

# KinderTEK

## Introduction

Welcome to the first in a series of KinderTEK (KTEK) newsletters! As you familiarize yourself with KTEK, it may be helpful to consider the broader math instruction context into which KTEK fits. This first series of newsletters can help with that.

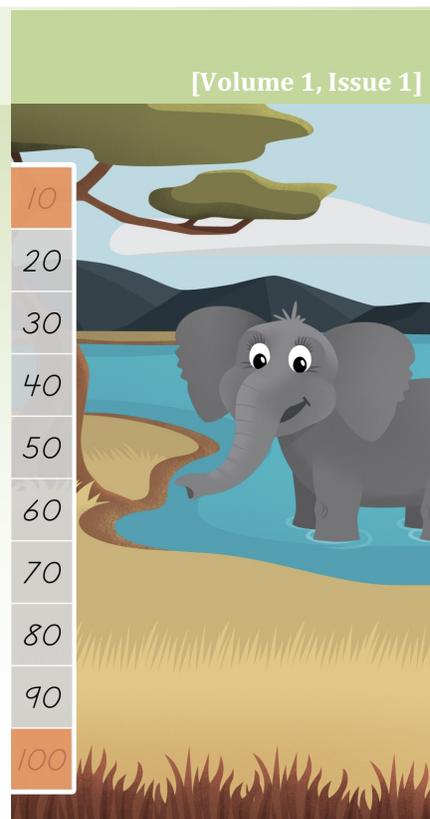
The *Common Core State Standards* were released at the same time KTEK was being developed. Thus, the KTEK team organized instruction and reporting around the CCSS from the start. In this first issue, we review the CCSS-Kindergarten math standards and illustrate how they are organized in KTEK. We expect this to help teachers use KTEK reports and, when desired, direct students to particular content.

Whereas the CCSS outlines specific concepts and skills students should learn, the *Standards for Mathematical Practice* outlines processes that will help students learn and do mathematics. We've found fewer teachers are aware of these eight practice standards, thus have included those in this issue to help teachers understand the KTEK approach to instruction.

In presenting both the CCSS kindergarten content and the math practice standards here, we hope teachers will recognize features of their own instruction that map onto these guiding documents and identify areas they could add to their math lessons to further develop student understanding of mathematics. We hope this information will enhance teachers' capacity and confidence to collaborate with their K-12 peers.

## What is KinderTEK?

KinderTEK is an engaging instructional math program for young students with integrated progress monitoring and reporting features for their teachers. It was developed by education faculty and researchers with the help of teachers in the field and funding from the U.S. Department of Education. By incorporating proven instructional approaches and critical math content, developers produced a trustworthy, iPad-based tool that teachers can use to supplement their instruction.



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\*Current Issue



## Common Core State Standards

Based on a desire for consistent, effective learning goals across states, development of the Common Core State Standards (CCSS) began in 2009. Teachers, school chiefs, administrators, and education experts collaborated to develop K-12 standards in English language arts/literacy and mathematics. By 2015, the standards were adopted by 42 states. See <http://www.corestandards.org/about-the-standards/frequently-asked-questions/> for more information about the development

and content/skill foci of the CCSS.

In mathematics, the CCSS are organized by grade and content area. KinderTEK targets kindergarten whole number standards including Counting & Cardinality, Operations & Algebraic Thinking, and Number & Operations in Base Ten. There are a handful of standards in each domain and these individual content standards are organized by continent in KinderTEK.

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### Did you know?

- KinderTEK can be played 4 different ways!
  - Instructional Sequence
  - Exploration
  - Teacher Directed
  - Test Only
- KinderTEK can be played as a standalone app on an iPad, no internet required!
- KinderTEK can be played across multiple iPads with access to WiFi.

### Fun Fact!

- When you explore with KinderTEK, you will see 20 different animals and insects in 49 learning activities, puzzles, games and a scrapbook!

## KinderTEK Content Continents

<b>What to see in Africa</b> K.CC.1 K.CC.1 K.CC.2 K.CC.3	Count to 100 Count by 10s to 100 Count on Write Numbers to 20
<b>What to see in South America</b> K.CC.4 K.CC.4 K.CC.5 K.CC.5	Count Objects ID Number Counted Count to Answer Given #, Count on
<b>What to see in Australia</b> K.CC.6 K.CC.7	Compare Objects More, Less, Equal Compare Numbers 1-10 More, Less, Equal
<b>What to see in Asia</b> K.OA.1/2 L.OA.5	+/- with objects, pictures, equations Fluency +/- within 5
<b>What to see in Antarctica</b> K.NBT.1	Compose and Decompose 11-19 into tens and ones

## CCSS vs Math Practices

You can view the CCSS Mathematics Standards here:

<http://www.corestandards.org/Math/>

In addition to the CCSS content standards, there are Standards for Mathematical Practice that “mathematics educators at all levels should seek to develop in their students.” The Standards for Mathematical Practice highlight processes that are key for long term mathematics understanding and success. They were developed based on the National Council of Teachers of Mathematics process standards and the strands of mathematical proficiency identified by the National Research Council.

<http://www.nctm.org/Standards-and-Positions/Principles-and-Standards/Process/>

<https://www.nap.edu/catalog/9822/adding-it-up-helping-children-learn->

CCSS.MATH.PRACTICE.MP1	<b>Make sense of problems and persevere in solving them.</b>
CCSS.MATH.PRACTICE.MP2	<b>Reason abstractly and quantitatively.</b>
CCSS.MATH.PRACTICE.MP3	<b>Construct viable arguments and critique the reasoning of others.</b>
CCSS.MATH.PRACTICE.MP4	<b>Model with mathematics.</b>
CCSS.MATH.PRACTICE.MP5	<b>Use appropriate tools strategically.</b>
CCSS.MATH.PRACTICE.MP6	<b>Attend to precision.</b>
CCSS.MATH.PRACTICE.MP7	<b>Look for and make use of structure.</b>
CCSS.MATH.PRACTICE.MP8	<b>Look for and express regularity in repeated reasoning.</b>

## CCSS vs Math Practices

It is useful to explicitly incorporate student use of one or more mathematical practices into your mathematics lessons so that students learn practices and content simultaneously and so that each can inform the other. Know that students must use math practices in order to gain and demonstrate understanding and proficiency with many CCSS concepts and skills (e.g., *K.CC.4. Understand the relationship between numbers and quantities; connect counting to cardinality*). Think about where the math practice standards and content standards align when planning your lessons and explicitly share that with students (perhaps using these student-friendly versions of the practices; for example to show students what they will learn from the day’s lesson).

[http://www.ride.ri.gov/Portals/0/Uploads/Documents/Instruction-and-Assessment-World-Class-Standards/Transition/EIA-CCSS/ScarpelliID-MP\\_ICanStatements.pdf](http://www.ride.ri.gov/Portals/0/Uploads/Documents/Instruction-and-Assessment-World-Class-Standards/Transition/EIA-CCSS/ScarpelliID-MP_ICanStatements.pdf)

See future newsletters for more information about each Standard for Mathematical Practice and opportunities to apply the Mathematical Practices in KinderTEK.



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