemary, and Michael Koelsch. *Adding It Up.* New York: Viking, 2001.

Yektai, Niki. *Bears at the Beach: Counting 10 to 20.* Brookfield, CT: Millbrook, 1996.

UNIT IV

Allen, Pamela. *Who Sank the Boat?* New York: Coward-McCann, 1983.

Bryant, Megan E., and Sami Sweeten. *Shape Spotters.* New York: Grosset & Dunlap, 2002.

Burns, Marilyn, and Gordon Silveria. *The Greedy Triangle.* New York: Scholastic, 1994.

Dodds, Dayle Ann, and Julie Lacombe. *The Shape of Things.* Cambridge, MA: Candlewick, 1994.

Dussling, Jennifer A. *The 100-Pound Problem.* New York: Kane Press, 2000.

Falwell, Cathryn. *Shape Space.* New York: Clarion Books, 1992.

Freese, Joan. *Tables and Graphs of Healthy Things.* North American ed. Milwaukee: Weekly Reader Early Learning Library, 2008.

Friedman, Mel, Ellen Weiss, and Lynn Adams. *Kitten Castle.* New York: Kane Press, 2001.

Greene, Rhonda Gowler, and James Kaczman. *When a Line Bends. . . A Shape Begins.* Boston: Houghton Mifflin, 1997.

Hightower, Susan, and Matt Novak. *Twelve Snails to One Lizard: A Tale of Mischief and Measurement.* New York: Simon & Schuster Books for Young Readers, 1997.

Hoban, Tana. *Cubes, Cones, Cylinders & Spheres.* New York: Greenwillow, 2000.

Hoban, Tana. *Shapes, Shapes, Shapes.* New York: Greenwillow, 1986.

Jenkins, Steve. *Actual Size.* Boston: Houghton Mifflin, 2004.

Jenkins, Steve. *Biggest, Strongest, Fastest.* New York: Ticknor & Fields Books for Young Readers, 1995.

MacCarone, Grace, and Anne Kennedy. *The Silly Story of Goldie Locks and the Three Squares.* New York: Scholastic, 1996.

Micklethwait, Lucy. *I Spy Shapes in Art.* New York: Greenwillow, 2004.

Murphy, Stuart J., and Cynthia Jabar. *Tally O'Malley.* New York: HarperCollins, 2004.

Murphy, Stuart J., and Julia Gorton. *Super Sand Castle Saturday.* New York: HarperCollins, 1999.

Murphy, Stuart J., and Rémy Simard. *Captain Invincible and the Space Shapes.* New York: HarperCollins, 2001.

Murphy, Stuart J., and Tricia Tusa. *Lemonade for Sale.* New York: HarperCollins, 1998.

Neuschwander, Cindy, and Bryan Langdo. *Mummy Math: An Adventure in Geometry.* New York: Henry Holt, 2005.

Osofsky, Jill. *Making Graphs.* Grand Rapids: Ideal School Supply, 2000.

Pluckrose, Henry. *Length.* Chicago: Childrens Press, 1995.

Pluckrose, Henry. *Weight.* Chicago: Childrens Press, 1995.

Parent/Guardian Communication

Connect school to home.

The TouchMath Kindergarten Program contains 28 Parent/Guardian Communication Letters. The first module of each unit has two letters: (1) an introductory letter to be sent out at the beginning of the module to inform parents that TouchMath will be used with students during the school year and (2) a letter to be sent out at the end of the module informing parents/guardians that their child has completed the necessary requirements to move on to the skill set in the next module. Modules 2, 3, 4, 5, and 6 each have one letter at the end of the module to keep parents/guardians informed of their child's progress. The letters are designed to be printed on school letterhead and signed by the teacher. Spanish versions are available online at *TouchMath PLUS*.

All letters define the skill focus, describe activities that will be used in the classroom, identify vocabulary that will be used in the classroom, provide a statement of proficiency, suggest ways parents can help at home, and offer a Parent/Guardian Tip with ideas for helping parents/guardians structure activities.

Letters are formatted to copy or print on your school's letterhead.



Dear Parent/Guardian,

We will be using the TouchMath™ Program throughout the year. The TouchMath Program is designed to provide step-by-step development of concepts in a real world approach. Your support and involvement with math learning will contribute to your child's success. I will send you letters updating you on the work we will be doing in class, your child's progress, and ways you can help at home. With your support, your child will build the foundation for success in math and application in his/her life.

In Module 1, the focus is on counting to 100 by **ones** and **tens**. Activities we will use in the classroom include counting while tracing the numbers, while finishing dot-to-dot pictures, and while finding a way through mazes. Your child will also practice counting forward from a number other than 1 and identifying numbers that do not belong in a sequence. Key terms your child will be learning include **how many**, **before**, **after**, **ones**, and **tens**. Please use this vocabulary at home and encourage your child to use it.

The most important concept now is learning to count to 100. At home, ask your child to count the number of times he/she can bounce a ball without stopping or the number of times she can throw a ball back and forth with you without missing. Ask him/her which number comes **before** that and which number comes **after**. Integrate talking about math into your daily activities. Have fun. See it! Say it! Hear it! Touch it! Count it!

Once we have completed this module, I will send you a letter describing the next module and suggesting ways that you can help your child at home.

Sincerely,

Parent/Guardian Tip:
Help your child learn to take turns and to count by picking out books to read together while counting the pages. Make counting books available. Count together while building with Legos.

Area for your signature.

Dear Parent/Guardian,

We will be using the TouchMath™ Program throughout the year. The TouchMath Program is designed to provide step-by-step development of concepts in a real world approach. Your support and involvement with math learning will contribute to your child's success. I will send you letters updating you on the work we will be doing in class, your child's progress, and ways you can help at home. With your support, your child will build the foundation for success in math and application in his/her life.

In Module 1, the focus is on counting to 100 by **ones** and **tens**. Activities we will use in the classroom include counting while tracing the numbers, while finishing dot-to-dot pictures, and while finding a way through mazes. Your child will also practice counting forward from a number other than 1 and identifying numbers that do not belong in a sequence. Key terms your child will be learning include **how many**, **before**, **after**, **ones**, and **tens**. Please use this vocabulary at home and encourage your child to use it.

The most important concept now is learning to count to 100. At home, ask your child to count the number of times he/she can bounce a ball without stopping or the number of times he/she can throw a ball back and forth with you without missing. Ask him/her which number comes **before** that and which number comes **after**. Integrate talking about math into your daily activities. Have fun. See it! Say it! Hear it! Touch it! Count it!

Once we have completed this module, I will send you a letter describing the next module and suggesting ways that you can help your child at home.

Sincerely,

Parent/Guardian Tip:
Help your child learn to take turns and to count by picking out books to read together while counting the pages. Make counting books available. Count together while building with Legos.

Parent/Guardian Tip provides suggestions for at-home continued learning.

TOUCHMATH™
www.touchmath.com

Review. Assess. Record.

Regular assessment of specific skills is essential to ensure student success. At the kindergarten level, formal assessments must be combined with ongoing classroom teacher observations and should measure what has been taught. These assessments should occur upon completion of work on particular skill, and the results should be used for reteaching and remediation.

Each module includes a pretest and a posttest, which are to be used for student placement and an indication of skill proficiency. They may also be used as a tool to direct future planning by enhancing data-driven decision making and identifying needs for differentiated instruction.

A Progress Monitoring Record is also included in each Module Guide. The top of the sheet identifies each skill and the page on which it is taught in the module, and space is provided for teacher notations. Teachers may use any appropriate record keeping method they wish (e.g., check marks, different colors for completed or needs help, letter grades, etc.). When used effectively, these monitoring records provide an ongoing snapshot of each student's progress and are very helpful for conferences with the parent/guardian.

Topics for each activity sheet are detailed for easy reference and progress monitoring.

Skills for each module are clearly defined.

TouchMath **Progress Monitoring Record**
Kindergarten Unit 1, Module 1 Counting by Ones and Tens to 100

Activity Sheets	Skills																								Comments	
	Counting to 100												Counting by Tens													
1	Pretest: Counting by Ones and Tens to 100	Count to 5	Count to 10	Count 10-20	Count 21-30	Review: Counting to 30	Count 31-40	Count 41-50	Review: Counting to 50	Count 51-60	Count 61-70	Review: Counting 31-70	Review: Counting to 70	Count 71-80	Count 81-90	Count 91-100	Review: Counting 71-100	Review: Counting 51-100	Review: Counting to 100	Count to 100 by Tens	Count to 100 by Tens	Count to 100 by Tens	Count to 100 by Tens	Count to 100 by Tens	Posttest: Counting by Ones and Tens to 100	
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3																										
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Room to record individual student names, track lesson completion, and make notes on progress.

Access your Kindergarten Unit from anywhere ... plus a whole lot more!

Every Kindergarten comes complete with a 1-year subscription to the online lesson management tool, *TouchMath PLUS*. Your subscription gives you exclusive access to ALL of the printed material contained in this unit. The user-friendly interface allows you to print the student worksheets you need, when you need them — an excellent tool for lesson planning on the go. By taking advantage of your free subscription to *TouchMath PLUS*, you can:

- Organize classroom clutter and plan lessons on the go based on individual student need
- Keep track of student progress with testing and recording pages, reteach when necessary, and be prepared for parent/teacher conferences
- Create folders to plan lessons by time frame (daily, weekly, monthly class lessons), topic, or individual student
- Save time by finding what you need, when you need it
- Reduce stress by letting *TouchMath PLUS* do the heavy lifting, helping you create and manage only what is relevant for your students
- More than 50 extension pages per unit, organized by module, which can be used for remediation or reinforcement in the classroom. (These are not suitable for home use because no directions are printed on the worksheets themselves.)

To access/activate your subscription:

1. Go directly to www.touchmathplus.com or visit www.touchmath.com and click the *TouchMath PLUS* icon on the homepage. If you are not logged in to your online TouchMath account, you will be prompted to do so; if you do not already have an online account with TouchMath, you will first need to register.
2. When registered/logged in, click on the Register License button. If you have already activated your license code(s), proceed to step 4. If this is your first time accessing *TouchMath PLUS*, continue to step 3.
3. Before accessing *TouchMath PLUS* for the first time, you will be prompted to enter your activation license code(s). This is the 20-character sequence of letters seen on the outside of the unit packaging, under the bar code. NOTE: You will need to activate each unit license number before gaining access to the workmats contained in that unit.
4. You can now click the *TouchMath PLUS* link and begin sorting, customizing, and printing your lessons!
5. Bookmark the page, or return to www.touchmathplus.com or www.touchmath.com, to access your account in the future.



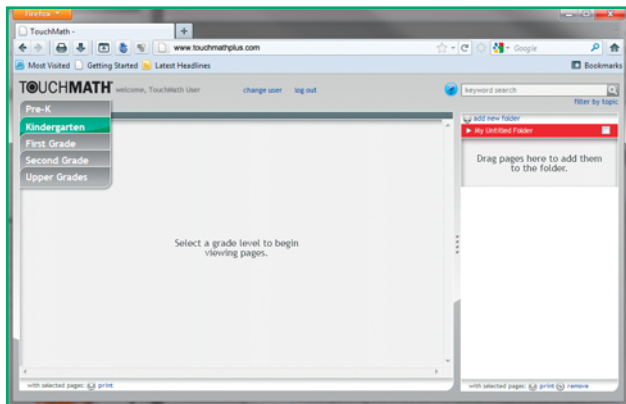
Online Digital Activation
Kindergarten 2011 Unit 01



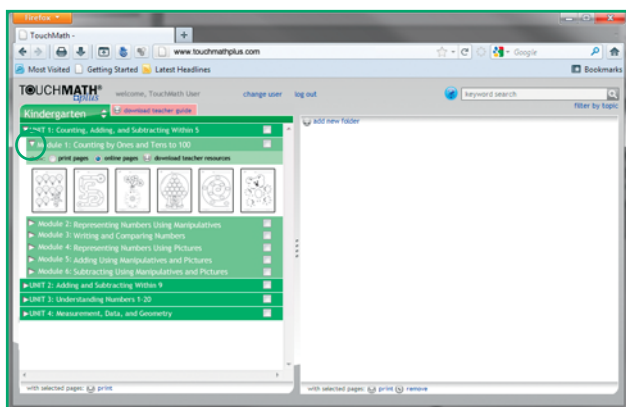
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The code included on the outside of the Kindergarten Unit box will allow you to access *TouchMath PLUS*, the online portion of the Kindergarten materials.

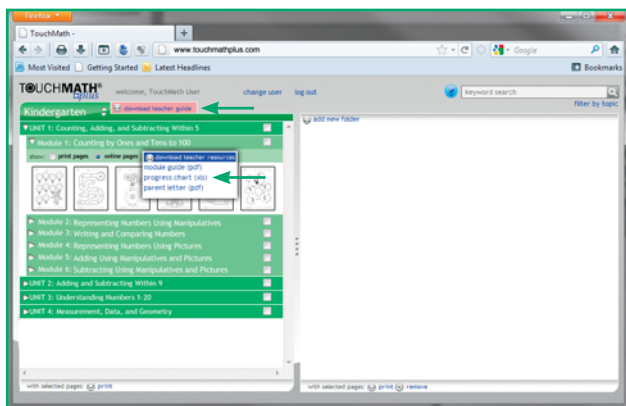
TouchMath PLUS visual quickstart guide.



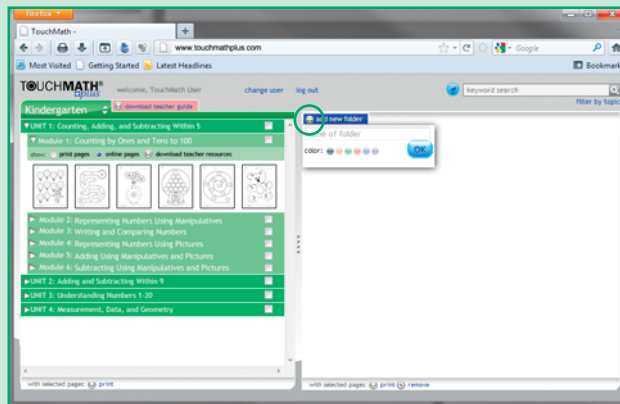
Select your desired grade level from the menu in the upper-left corner. You may view all grade level content, but only access that to which you have an active subscription.



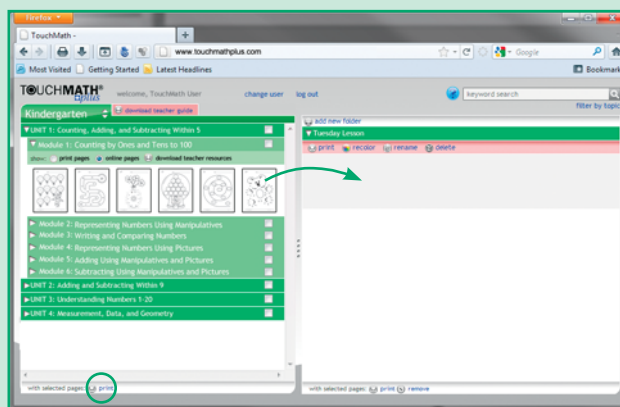
At the grade level screen, you'll be presented with organized view of content. The structure of the Kindergarten online material mirrors that of the physical Kindergarten Unit. Clicking on the triangle on any bar reveals or hides the content within that category.



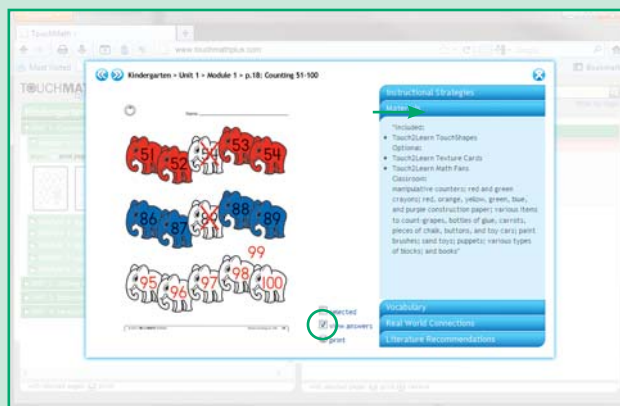
Digital versions of the Module Guides, progress charts, and Parent Communication Letters are available by clicking on the 'download teacher resources' link atop each module.



Click on the 'add new folder' button to create a new folder for lesson planning purposes. Folders can be named as desired, and color coded for organizational purposes.



Click on any activity sheet thumbnail and click the 'print' button at the bottom of the content screen to send the activity sheet to your printer. Click and drag the thumbnail to the right and place it in your custom created folder for later organization and output.



Double-click any thumbnail to reveal all information pertinent to that individual activity sheet including Instructional Strategies, Vocabulary, and Real World Connections, and answer key.

Connect with TouchMath online!

Visit TouchMath.com

By visiting our Web site, www.TouchMath.com, you can quickly and easily learn more about TouchMath and our family of classroom programs. Find detailed descriptions and free sample pages of all grade-level programs, learn how and why TouchMath is effective, browse research papers and testimonials validating the program's effectiveness, watch instructional videos, and more.



Social Media

TouchMath has also embraced social media as a way to keep you informed. There are plenty of ways to stay up to speed with the latest and greatest, and receive valuable information that will help you and your students succeed in the classroom!

- Receive special offers and exclusive discounts
- Have access to free downloadable worksheets
- Get the latest news and information on programs and products
- Have the ability to ask questions of fellow educators and TouchMath experts
- Share and receive best practices, teaching strategies, and program adaptations
- View instructional videos and testimonials
- See what your peers are saying about TouchMath



Always Online. **Always TouchMath.**



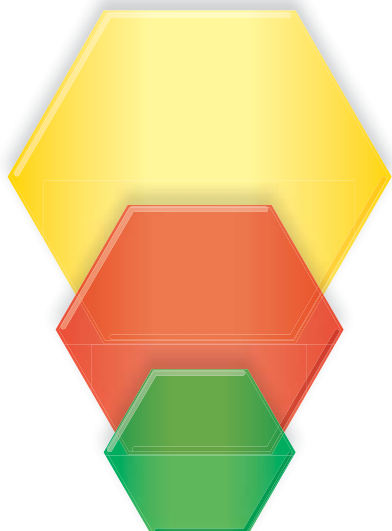
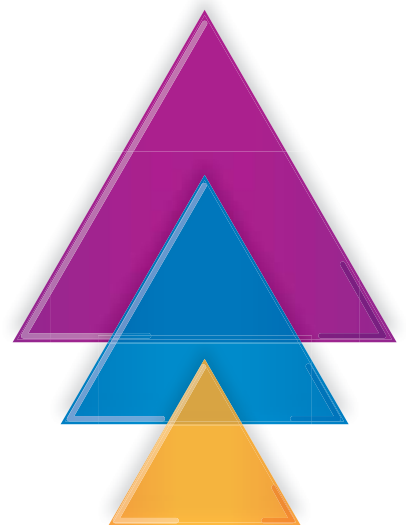
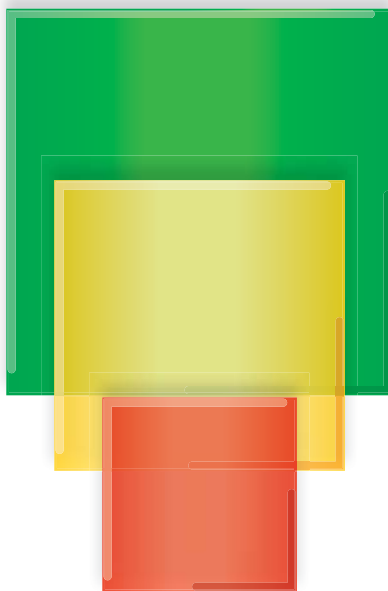
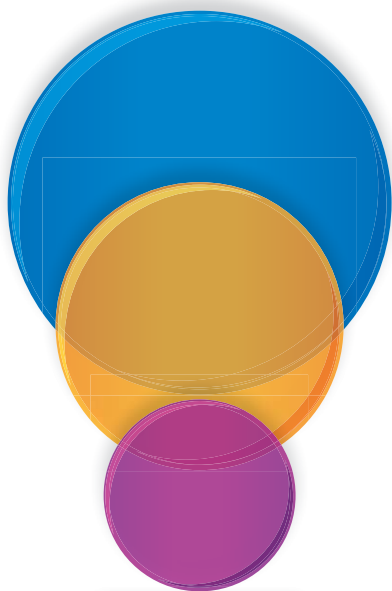
Become a TouchMath Champion

You can also take advantage of the benefits offered through the TouchMath Champions social networking site — sign up today at www.touchmathchampions.com for FREE classroom resources, and to share and receive best practices with your peers!

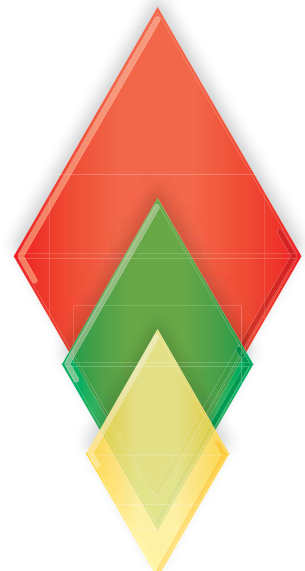
TouchShapes add to the learning fun.

Learning is expedited and recall is enhanced when students involve as many senses as possible in the learning process. The younger and less experienced the learner, the greater the need for them to be involved in experiential learning; they need to see, say, hear, and touch in order to master concepts. To build a firm foundation for students at the kindergarten stage of learning, the TouchMath Program offers a range of manipulatives and classroom aids.

Each unit in the *TouchMath Kindergarten Program* includes a complete set of *Touch2Learn TouchShapes* designed to be used in conjunction with many of the reproducible worksheets or separately with other lessons. Each set contains 108 transparent geometric shapes, including circles, triangles, squares, rectangles, rhombuses, and hexagons, for a total of six shapes. Each shape comes in three sizes (small, medium, and large) and six colors (red, blue, yellow, green, orange, and purple). Many of the worksheets use exact pictorial representations of TouchShapes to allow students to place the manipulatives directly on the problems. TouchShapes are proportional in size so that many of the smaller shapes may be used to build larger ones. The built-in versatility also makes them easy to use for counting, one-to-one correspondence, sorting, classifying, and patterning. Since TouchShapes are transparent, they may also be used for demonstrations on an overhead projector.



Touch2Learn TouchShapes includes six unique shapes, each shape comes in three different sizes and six different colors. Shapes shown on this page are represented actual size.



Optional Teaching Aids

Additional tools for the classroom.

Also available but not included are classroom posters and other TouchMath manipulatives mentioned in the Module Guides. These TouchMath products are available individually or in the Kindergarten Collection.

The TouchMath Kindergarten Program also uses an assortment of manipulatives typically found in kindergarten classrooms. These include (but are not limited to) the following examples: various counters, attribute objects, counting discs, linking cubes, sand toys, stuffed animals, blocks, puppets, etc.



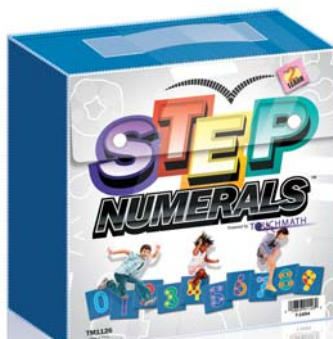
Student Number Cards
TM285



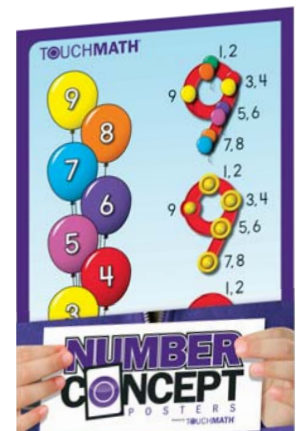
Desktop TouchLines
TM212



TouchPoint Posters
TM215



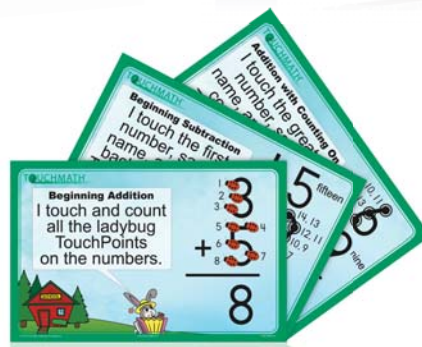
Touch2Learn StepNumerals
TM1126



Number Concept Posters
TM227



Touch2Learn Math Fans
TM1107



Kindergarten Computation Step Posters
TM1012



Touch2Learn Ginormous Coin Set
TM1101



Touch2Learn 3-D Numerals
TMF8003



TouchMath Tutor Kindergarten Software
TM1010



Touch2Learn Texture Cards
TMF8002



Touch2Learn TouchNumerals
TM1015

Purchase these teaching aids individually or save big when you order them all as part of the TouchMath Kindergarten Differentiated Instruction Set! (TM1161)

Make it easy on yourself!

Having the TouchMath Program in the classroom is one part of a successful overall strategy to implement quality math instruction. To ensure user fidelity and augment the effectiveness of the program, suggestions are included for classroom use.

Using this Classroom Guide will help maximize instruction time and individual learning time for each specific task. The Classroom Guide is divided into three sections: Classroom Setup, Program Implementation, and Suggested Program Implementation Tips. A checklist is included for easy reference.

TouchMath Classroom Setup

- Display all TouchMath classroom aids during math instruction, and use them with the students.
- Provide centers featuring TouchShapes, counters, and other manipulatives to reinforce learning.
- Have books identified in Literature Connections available to read during circle time.
- Place the Progress Monitoring Record in an easily accessible place.
- Store the program box on a shelf for later use.
- Schedule a paraprofessional to meet with students needing individual instruction.
- Establish small group areas for use with a paraprofessional or parent volunteer to differentiate instruction and provide individualized guidance.

TouchMath Program Implementation

- Incorporate the objectives listed in the Module Guide into your lesson plans and/or IEPs.
- Include in your lessons the visual, auditory, and tactile/kinesthetic components mentioned in the Instructional Strategies.
- Model using TouchMath materials, manipulatives, and counters during whole group instruction.
- Use the vocabulary words included for each objective in your instruction with the children.
- Assess students at the end of each module to monitor progress.
- Send home the completed worksheets to keep parents/guardians informed of the program material.
- Send home the Parent/Guardian Communication Letter upon completion of each module.
- Use opportunities outside of math instructional time (art, snack time, transitions) to reinforce TouchMath strategies and provide meaningful repetitions.
- Incorporate the skills in the TouchMath Program throughout the day. Calendar activities during circle time are ideal opportunities.

TouchMath Program Implementation Tips

- **TouchPoints:** Provide explicit instruction to master the Touching/Counting Patterns.
- **Instructional Strategies:** Modify the Suggested Pre-Activities and directions for Guided Practice, implementing those that work for you and your learners.
- **Student activity worksheets:** Use only the worksheets that are needed to advance the learning of individual students.
- **Practice:** Use enough pages to provide meaningful repetition of the skill for the developmental level of the student.
- **Extra support:** Schedule a parent volunteer or paraprofessional to work with small groups or individuals who need more experience with the skill.
- **Classroom setup:** Locate details and examples in the Implementation Guide.
- **Amount of time:** In general, structure activities within the two to two-and-a-half times the learner's developmental age (e.g., If the student is five years old developmentally, activities will be most effective if they are 10 to 12 minutes long.). Circle time and center activities provide opportunities for additional experiences. Since 150 pages of activities are included in each unit, using one to four pages per day will provide ample opportunities for experiential learning throughout the year.
- **Manipulatives:** Integrate concrete materials into the worksheet activities to maximize multiple learning styles and needs. TouchShapes are designed to be used in conjunction with many of the activities, offering abundant opportunities to sort and classify by various attributes.

◎ Checklist

Classroom guide checklist.

- Use all TouchMath classroom aids during math instruction.
- Set up small group areas.
- Feature TouchShapes and other counters in centers.
- Keep the Progress Monitoring Record in an accessible place.
- Store the program box.
- Schedule paraprofessionals or parent volunteers.
- Include objectives from the Module Guide in lesson plans and IEPs.
- Incorporate visual, auditory, and kinesthetic components in lesson plans.
- Modify Instructional Strategies to meet the needs of the learners.
- Identify and use student activity worksheets for meaningful repetition.
- Allocate time based on the developmental level of the learner.
- Model using TouchMath materials during large group instruction.
- Integrate TouchShapes into the worksheet activities.
- Provided explicit instruction with TouchPoints.
- Include vocabulary words in instruction.
- Read books listed in Literature Connections during circle time..
- Reinforce TouchMath strategies throughout the day.
- Assess students at the end of each module.
- Send home Parent/Guardian Communication Letters at the end of each module.
- Regularly send home completed student activity worksheets.

Built with Common Core Standards in mind.

The Common Core State Standards (CCSS) were developed based on two decades of research into how students learn mathematics. The research included comparison of the United States to other countries, focusing on both student performance and instructional programs. As a result, two themes have emerged as paramount in building effective programs: (1) standards must have greater focus and coherence, and (2) standards must guide the learners in understanding mathematics.



www.corestandards.org

Standards for Practice and Standards for Content are parts of the Common Core State Standards. Early childhood programs are to emphasize Number and Geometry/Spatial Sense. Through clearly defined instruction that guides learners in the acquisition of mathematical language and concept development, the expected outcome is higher achievement in analysis and problem solving.

The Standards for Mathematical Practice and the Standards for Content are listed below.

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Kindergarten CCSS

Counting & Cardinality

Know number names and the count sequence.

- K.CC.1.—Count to 100 by ones and by tens.
- K.CC.2.—Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
- K.CC.3.—Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).

Count to tell the number of objects.

- K.CC.4.—Understand the relationship between numbers and quantities; connect counting to cardinality.
- When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.

- Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
- Understand that each successive number name refers to a quantity that is one larger.

K.CC.5.—Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.

Compare numbers.

- K.CC.6.—Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.
- K.CC.7.—Compare two numbers between 1 and 10 presented as written numerals.

Common Core State Standards

Operations & Algebraic Thinking

Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

K.OA.1.—Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g. claps), acting out situations, verbal explanations, expressions, or equations.

K.OA.2.—Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.

K.OA.3.—Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$).

K.OA.4.—For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.

K.OA.5. Fluently add and subtract within 5.

Number & Operations in Base Ten

Work with numbers 11–19 to gain foundations for place value.

K.NBT.1.—Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (such as $18 = 10 + 8$); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

Measurement & Data

Describe and compare measurable attributes.

K.MD.1.—Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.

K.MD.2.—Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.

Classify objects and count the number of objects in each category.

K.MD.3.—Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

Geometry

Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

K.G.1.—Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.

K.G.2.—Correctly name shapes regardless of their orientations or overall size.

K.G.3.—Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).

Analyze, compare, create, and compose shapes.

K.G.4.—Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/“corners”) and other attributes (e.g., having sides of equal length).

K.G.5.—Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.

K.G.6.—Compose simple shapes to form larger shapes. For example, “Can you join these two triangles with full sides touching to make a rectangle?”

Studied. Published. Proven.

TouchMath is an evidenced-based, multisensory approach to teaching all skills and concepts in elementary math. This method is consistent with foundational educational research and has been proven effective across educational settings, various student demographics, and all different student abilities. TouchMath incorporates a See It, Say It, Hear It, and Touch It approach to learning each math skill introduced to ensure that the learner is engaged at his level of understanding and the way he best learns information.

TouchMath is the only program that uses the actual numeral as a manipulative by having TouchPoints (concrete level) and uses visual cues (pictorial/representative level) throughout the program to eventually remove visual cues and TouchPoints so the student can demonstrate a symbolic/abstract comprehension of the skill.

The TouchMath Program supports and connects both conceptual and procedural learning.



White Papers, Case Studies, Action Research, and Quasi-Experimental Design Studies have been conducted related to the effectiveness of the TouchMath Program. All of the research provides evidence of improved achievement for general education and special education students at all levels.

To view the studies, please visit www.touchmath.com/research.

In just four hours, we can teach you everything you need to change your students' understanding of math ... forever!

Continual learning and appropriate application of learning how to use curriculum are characteristics of effective schools and school districts (Kaser, Mundry, Stiles, & Loucks-Horsley, 2001). Furthermore, "effective professional development must provide avenues for new learning, ideally about practice elements that can transfer directly into classroom settings and.... should help teachers by building both content and pedagogical knowledge. (Balka, Hull, and Harbin-Miles, 2010). The outcomes of TouchMath's Professional Development Program are consistent with this research.



During a TouchMath Professional Development seminar, the educator will:

- Learn the multisensory approach of the TouchMath Program and the research behind the success of the TouchMath strategy.
- Discover the scaffolded TouchMath strategy for addition, backward counting, subtraction, skip counting, multiplication, division, money, time, fractions, pre-algebra and word problems.
- Explore program adaptations for individualized instruction, share best practices and qualities of effective math teaching, and learn how to reach students at multiple levels with different learning styles.
- Find ways to incorporate TouchMath Instructional Strategies into daily lesson plans, response to intervention framework, and individualized education plans.

The seminar also spends time emphasizing the meaning of each TouchMath strategy so the educator has a better understanding of math concepts and can immediately apply these concepts in the classroom. Instead of strictly being a lecture-style approach, the seminar is interactive and promotes cooperative learning. Educators spend time teaching fellow educators.

TouchMath also provides follow-up seminars to work with educators and districts to:

- Train new educators on the TouchMath Program and strategies.
- Focus on individual educators who need reinforcement of the initial training.
- Work with administrators, specialists, coaches, and other leaders to determine the specific math goals for the district and to see how TouchMath can help achieve those goals.
- Model the TouchMath Program in the classroom to demonstrate the use of the program with actual students of a variety of abilities.

A final option for those educators and districts who are challenged with time and financial constraints is the interactive training DVD. Along with the DVD, the educator will receive all the materials needed for a hands-on, interactive learning experience. The TouchMath Training DVD teaches:

- How to implement the program in your classroom.
- How TouchMath works for ALL students.
- About our TouchPoints, Visual Cues, and Step-By-Step Strategy.
- How to teach addition, subtraction, multiplication, and division using the TouchMath method.



Educators who have been through the TouchMath Professional Development seminars believe ...

"High quality professional development is essential to increase educators' knowledge, skills, attitudes, and beliefs so that they may enable all students to learn at high levels. Following a TouchMath seminar, it is clear that educators' understanding of math is greater, thus student content knowledge is increasing."

– Randy LaRusso, exceptional student education curriculum coordinator, Brevard County Schools

TOUCHMATH®