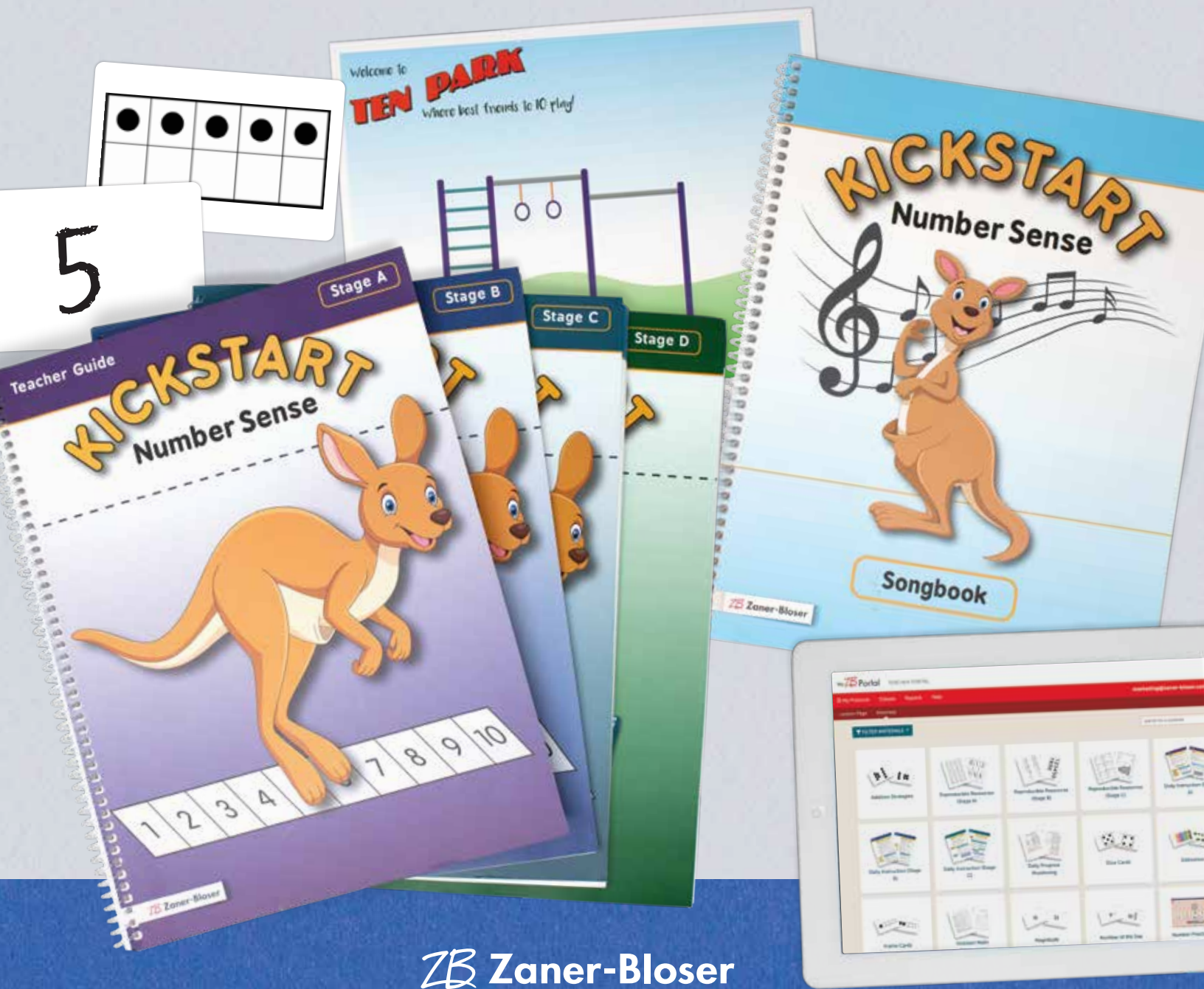


KICKSTART

Number Sense

Program Sampler
Math Intervention for Grades K–3 Skills

5





Welcome to your sampler!

- Read the research behind the ***Kickstart: Number Sense*** math intervention program.
- Discover how ***Kickstart: Number Sense*** advances students to grade-level proficiency in K–3 whole number skills.
- See how the proven ***Kickstart: Number Sense*** method engages students’ minds, bodies, and voices.
- Browse sample ***Kickstart: Number Sense*** lessons to see how explicit, systematic instruction supports deep understanding of whole number skills prerequisite for the core curriculum in grades K–3.

.....
***Kickstart: Number
Sense en español***
also available!
.....

Joy in Numbers!

Kickstart: Number Sense is a small-group math intervention program that helps students understand and work with numbers in a flexible and intuitive way. When students have good number sense, they can visualize numbers, solve problems mentally, and use math in real-life situations.

Physical movement, partner talk, games, and hands-on materials inspire students to experience joy in numbers and operations as they advance from concrete to representational to abstract thinking about them. Students embrace their identities as mathematicians as they advance to proficiency in skills prerequisite for the grades K–3 core math curriculum.

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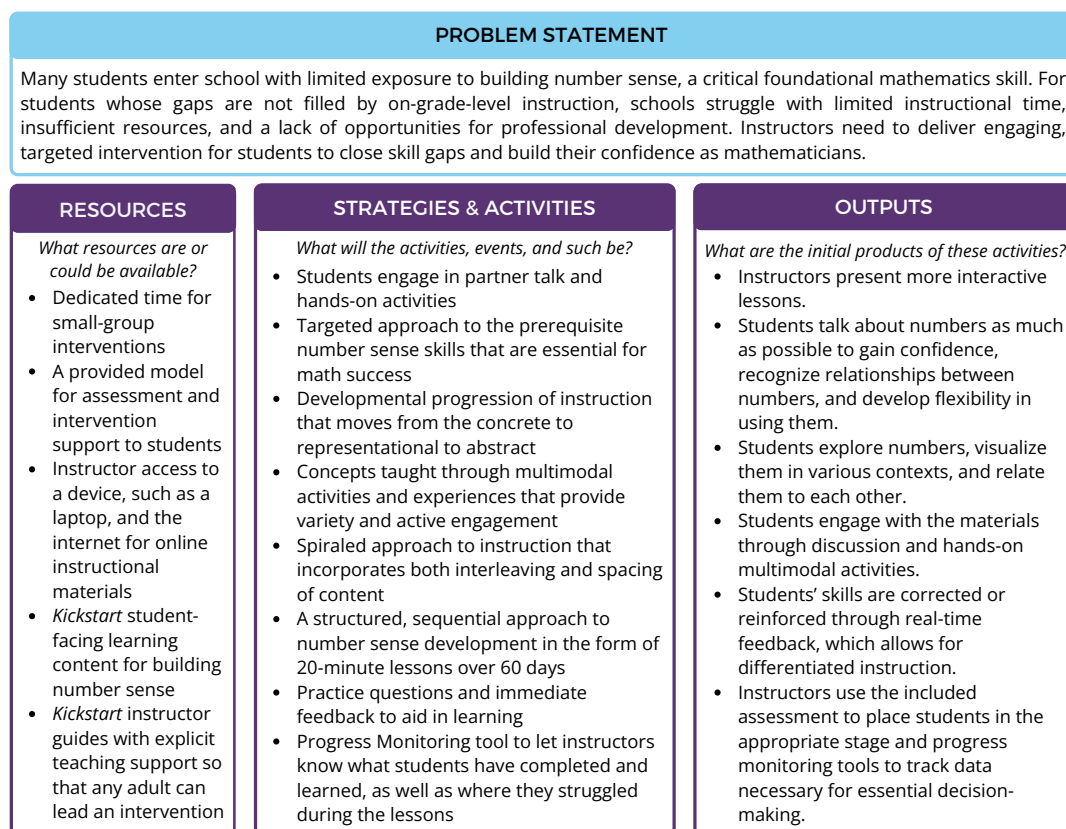
Research, Efficacy, and Positive Outcomes

Number sense plays a critical role in symbolic arithmetic, laying the groundwork for enhanced speed and accuracy. Core math curricula assume students arrive in the classroom with significant number sense—even as early as kindergarten—but many students have not had enough of the kinds of experiences required to nurture it.

Choose With Confidence

Kickstart: Number Sense is built on evidence-based strategies to make early mathematics intervention effective. Third-party research verifies the program’s clear and accessible logic model, mapping its design to the impact on student learning.

Logic Model for *Kickstart: Number Sense*



Realize Real Results

Independent analysis details how **Kickstart: Number Sense** meets ESSA-level criteria for efficacy, increasing grade-level proficiency across multiple years.



Read the Research



Sustain the Success

Students benefit from learning with **Kickstart: Number Sense** in both the short and long term.

Short-Term Wins

Students actively engage in multimodal activities to deepen conceptual understanding of whole numbers, advance to grade-level proficiency, and develop strong identities as mathematicians.

Engagement Students develop confidence to actively participate in math discussions and curiosity to approach challenging math problems without hesitation.

Conceptual Understanding Students develop efficiency, flexibility, and accuracy with numbers.

Grade-Level Proficiency Students advance from concrete to representational to abstract thinking about numbers, building the prerequisite whole number skills needed to access the core curriculum in grades K–3.

Strong Math Identities Students grow to see themselves as mathematicians, capable of using numbers and quantitative methods to communicate, process, and interpret information.

Long-Term Gains

A solid foundation in number sense prepares students for speed and accuracy in symbolic mathematics, strengthening classroom community and nurturing students' curiosity and confidence.

Community Students of different educational backgrounds can collaborate and communicate effectively together, fostering greater sense of community.

Curiosity Students develop a sense of ownership over their mathematical skills and learning process, making relevant and interesting connections within—and beyond—math.

Confidence Students grow confident in their ability to succeed in grade-level math and tackle increasingly difficult math problems.



.....

...when young learners have confidence and belief in their math abilities, they play an active role in the learning process, demonstrate improved retention and understanding, and are prepared for success in future, more challenging math environments (SanGiovanni et al., 2021).

.....

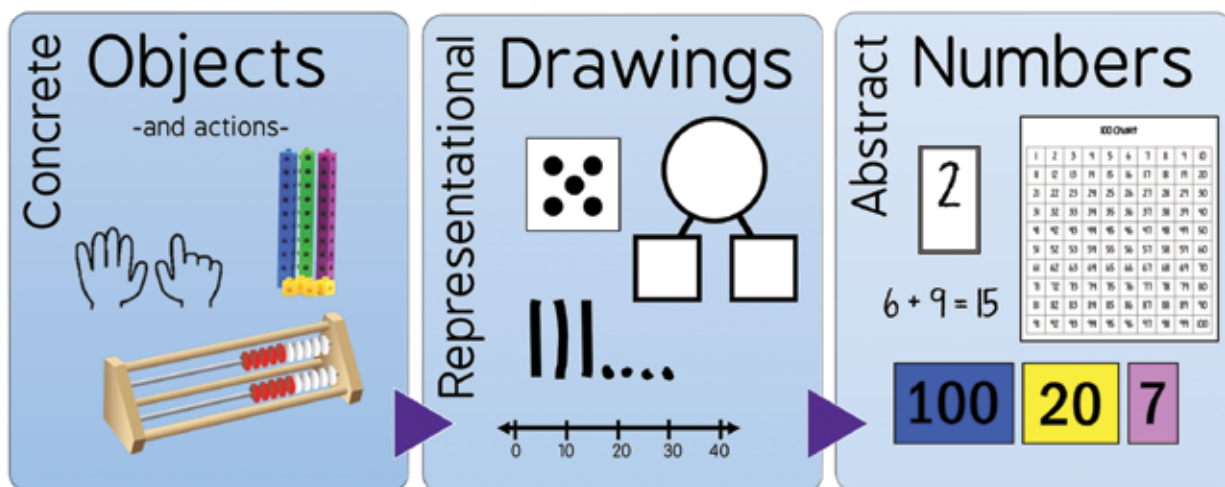
The *Kickstart* Method

Kickstart: Number Sense specifically targets four categories of numerical skills: basic magnitude comparison, mathematical relations, counting, and basic arithmetic. The program utilizes effective teaching strategies and engages students in learning by incorporating a multisensory approach.

- ✓ 60 days to advance to grade-level proficiency
- ✓ 20-minute lessons for push-in or pull-out groups
- ✓ 6 students per small group
- ✓ 4 stages A–D address prerequisite skills for grades K–3 respectively

The program's structured, sequential lessons are developmentally aligned to progress from concrete to representational to abstract thinking about whole numbers.

How All Students Learn Math



Based on the work of Piaget 1952, Bruner 1964, 1966, Sousa 2008, Hauser 2009.

Active and Accessible

Each lesson includes three or more multimodal activities to engage all students and build neural pathways required for learning. Students jump on a giant number line, sing songs, play games, use manipulatives, and discuss their mathematical thinking as they develop understanding of critical number concepts.

A plush friend named Cota Kangaroo even accompanies students in the earliest stages of **Kickstart: Number Sense**, making math conversations playful and accessible. As students mature through the program, Cota is replaced with more sophisticated gamification that strengthens motivation, maintains enthusiasm, and provides valuable data on students' progress.



Grounded in Cognitive Science

An intentional spiraled approach to instruction that includes interleaved and spaced practice further promotes retention, transfer, and long-term mastery of concepts. Instead of introducing and practicing one concept for a long period of time, **Kickstart: Number Sense** mixes strategies in deliberate intervals, enabling students to revisit topics over time, retrieve existing knowledge, and practice what they've already learned.

Any Adult Can Lead

With the ready-to-use **Kickstart: Number Sense** Full Intervention Kit, any adult can facilitate a small group with minimal prep time.

- Every lesson is scripted with explicit instructions for facilitators.
- Each activity lists necessary materials and describes how to use them.
- Professional learning is embedded in daily lessons.
- Progress monitoring tools inform differentiation opportunities and grade-level readiness.

This straightforward intervention does not require a teacher to master yet another curriculum, nor does it need an extended period of time to implement. Its short, simple lessons are easily accessible to both teachers and students.

— Karee Hall, Primary Grade Teacher

Program Components

Ready-to-use **Kickstart: Number Sense** and **Kickstart: Number Sense en español** Full Intervention Kits contain all print and hands-on materials needed for grades K–3 skills intervention in small groups of six students.

- Stages A–D Teacher Packs
- Additional Resources Pack
- Student Materials Pack
- MyZBPortal.com Licenses



Kickstart: Number Sense © 2021/2025 Stages A–D Full Intervention Kit

Teacher Packs and **Additional Resources Pack** feature all the print materials needed to lead small groups.

Pictured: Stage A Teacher Pack and Stages A–C Additional Resources Pack



The **Full Student Materials Pack** includes all hands-on manipulatives needed for Stages A–D.

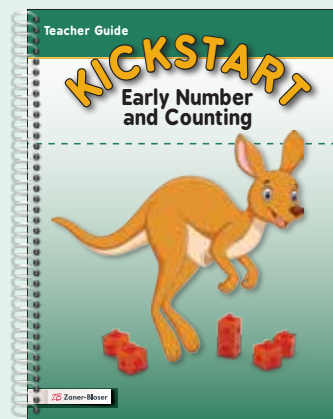
⚠ WARNING: CHOKING HAZARD — Small parts.
Not for children under 3 yrs.



MyZBPortal.com licenses provide an additional convenient way to access lessons, reproducible activity sheets and game boards, activity cards, progress monitoring forms, song recordings, and classroom demonstration videos.

Kickstart: Early Number and Counting © 2022

is available as an optional add-on to support students struggling to access kindergarten skills intervention. These 30 lessons focused on PreK number skills are available as a printed Teacher Guide or digitally as an additional MyZBPortal.com license.



***Kickstart** takes young mathematicians on a journey to truly develop their number sense by using the methods research has shown work best . . . music, movement, games, and stories. Simply put, **Kickstart** is the most unique and effective math intervention program I have seen in over 25 years of elementary teaching!*

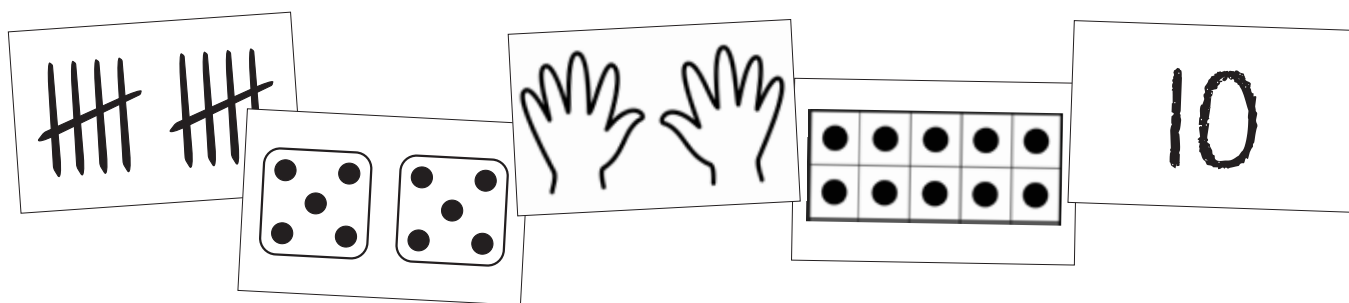
— Dawn Butcher, Primary Grade Teacher

Instructional Elements

Kickstart: Number Sense lessons use a combination of familiar manipulatives—such as Counting Cubes and Base Ten Pieces—and multimodal materials exclusive to the **Kickstart** program. These proprietary instructional elements include the DecaDeck, a 30-foot Classroom Number Line, Activity Cards, Ten Park cards, the Songbook, and Cota Kangaroo.

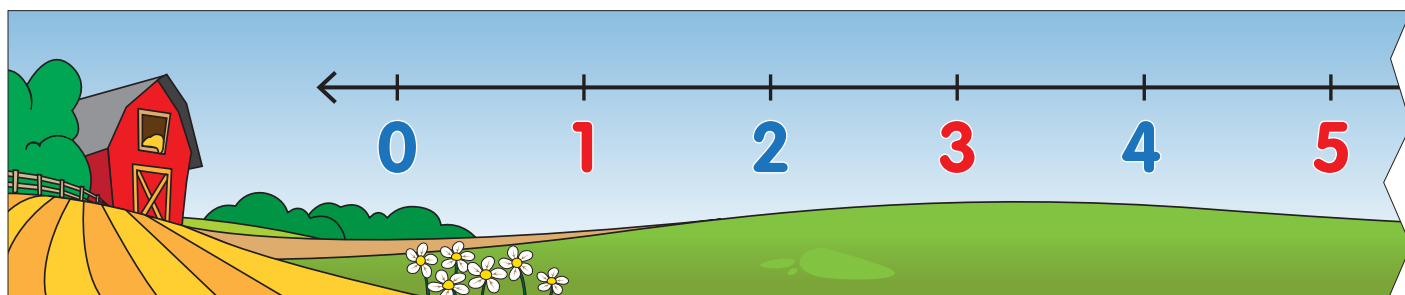
DecaDeck

A DecaDeck is a set of cards with five representations of each of the numbers 0–10. The DecaDeck in **Kickstart: Number Sense** is used in many ways throughout the program. See *sample cards on page 32*.



Classroom Number Line

A large number line that enables students to physically hop from one number to another helps them internalize number line concepts like order and magnitude as well as practice—and compare—strategies like counting and counting on.

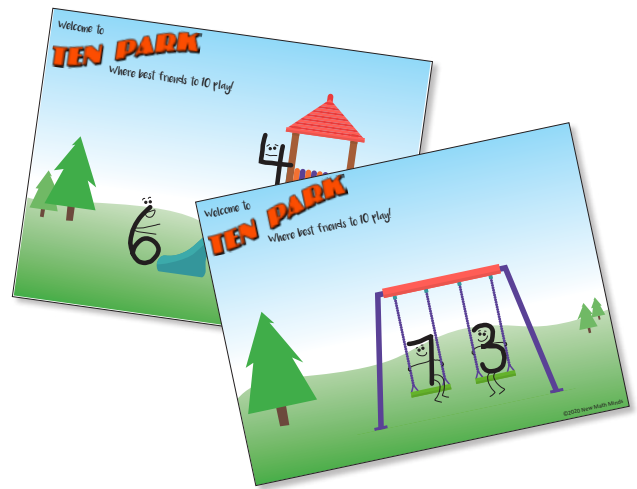


Activity Cards

Kickstart: Number Sense Activity Cards support engagement and learning by providing visual representation of whole number concepts. Students interact with the cards in different ways as described in the lessons. Sample Activity Cards appear before each stage-specific lesson in this sampler.

Ten Park Cards

Ten Park cards are six laminated color copies used to promote and facilitate the retention of addition pairs to 10. Teachers draw, erase, and redraw pictures on the cards while working through **Kickstart: Number Sense** lessons.



Songbook

Original songs and chants throughout **Kickstart: Number Sense** help engage students and encode mathematics through different neural pathways. QR codes in the Teacher Guides lead to videos of the songs. Videos are also available in **MyZBPortal.com**.



Cota Kangaroo

Cota is a plush friend that accompanies students on their number sense journey in the early stages of **Kickstart: Number Sense**. He loves to be in school with students but makes a lot of mistakes in math. He is just learning. Students are asked to find Cota's mistakes and explain their mathematical thinking to help Cota make corrections.

Some teachers use Cota as a management technique. Additionally, some shy students will tell Cota answers when they won't speak to partners or to the small group.



How to Place Students

There are two ways to place students in the **Kickstart: Number Sense** intervention program.

Placement Chart

Teachers can refer to the Student Placement chart and place students based on demonstrated skills.

STUDENT PLACEMENT	
Stage A	
Is for students who	but struggle with
<ul style="list-style-type: none"> • Are in school 	<ul style="list-style-type: none"> • 1–1 correspondence • Counting to 30 • Subitizing a group of dots • Counting on from any number • Knowing letters from numbers • Knowing greater than/less than • Recognizing numerals
Stage B	
Is for students who	but struggle with
<ul style="list-style-type: none"> • Recognize numerals • Can match numerals to quantities • Have 1–1 correspondence • Know the count sequence to 20 • Know if a set of objects is greater or less than another set 	<ul style="list-style-type: none"> • Subitizing a group of dots • Counting on • Counting by tens to 120 • Place value concepts • Adding within 10 • Knowing pairs of numbers that equal 10 • Strategies for addition
Stage C	
Is for students who	but struggle with
<ul style="list-style-type: none"> • Know the count sequence to 50 • Know if a set of objects is greater or less than another set • Can subitize a set of dots to 5 • Can count by tens to 120 • Can count on from a number 	<ul style="list-style-type: none"> • Adding within 20 • Understanding place value concepts • Properties of addition and subtraction • Strategies for addition and subtraction
Stage D	
Is for students who	but struggle with
<ul style="list-style-type: none"> • Have place value concepts for 2-digit numbers • Have addition skills without regrouping (single or double digit) • Have subtraction skills without regrouping (single or double digit) • Can fluently add and subtract numbers within 20 	<ul style="list-style-type: none"> • 3-digit place value • Addition regrouping • Subtraction regrouping • Adding without regrouping beyond 20 • Subtracting without regrouping beyond 20

Image from Stage D Teacher Guide shown


Assessment Test

Alternatively, teachers can administer a brief skills assessment and place students based on scores. Recording sheets are provided to help teachers track placement into—and out of—each stage of the **Kickstart** program.

Kickstart: Number Sense Pre- and Post-Test

Kickstart Math Assessment pre/post (circle one)

Student name: _____ Date: _____ Student placement: Stage _____

Item	Scoring	Student Score
First, the student will count aloud. Stop them if they get to 40. Record the number for the last number they said without missing numbers or saying incorrect numbers. Say, "Count for me. Start at 1."	The student earns 1 point for successfully counting to 30. Record the highest number correctly counted here: _____	_____ out of 1
Line up 10 cubes. Say, "Touch these while you count them." (This item tests 1-1 correspondence. The student should match one number name to each cube, regardless of correct name.)	The student earns 1 point for successfully demonstrating 1-1 correspondence without mistakes. Note: Students can earn a point even if all the number names are incorrect. One object to one name is the focus.	_____ out of 1
When showing the student a collection of cubes (start with 6) ask, "How many?" Change the amount (still within 10) and ask again. Repeat the process one final time.	Repeat three trials. If the student is correct in 2/3 or 3/3 trials, the student earns 1 point. The student may touch or move the objects to count.	_____ out of 1
Use Blackline Masters pages 6-7. Copy the number cards on cardstock and cut apart. Show the student a group of cubes (2 to 5) and the number cards 1-5 in a line. Say, "Point to the number that shows how many cubes there are." 	Repeat three trials, all with 2-5 cubes. If the student is correct in 2/3 or 3/3 trials, the student earns 1 point. Students without 1-1 correspondence may incorrectly count the cubes. Their answer is still correct if the number they point to is the number they counted.	_____ out of 1
Make a line of 4 cubes and a line of 2 cubes. Say, "Point to the line with less." Change the amount (still within 10) and ask again. Repeat the process one final time.	Repeat three trials. If the student is correct in 2/3 or 3/3 trials, the student earns 1 point.	_____ out of 1
If a student's total score is less than 5, place in Stage A. If the score is 5 and the student is in first or second grade, proceed with assessment.		Total score: _____

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Kickstart: Number Sense Pre- and Post-Test

Kickstart Math Assessment (continued) pre/post (circle one)

Item	Scoring	Student Score
Student will count aloud by tens. If they get to 120. Record the last number they said without fbers or saying incorrect numbers. "Count by tens. Start at 10."	The student earns 1 point for successfully counting to 120 by tens. Record the highest number correctly counted here: _____	_____ out of 1
Use a 10 Stick and 4 cubes on the table. Say, "How many do I have?"	The student earns 1 point for successfully knowing ten and counting on ones or subitizing 4 ones and saying, "14." No points if the student tries to count each individual cube. The student may touch objects.	_____ out of 1
Use a 10 Stick and 4 cubes on the table. Say, "How many ways can you make 7?"	The student is correct if they separate the cubes into two or more groups and name the groups. As in, "3 and 4" or "2 and 5 make 7" or "1 plus 6 equals 7."	_____ out of 1
Use a 10 Stick and 7 cubes on the table. Say, "How many ways can you make 7?"	Repeat three trials with different totals less than 10. If the student is correct in 2/3 or 3/3 trials, the student earns 1 point.	_____ out of 1
Use a 10 Stick of cubes and say, "How many are behind my back?"	The student may count the cubes on the table. The student is correct if they know how many are behind your back without counting on from 4.	_____ out of 1
Use a 10 Stick and 10 cubes on the table. Say, "How many are behind my back?"	The student may count the cubes on the table. The student is correct if they know how many are behind your back without counting on from 4.	_____ out of 1
Use a 10 Stick and 10 cubes on the table. Say, "How many are behind my back?"	Repeat three trials with different parts, one of which is always 10, the other always a number between 0 and 10. If the student is correct in 2/3 or 3/3 trials, the student earns 1 point.	_____ out of 1
If a student's total score is less than 9, place in Stage B. If the score is 9 or 10 and the student is in second grade, place in Stage C.		Total score: _____

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Sample Placement Test



Sample Recording Sheets

Kickstart: Number Sense Pre- and Post-Test Recording Sheet

Stage A/B/C (circle one)
Pre- and Post-Test Recording Sheet

Pre-Test Date: _____ Post-Test Date: _____

	Pre-Test Total Score	Post-Test Total Score
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Notes

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Kickstart: Number Sense Stage A

Stage A lessons teach the whole number skills prerequisite for kindergarten core curriculum.

Stage A Skills Index

Stage A	
Skill	Day(s)
1-1 Correspondence	3, 4, 6, 7, 8, 9, 11, 14, 15, 20, 21, 23, 26, 35, 37
Adding Within 5	39-60
Comparing Quantity	25, 27, 29, 31-33, 36-38, 41, 42, 45, 49, 50, 54, 57
Conservation	2, 5, 12
Counting	1*, 2*, 3*, 4, 6-8, 9*, 11, 13-15, 17, 18*, 20-23, 25, 26, 28, 30, 32-34, 35*, 36, 37*, 44
Counting On	46-49, 51, 53, 55, 57, 60
Decomposing Numbers	7, 8, 11, 15-17, 19-21, 28, 31, 37-40
Estimating	35, 38, 44, 47, 50, 53, 56, 59
Magnitude	9, 14, 18, 22, 26, 29, 32
Matching Quantity	1, 3, 4, 6, 10, 23-25, 27, 33-36, 59
Number Order	19, 23, 25, 42, 51, 58
Number Recognition	2-11, 14, 16, 21, 29, 36, 39, 46, 54
Partners to 10	5*, 6*, 8, 10*, 12*, 13, 15*, 16, 17, 19, 20*, 22, 24*, 25-27, 28*, 29, 30*, 31, 33, 34, 36, 38, 40*, 41, 43, 45, 48, 52, 55, 58, 60
Subitizing	1-5, 7-14, 16-19, 21-24, 26-28, 30-34
Teen Numbers	34, 35, 39, 41, 42, 43*, 44-51, 52*, 53-58

*Indicates that the skill is practiced in more than one activity on that day.


Stage A Lesson Overview

Stage A lessons reflect the hallmarks of the **Kickstart** method:

- 20-minute lessons
- 3–5 activities per lesson
- Embedded instructor scripts and tips
- Interleaving and spacing of key concepts

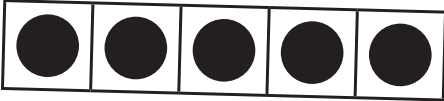
Stage A Sample Activity Cards

Day 16: Dice Card Kickstart: Number Sense - Stage A




Using two hands under your chin, show me this number.

5 Frame Card: Days 11, 13, 14, 18



Day 35: Estimation Card Kickstart: Number Sense - Stage A



Are there more than 10 colored pencils or fewer than 10 colored pencils?

Stage A Student Progress Monitoring

Progress Monitoring tools enable teachers to document and respond to students' skill development.

Kickstart: Number Sense Skills Tracking - Stage A

Stage A

Use this form to track student progress through the stage.
Pick any skills to track or track them all.
Use check marks to show achievement of understanding.

Student Name	1-1 Correspondence (37)	Adding Within 5 (60)	Comparing Quantity (57)	Conservation (12)	Counting (44)	Counting On (60)	Decomposing Numbers (40)	Estimating (59)	Magnitude (32)	Matching Quantity (59)	Number Order (58)	Number Recognition (54)	Partners to 10 (60)	Subitizing (64)	Teen Numbers (58)
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															

*The number after the skill denotes the last lesson day that skill is practiced.

Notes

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Kickstart: Number Sense Daily Progress Monitoring - STAGE A

Daily Progress Monitoring- STAGE A - Page 1

Use check marks to show achievement of understanding.

Student Name

Day or Date	1-1 Correspondence	Adding Within 5	Comparing Quantity	Conservation	Counting	Counting On	Decomposing Numbers	Estimating	Magnitude	Matching Quantity	Number Order	Number Recognition	Partners to 10	Subitizing	Teen Numbers
Day 1															
Day 2															
Day 3															
Day 4															
Day 5															
Day 6															
Day 7															
Day 8															
Day 9															
Day 10															
Day 11															
Day 12															
Day 13															
Day 14															
Day 15															

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Stage A Sample Lesson

Day 7

“Current research out of the University of Missouri shows that subitizing and estimating are the two most important skills kids need in preschool to predict mathematical success.”

—vanMarle, 2015

If they didn't get those skills in a preschool setting, they need the intervention now.

Students will need a partner most days. In this program they are referred to as “Sun” and “Moon” partners. It is most beneficial when students have the same partner each day for at least a few weeks before changing partners. If there is an odd number of students, read ahead and decide if the activity can accommodate three or if you become the partner of the last student. If there are three students in a group, you have Sun, Moon, and Stars.

Kickstart: Number Sense Stage A

Subitizing

Subitizing

• Day 7 Subitizing Dot Cards

T: Like before, I'm going to show you a card with dots. Today the difference is that some of those dots are not filled in. They look more like circles or empty dots. That's okay, I call them all dots. Your job is to decide how many dots are on my card all together. Remember to keep your good idea in your head. When you think you know, give a thumbs up.

Show the Day 7 Subitizing Dot Card with four black dots and an empty circle for three seconds, put it face down, wait for thumbs up.

T: How many dots did you see? Say it out loud. Let's count those dots together.

Point as you count, starting with the empty dot first.

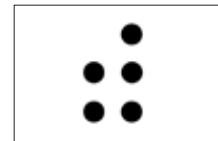
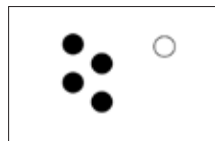
T: I counted 5 dots that time. What if I counted the black dots first, then the empty dot? Let's try it.

This time count the black dots first then the empty dot.

T: Same! Same number! It turns out it doesn't matter which one you count first. You are ready for a challenge. This time, when I show you the card, try not to count the dots one at a time. Your brain has the ability to just grab a picture of a few dots at a time, even without counting! Did you know that? The fancy word is subitize. (SOO-bi-tyze) Your brain can subitize and we're practicing that today. When I show you the next card, try not to count one at a time. Try to grab that amount in your brain. Put your thumb up when you know how many dots are on my card.

Show the second Day 7 Subitizing Dot Card. Call on one or two students to try to explain how they saw 5 (not everyone will get a chance every day). Students may need to touch it while they explain. Students may not be good at explaining their thinking at this point. That is expected.

Frequent repetition of this activity will help them improve.



Counting

Counting

• 10 cubes per partnership

Give the cubes to the Suns at first.

T: Suns, you have 10 cubes. Pick an amount to put in front of your Moons. Your Moons will count them by moving them from one side to the other, making a nice line. Remember when we did that a few days ago? If your Moon counts correctly, they get to go next, putting some in front of you. If they count incorrectly, you smile politely and ask, “Are you sure about that?” That is the signal they need to try again. It's okay to try again! Mistakes are where learning happens!

Monitor carefully to ensure students are counting correctly, and if not, their partner is catching the mistake. Be sure partners are switching jobs and following the guidelines you have set.

Day 7

Introduction to the Rekenrek

Decomposing Numbers

• Student rekenreks

You will not need the large 10-Rack Teacher Rekenrek until Day 59. It is best to keep it put away until then. Do not hand out the student rekenreks yet.

T: Today we get to learn about a special math tool that helps us see how numbers work. This is a rekenrek.

Hold up the rekenrek, making sure they are looking at the white beads on the right side.

T: The rekenrek is a math tool that helps us see numbers.

Hand a rekenrek to each student.

T: Take a moment to explore your rekenrek.

This is a perfect time for students to shake and jiggle and spin beads and play.

T: What do you notice? Start with, “I notice ...”

Take some answers.

T: What do you wonder? Start with “I wonder ...”

Take some answers.

T: The white beads go to the right side. When all the beads are pushed to the right, they are resting. Show me all your beads resting. That means the other side is the side we read. We call it the “Action Zone.” I will show you 3.

Make your rekenrek say 3 by moving the top three red beads to the left side.

T: Three can also look like this.

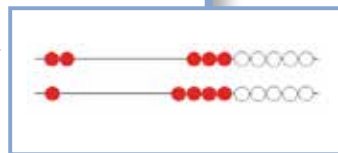
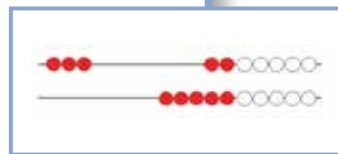
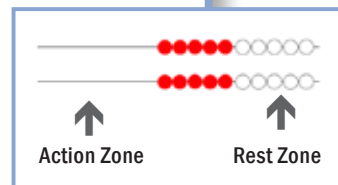
Show it by keeping two red beads on the left side and one red bead on the bottom left side.

T: Can you show me one way to make 5?

Give time for students to work, checking to see they are moving red beads to the left and keeping all white beads on the right.

T: What’s another way to make 5?

Highlight some ways students used the rekenrek to make 5.



Song

• Songbook, page 1: “Counting to 20”

T: Let’s try our song “Counting to 20” again. Stand up, push in your chair, and stand behind it. Remember to hop from one foot to the other. Ready? Let’s sing.

Hold up Songbook page 1 for “Counting to 20,” sung to the tune of “Mary Had a Little Lamb.” Sing together or sing along using the QR code.

Encourage students to hold up fingers to count the first 10 numbers.



Optional Number Recognition Activity

Number Recognition

• Number Cards 0-10

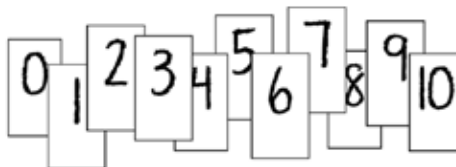
T: Let’s start by counting to 10 on our fingers.

Start with 0 and show me 0 fingers.

Count aloud with the students while putting up 1 finger with each number.

I will hold up a Number Card and say the number. You hold up that number of fingers.

At first, show the cards in order from 0-10, then vary the activity by trying random numbers. Do not go on without fixing any mistakes students are making. It is essential they use this time to learn what “4” feels like on their fingers, what “7” looks like, etc.



Kickstart: Number Sense Stage B

Stage B lessons teach the whole number skills prerequisite for grade 1 core curriculum.

Stage B Skills Index

Stage B	
Skill	Day(s)
Adding	42-44, 47-49, 52-59
Adding Within 10	21-39, 42-60
Counting On	1-10, 18
Decomposing Numbers	1, 2, 4, 6, 8, 10, 13, 17, 20, 21, 24, 26, 29, 32, 33, 35, 37, 39, 42, 44
Doubles	28, 30, 32, 33, 35, 38, 39, 40, 42, 44, 45, 47
Estimating	1, 3, 4-7, 9, 11, 13, 15, 19, 24, 27
Near Doubles	50, 52-54, 56-58, 60
Partners to 10	2, 3, 5, 8-15, 16*, 17, 18, 19*, 20-22, 23*, 30, 34, 38, 41, 46-49
Place Value	22-28, 30, 31, 33, 35-41, 43, 46, 48-53, 55, 56, 59, 60
Skip Counting	29, 31, 34, 36, 48, 49
Subitizing	1-10, 12, 14, 16, 18, 20, 22, 24, 25, 28, 31, 34, 37, 40, 43, 47, 51, 55, 59
Teen Numbers	11*, 12*, 13, 14*, 15*, 16, 17*, 18-21, 25, 26, 27, 29, 32, 36

*Indicates that the skill is practiced in more than one activity on that day.

Stage B Lesson Overview

Stage B lessons reflect the hallmarks of the **Kickstart** method:

- 20-minute lessons
- 3–5 activities per lesson
- Embedded instructor scripts and tips
- Interleaving and spacing of key concepts

Stage B Sample Activity Cards

Day 31: Domino Card Kickstart: Number Sense - Stage B

Day 3: Estimation Kickstart: Number Sense - Stage B

Estimate how many types of fruit. When you have an estimate, put your thumb up.

Day 9: Magnitude

52

When is this number a lot? When is it a little?

Stage B Student Progress Monitoring

Progress Monitoring tools enable teachers to document and respond to students' skill development.

Kickstart: Number SenseSkills Tracking - Stage B

Stage B

Use this form to track student progress through the stage.
Pick any skills to track or track them all.
Use check marks to show achievement of understanding.

	Adding (59)	Adding Within 10 (60)	Counting On (8)	Decomposing Numbers (44)	Doubles (47)	Estimating (27)	Near Doubles (60)	Partners to 10 (49)	Place Value (60)	Skip Counting (49)	Subitizing (59)	Teen Numbers (36)
Student Name												
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

*The number after the skill denotes the last lesson day that skill is practiced.

Notes

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Kickstart: Number SenseDaily Progress Monitoring - STAGE B

Daily Progress Monitoring- STAGE B – Page 1

Use check marks to show achievement of understanding.

Student Name

	Adding Within 10	Counting On	Decomposing Numbers	Doubles	Estimating	Near Doubles	Partners to 10	Place Value	Skip Counting	Subitizing	Teen Number
Day and Date											
Day 1											
Day 2											
Day 3											
Day 4											
Day 5											
Day 6											
Day 7											
Day 8											
Day 9											
Day 10											
Day 11											
Day 12											
Day 13											
Day 14											
Day 15											

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Stage B Sample Lesson

Day 35

Song

• Songbook, page 8: "Doubles Chant"

T: Stand behind your chair for our "Doubles Chant."
Chant each line together as students do the actions.



Students who struggle with number sense have no internal hundred chart or Number Line. Practice with these tools is vital.

Place Value

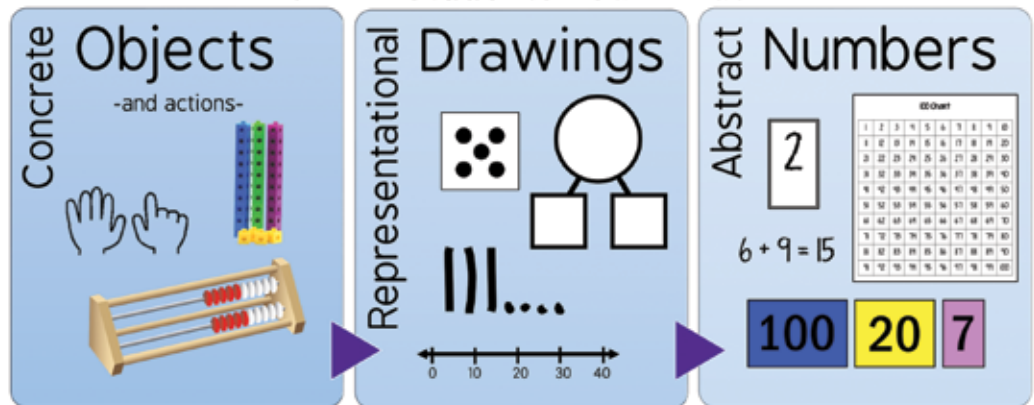
- 39 cubes per partnership
- SmartPAL® with 100 Chart per partnership

On each 100 chart, cross out the numbers 1-12 and 40-100.

T: Like yesterday, you are going to make numbers out of sticks and cubes, but today your partner will tell you the number and check to see that you made it correctly. When you are correct, you switch jobs with your partner. Suns, choose a number greater than 12 and less than 40.

Students will likely have a hard time being able to come up with a number in that range from memory. Refer students choosing a number to the 100 Chart. Be sure that students who create the number are counting aloud starting at 10, and using their regular voice for sticks and small voice for cubes.

How All Students Learn Math



Based on the work of Piaget 1952, Bruner 1964, 1966, Sousa 2008, Hauser 2009.
Read more on the details of this progression at the front of the book.

Kickstart: Number Sense Stage B

Day 35

Show Me Another Way Decomposing Numbers

- Number Bond page
- 17 cubes per student
- Blank page in a SmartPAL® for the teacher

T: We are splitting up numbers on Number Bonds as we did before, but I have some challenges for you. Today your whole is 13. Put all 13 in your Whole Circle.

Challenge 1: Can you split your cubes evenly between your two parts? That means the same number in each part.

Students will need time to decide how they'll split 13 evenly. Eventually someone will realize it's not possible.

T: Suns, tell your Moon partners why you think we can't split 13 evenly. Start with, "We can't split 13 evenly because ...". Moons, do you have a different idea? If so, share that with your partner. Keep thinking about why this might not be possible and we will come back to it in a few days. Put all 13 cubes back in the Whole Circle.

Challenge 2: Can you make a number sentence (equation) with 4 as one of the parts?

Students will find either $4 + 9$ or $9 + 4$ quickly, make sure both are represented.

T: How many different equations (number sentences) can we make if 13 is the whole and 4 is one of the parts?

Let them puzzle over this for a bit until a few students come up with only the 2 equations.

T: What about if 7 is one of the parts? How many equations can we make with those numbers?

Give them time to figure out that there are only 2 equations then as well.

T: Moons, is it always true that we will only be able to make 2 equations (number sentences) if we know a part and the whole or is that only sometimes true? Tell your Suns your idea.

Adding Within 10 Adding Within 10

- Student Double 10 Frame pages in SmartPALs®
- 5 cubes per student
- Student dry erase pens

T: You have the chance to create equations today by experimenting with number combinations. Pick one of your two 10 Frames to use. Put some cubes on the top and some on the bottom, then record that as a number sentence (equation) on the lines at the bottom of the page. Try to find as many number sentences (equations) as you can without repeating.

The activity today allows students to freely explore with combinations of five or less and turn them from the concrete into the abstract. Monitor to ensure students are recording accurate equations and not repeating equations.

Two 10-frames (2 rows by 5 columns) are shown, one above the other. Below the second 10-frame is a horizontal line for writing an equation.

Kickstart: Number Sense Stage C

Stage C lessons teach the whole number skills prerequisite for grade 2 core curriculum.

Stage C Skills Index

Stage C	
Skill	Day(s)
Addition Regrouping	16-18, 25-28, 30-32, 33*, 34, 35*, 36, 37*, 38-47
Addition Strategies	11-15, 46-49
Counting On	1-4, 19, 21, 23, 57
Decomposing Numbers	6, 10, 14-16, 18-20, 25, 39, 41, 43, 48, 53, 54, 56
Doubles	8, 9, 13, 16, 17, 18*, 19-21, 24, 29, 30, 33, 40, 49, 51
Estimating	17, 19, 21, 22, 23, 50, 52, 54
Friendly 10	38-41, 43, 45
Magnitude	21, 44, 58, 60, 42
Near Doubles	22-28, 31, 32, 34
Partners to 10	1*, 2*, 3, 4*, 5, 6*, 7-9, 10*, 11, 24, 42
Place Value	7, 8, 10-15, 20, 22, 24-32, 34, 36, 38, 44, 59
Skip Counting	5*, 7*, 8, 9*, 11, 12*, 13-17, 22, 23, 26, 48, 49, 50, 52, 55, 57
Subtraction Regrouping	45, 46*, 47*, 48-60
Teen Numbers	3, 4, 5*, 6

*Indicates that the skill is practiced in more than one activity on that day.

Stage C Lesson Overview

Stage C lessons reflect the hallmarks of the **Kickstart** method:

- 20-minute lessons
- 3–5 activities per lesson
- Embedded instructor scripts and tips
- Interleaving and spacing of key concepts

Stage C Sample Activity Cards

Day 28: Addition Strategies Kickstart: Number Sense - Stage C

Day 54: Estimation Kickstart: Number Sense - Stage C

Thumbs up when you have an estimate of how many orange LEGO™ pieces there are.

Day 19: Estimation

Estimate how many trees are on the card. When you have an estimate, put your thumb up.

Stage C Student Progress Monitoring

Progress Monitoring tools enable teachers to document and respond to students' skill development.

Kickstart: Number Sense Skills Tracking - Stage C

Stage C

Use this form to track student progress through the stage.
Pick any skills to track or track them all.
Use check marks to show achievement of understanding.

Student Name	Addition Regrouping (47)	Addition Strategies (49)	Counting On (57)	Decomposing Numbers (56)	Doubles (51)	Estimating (54)	Friendly 10 (45)	Magnitude (42)	Near Doubles (34)	Partners to 10 (42)	Place Value (39)	Skip Counting (57)	Subtraction Regrouping (60)	Teen Numbers (6)
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														

*The number after the skill denotes the last lesson day that skill is practiced.

Notes

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Kickstart: Number Sense Daily Progress Monitoring - STAGE C

Daily Progress Monitoring- STAGE C - Page 1

Use check marks to show achievement of understanding.

Student Name

Day or Date	Addition Regrouping	Addition Strategies	Counting On	Decomposing Numbers	Doubles	Estimation	Friendly 10	Magnitude	Near Doubles	Partners to 10	Place Value	Skip Counting	Subtraction Regrouping	Teen Numbers
Day 1														
Day 2														
Day 3														
Day 4														
Day 5														
Day 6														
Day 7														
Day 8														
Day 9														
Day 10														
Day 11														
Day 12														
Day 13														
Day 14														
Day 15														

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Stage C Sample Lesson

Day 47

Song

• Songbook, page 17: “Regrouping Waltz – Part 2”

Hold up page 17 of the Songbook.

T: We tried this song a few days ago. Let’s sing the whole thing together again.

Students can sing along with the video, which you can access using the QR code.



Today we are leading with abstract and representational, then referring back to the concrete. The goal is for students to think it first, and see it second.

Addition Regrouping

Addition Regrouping

- Student Place Value Boards
- Place Value Cards 1-9, 10-30, 100-300
- 127 cubes in twelve 10 Sticks and 7 cubes

Using Blackline Masters page 70, copy a three-digit Place Value Board for each student.

T: Students, this is a Place Value Board for three-digit numbers. Point to the word “ones.” That is where your cubes would go. Point to the word “tens.” Moons, tell your Suns what goes there. Do you remember the name of that place in our game yesterday? It was the Magic Sack. Now point to the place that says “hundreds.” What was that place yesterday? It was the Enchanted Cave. Suns, tell your Moons what went in the Enchanted Cave.

Make sure students understand it was only when 10 Sticks were in groups of 10 that they could be stored in the Enchanted Cave.

T: I will make a number from Place Value Cards. I will choose someone to make that number from 10 Sticks and cubes.

Compose 127 with Place Value Cards. Show the students the number, then separate the cards across the Place Value Chart.

Choose a student to put ten 10 Sticks in the hundreds, two 10 Sticks in the tens, and seven ones in the ones place.

T: Moons, tell your Suns what change I would need to make to have the number 157. *(Compose with Place Value Cards.)*

Listen carefully to partner discussions as students decide that the tens place is what changes. Call on a student to share their idea.

T: Suns, tell your Moons what change I would need to make to my cubes and Sticks for the number 324.

You don’t have 300 cubes, so this is purely discussion.

T: Final question. Moons, tell your Suns how many 10 Sticks I need in the tens place before they get moved over to the hundreds place.

Hundreds	Tens	Ones



Day 47

Addition Strategies Addition Strategies

- Teacher rekenrek
- Dry erase sleeve for the teacher
- Dry erase pen for the teacher

Draw a Number Line on your dry erase sleeve as pictured here.

T: I'm adding today. I'm looking for a shortcut. Help me out. I have 26 and I want to add 5. What's a smart way to break that 5 up?

Listen for ideas of breaking off a 4 and adding it to the 26 to make a Friendly 10, then adding 1 more. Whether a student shares this idea or not, illustrate this thinking on the dry erase sleeve.

T: Can someone show me that on the rekenrek?

Watch as they model 26, then move the 5 over in a combination of 4 and 1.

T: That one seemed too easy for you. Let's try again.

Erase the dry erase sleeve numbers (not the Number Line), reset the rekenrek to the Rest Zone. Write $16 + 15$ horizontally on your dry erase sleeve.

T: Suns, tell your Moons how you would break up that 15 to add to 16.

Listen for strategies. Some students may break it up into 10 and 5, adding the 10 first, then adding the 5 to 26. (Image A) Some may break up the 5 first (since that was just done) into 4 and 1, then add the 10 after. (Image B) Model both of these strategies as you clarify them on your dry erase sleeve Number Line.

T: Who can model this on the rekenrek?

As a student models, point out what they are doing with beads on the Number Line, helping students make that connection.

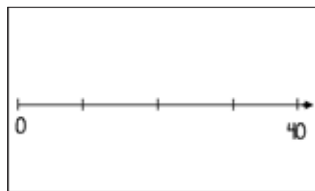


Image A

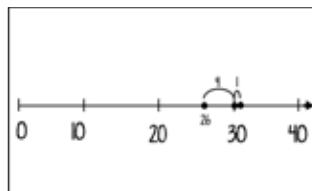


Image B

Subtraction Strategies Subtraction Regrouping

- Dry erase sleeve for the teacher
- Dry erase pen for the teacher
- 13 cubes per student in a 10 Stick and 3 cubes

T: Count your cubes. When I write a number on the dry erase sleeve, gather that many cubes and push them to the center of the table.

On the dry erase sleeve write 13, and, below it, subtract 1. Students should push one cube to the center of the table.

T: Whisper to me what I should put as the answer to $13 - 1$.

S: 12

T: That was an easy one. What if I write this?

Under the 12, subtract 4.

T: Before you do anything, tell your partner what needs to happen.

This is a leading question to call to students' attention that something big is happening. Call on anyone who says something about breaking up the ten.

T: That's right, you'll need to break your 10 Stick up into cubes before you can give 4 of them. Go ahead and break up your 10 Stick and push in 4. You had to do that because I was asking for more ones than you had. We'll try that again tomorrow with bigger numbers.

$$\begin{array}{r} 13 \\ - 1 \\ \hline 12 \end{array} \rightarrow \begin{array}{r} 12 \\ - 4 \\ \hline \end{array}$$

Kickstart: Number Sense Stage D

Stage D lessons teach the whole number skills prerequisite for grade 3 core curriculum.

Stage D Skills Index

STAGE D	
Skill	Lessons
Place Value	1, 2, 5, 9, 13
Addition	3, 6, 11, 14
Subtraction	4, 7, 8, 10, 12
Addition Regrouping	15–21
Subtraction Regrouping	22–30

Stage D Lesson Overview

Stage D lessons reflect the hallmarks of the **Kickstart** method:

- 20-minute lessons
- 3–5 activities per lesson
- Embedded instructor scripts and tips
- Interleaving and spacing of key concepts

Stage D also features several developmentally appropriate differences that correspond to students' cognitive and social growth.

DIFFERENCES BETWEEN STAGES A–C AND STAGE D

If you have been working in *Kickstart: Number Sense Stages A–C*, you'll notice some differences between those stages and this one.

- You are familiar with each session being called Day 1, Day 2, etc. In this Instructor Manual, lessons may be longer than one day and are called Lesson 1, Lesson 2, etc. Some lessons may take two days. Keep going in order and proceed at a pace that is conducive to students' learning.
- Because older students may come to an intervention group with preconceived ideas about themselves as mathematicians, the program has been designed to motivate and engage them, as well as keep them in a thinking-brain state. Four components of the program are for this purpose:
 - The Takeoff:** Each lesson starts with a Takeoff Activity, which is designed to bring students into a prefrontal cortex brain-state, ready to learn.
 - Earning points:** Each day, it is the instructor's job to award points to students. While points are earned by the individual student, they are *only* recorded as team points. The point system should be used to recognize students who are participating, completing work, cooperating, sharing ideas, recognizing a mistake, or persevering. More on the point system follows.
 - Dice Roll:** Every few lessons, students are given the opportunity to roll a die. Landing on an odd number will subtract two points from the team score. Landing on an even number will add five points to the team score. A student may also hold or pass and not choose to roll on that day. The random nature of a dice roll keeps students engaged by releasing dopamine (the reward chemical in the brain). A student's brain will then associate excitement with the intervention group, increasing desire to come back and increasing willingness to learn.
 - The CRANE-ium Competition:** This math task occurs every five lessons. Students must work together to choose and solve a math task in order to level up to the next color level. The task is a summary of their learning to that point, and the prospect of it can give students a dopamine boost simply by participating. More on the CRANE-ium Competition follows.

Image from Stage D Teacher Guide shown

Stage D Sample Activity Cards

The collage shows several activity cards:

- Two cards with grids of bread: "Kickstart: Number Sense Stage D Activity Card 7" and "Lesson 4 Activity 1".
- A base-ten block chart showing the number 524 and its expanded form $500 + 20 + 4$. The chart is divided into four colored sections: pink (top-left), yellow (top-right), blue (bottom-left), and green (bottom-right).
- A table titled "Australian Animal" with columns for "Food Given" and "Food Eaten".
- A photo of a koala eating eucalyptus leaves.

Australian Animal	Food Given	Food Eaten
Penguin	68 pounds	43 pounds
Koala	29 pounds	15 pounds
Emu	47 pounds	24 pounds
Cuttlefish	18 pounds	12 pounds
Wombat	36 pounds	22 pounds

Stage D Student Progress Monitoring

In **Kickstart: Number Sense** Stage D, Progress Monitoring tools include the Landing at the conclusion of each lesson and the CRANE-ium Competition at the end of each fifth lesson.

PROGRESS MONITORING: THE LANDING

At the end of each lesson there is an exit ticket. This is a paper and pencil exercise used to track student progress over the course of the program. Each Landing page has two boxes, one clear and one shaded. After the group has left, instructors should mark each student's page with a check in the clear box if the student completes the tasks correctly, or a check in the gray box if the student does not complete the tasks correctly. These daily checks are used to mark each student's progress on the Daily Progress Monitoring Sheet, Reproducible 4. The cumulative monitoring on the tracking sheet can be used at data, progress, or qualification meetings to update a team on an individual's growth in number sense.

Image from Stage D Teacher Guide shown

Student: _____ Homeroom: _____

**Kickstart: Number Sense Stage D
Daily Progress Monitoring**

PV Place Value A Addition S Subtraction AR Addition Regrouping SR Subtraction Regrouping	Record the box checked on each Landing page here. Make any notes that will be useful to others during intervention or progress monitoring meetings.
--	--

Landing	Topic	Notes/observations
1	<input type="checkbox"/> <input type="checkbox"/> PV	
2	<input type="checkbox"/> <input type="checkbox"/> PV	
3	<input type="checkbox"/> <input type="checkbox"/> A	
4	<input type="checkbox"/> <input type="checkbox"/> S	
5	<input type="checkbox"/> <input type="checkbox"/> PV	
6	<input type="checkbox"/> <input type="checkbox"/> A	
7	<input type="checkbox"/> <input type="checkbox"/> S	
8	<input type="checkbox"/> <input type="checkbox"/> S	
9	<input type="checkbox"/> <input type="checkbox"/> PV	
10	<input type="checkbox"/> <input type="checkbox"/> S	
11	<input type="checkbox"/> <input type="checkbox"/> A	
12	<input type="checkbox"/> <input type="checkbox"/> S	
13	<input type="checkbox"/> <input type="checkbox"/> PV	
14	<input type="checkbox"/> <input type="checkbox"/> A	
15	<input type="checkbox"/> <input type="checkbox"/> AR	
16	<input type="checkbox"/> <input type="checkbox"/> AR	
17	<input type="checkbox"/> <input type="checkbox"/> AR	
18	<input type="checkbox"/> <input type="checkbox"/> AR	
19	<input type="checkbox"/> <input type="checkbox"/> AR	
20	<input type="checkbox"/> <input type="checkbox"/> AR	
21	<input type="checkbox"/> <input type="checkbox"/> AR	
22	<input type="checkbox"/> <input type="checkbox"/> SR	
23	<input type="checkbox"/> <input type="checkbox"/> SR	
24	<input type="checkbox"/> <input type="checkbox"/> SR	
25	<input type="checkbox"/> <input type="checkbox"/> SR	
26	<input type="checkbox"/> <input type="checkbox"/> SR	
27	<input type="checkbox"/> <input type="checkbox"/> SR	
28	<input type="checkbox"/> <input type="checkbox"/> SR	
29	<input type="checkbox"/> <input type="checkbox"/> SR	
30	<input type="checkbox"/> <input type="checkbox"/> SR	

Kickstart: Number Sense Stage D
R 4
Daily Student Progress Monitoring


TEAM POINTS AND LEVELING UP WITH THE CRANE-IUM COMPETITION

Using the best we know from brain research, *Kickstart: Number Sense* Stage D has a built-in structure for student motivation. Team points are meant to leverage student participation and engagement, thereby allowing more information to be logged in students' long-term storage. Each day, students earn team points for actions such as participating, completing work, cooperation, sharing an idea, recognizing a mistake, or perseverance. At the end of every five lessons, if the combined team total meets or exceeds the amount needed to compete (see below), they can enter the CRANE-ium Competition where the team can choose between Task A or Task B. As a group, the team works toward an answer. If correct, the whole team advances to the next color level. If incorrect, they may choose to sacrifice all their points to gain a hint from the instructor and try the other question. If the team does not need to use a hint, they will start the next level with 10 team points as a bonus. **It is the instructor's job to make sure the team always has enough points to compete in the CRANE-ium Competition.** Many behaviors can be praised like keeping hands to self, staying seated, coming to the group ready to learn, listening respectfully to peers, or offering ideas. **Points should rarely if ever be awarded for correct answers or being the first to answer.** Find reasons to give points. This encouragement is academically useful too!

Points needed to compete in the CRANE-ium Competition:

If there are this many group members who regularly attend:	Averaging this many individual points per lesson:	Lessons between CRANE-ium Competitions:	This many combined points are needed to compete:	The reasoning behind the points needed:
6 students	3 points	5 lessons	90 points combined	6 students x 3 points per lesson x 5 lessons = 90 group points
5 students	3 points	5 lessons	75 points combined	5 students x 3 points per lesson x 5 lessons = 75 group points
4 students	3 points	5 lessons	60 points combined	4 students x 3 points per lesson x 5 lessons = 60 group points
3 students	3 points	5 lessons	45 points combined	3 students x 3 points per lesson x 5 lessons = 45 group points

It is the instructor's job to help students average around 3 points each per lesson. There is a Team Point Tracker (Reproducible R5) that the instructor should use to keep track of how many points are earned by lesson. This is to help the instructor make sure enough positive reinforcement



CRANE^{ium} COMPETITION

Level up after every five lessons to reach GOLD for your group!

Start	Level Red
After Lesson 5, earn	Level Orange
After Lesson 10, earn	Level Yellow
After Lesson 15, earn	Level Green
After Lesson 20, earn	Level Blue
After Lesson 25, earn	Level Purple
After Lesson 30, earn	LEVEL GOLD

points are awarded at every session to ensure the group gets to participate in the CRANE-ium Competition. DO NOT hold students back on progress through the program because of their lack of ability to level up.

Subtraction Regrouping

Lesson 25

Activity 1

Takeoff: Numberless Data Problem

T: Like a few days ago, I have a numberless question for you. You don't need to *solve* the problem, just explain your steps for how you'd go about it. Suns, you'll go first after everyone gets some time to think. First question: How would you find out how many minutes of recess the students had this week combined?

Let students think for a moment, then give the Suns time to share. It is a complicated mental process to explain how you'd solve a math problem without solving it, so time and practice are critical.

T: Moons, it's your turn. What steps would you follow to find out how many more minutes of recess students got on Friday than on Wednesday?

Give everyone time to think, then have Moons share. They don't have to be great at explaining it; the practice is important.

Materials

- For the teacher:
- Activity Card 50



Day	Recess Time
Monday	45 minutes
Tuesday	40 minutes
Wednesday	40 minutes
Thursday	55 minutes
Friday	60 minutes



Keep this under five minutes!

Activity Card 51



I will subtract 2-digit numbers with regrouping using dots on a Place Value Chart.



Keep in mind that points are a way to engage students, increase their dopamine, and prepare students for the CRANE-ium Competition every five lessons. Continue looking for opportunities to award points to students for their participation, cooperation, idea sharing, partner work, precision, direction following, perseverance, and even enthusiasm. Points should rarely be awarded for correct answers.

Lesson 25

Subtraction Regrouping

Activity 2

Subtraction Regrouping

Regrouping with Dots on the Place Value Chart

T: The managers at Cory's Candy Company are away developing a new kind of gumball that also brushes your teeth, so they need your help in the warehouse to make sure the right number of gumballs are in tubes and boxes. But before they can hire you, they need to know that you understand the whole process of regrouping a tube of 10 gumballs for 10 loose gumballs. This whole session will be getting you ready to do it on your own.

First, we are going to make sure that you still remember how to tell if you need to regroup or not. I'm going to point to different problems, and you and your partner need to decide quickly if regrouping is even necessary. Remember our hand signals are a finger pointing to the right if you need to regroup, and a STOP hand if you can finish the subtraction problem without regrouping. Are you ready?

Show Activity Card 52 and use your finger or a pencil to point at random problems (don't go in order). Pay attention to how quickly and accurately the partners answer. Go back to problems more than once, because it's funny and also a good way to see if they are answering the same both times. This whole process should take about 1 minute.

T: Nice work, everyone. Now take out your Place Value Chart and set up the dots you need to finish this problem.

Point to $94 - 28$ on the page.

T: Show me your SmartPALs with 94 on them.

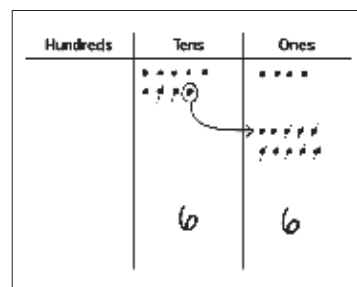
Check to see that students set up only 9 dots in the tens place and 4 dots in the ones. If any students are incorrect, say that you notice not everyone's chart looks the same and ask if anyone has suggestions. Wait for students to help each other.

T: You told me a moment ago that we need to regroup with this problem. I need a volunteer to use your "teacher voice" and pretend you're the teacher to tell us how we move a ten to become 10 ones on the chart.

Call on a volunteer and listen for correct instruction; namely, that one of the dots in the tens place should be circled, and an arrow drawn to the ones place where 10 dots are then drawn.

T: Next, I need another volunteer to use your "teacher voice" and tell us how we show that we are taking away 28.

Call on a volunteer and listen for correct instruction; namely, to slash out 8 dots in the ones and 2 dots in the tens.



T: Last step, I need yet another volunteer to use your "teacher voice" and tell us how we find our answer!

Call on a volunteer and listen for correct instruction; namely, to count the remaining dots in each column and write the digit in that column.

T: Nice work! You are well on your way to getting a job at Cory's Candy Company.

Materials

For the teacher:

- Activity Card 52

Per student:

- SmartPAL and dry erase pen
- Place Value Chart (R7)

54 $- 18$ YES regroup	72 $- 41$ no regroup	66 $- 27$ YES regroup	90 $- 32$ YES regroup
43 $- 23$ no regroup	94 $- 28$ YES regroup	76 $- 50$ no regroup	88 $- 39$ YES regroup

Stage D Sample Lesson Continued

Subtraction Regrouping

Lesson 25

Activity 3

Subtraction Regrouping

Partners Regroup to Subtract on the Place Value Chart

T: We are going to practice with our partners the same way we have been practicing the last few times we've been together. Remember, if you see your partner make a mistake, that's okay, *mistakes are great if we learn from them!* Simply ask, "Are you sure about that?" and help them find their mistake. I'll be listening for helpful partners, and I am definitely in the mood to award some points today! Each partnership needs only one *SmartPAL* with a Place Value Chart inside. Hand out Reproducible page 28, face down.

T: To start, you will turn over the paper. Look at the symbols to show you which partner does each job. The first partner will draw the dots on the Place Value Chart and the other partner will make the marks on the Place Value Chart to regroup and subtract. Then the first partner will write your answer on the paper and hand it to me to check.

Are you ready?

Once students are clear on the instructions, let them proceed at their own pace. After each problem, take back your cubes and return the sticks they traded so they have enough supplies to keep working. It is more important for students to practice and understand the steps of regrouping and be able to work the problems together than it is to get through all four problems. Award points for helpful teamwork, fixing mistakes, showing neat work on the Place Value Chart, and using clear math language with each other. As partners finish or when time runs out, move on to the Landing sheet.



Materials

Per partnership:

- *SmartPAL* and dry erase pen
- Place Value Chart (R7)
- Reproducible (R28), loose
- Pencil

Activity 4

Landing

Check the clear box if the student completes the tasks on the Landing page correctly (see answer key).

Check the gray box if the student does not complete the tasks correctly.

Record results on each student's Daily Progress Monitoring Page (R4).

Materials

Per student:

- Landing 25
- Pencil



Proceed to the CRANE-ium Competition on the next page.

Lesson 25

CRANE-ium Competition

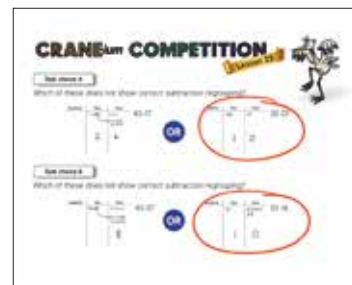
Every five lessons, after completing their Landing sheet, the group will have the opportunity to compete in a CRANE-ium Competition if they have earned enough points as a team. For this day's competition, the team needs to have the combined points as outlined below.

It is the instructor's job to ensure that students DO have enough points to compete every five lessons.

If there are this many group members who regularly attend:	This many group points are needed to compete:
6 students	90 group points
5 students	75 group points
4 students	60 group points
3 students	45 group points

Materials

- Activity Cards 1 and 53



Once students have their final point total for the five-lesson set, let them know if they have enough points to compete.

T: Students, today's CRANE-ium Competition requires ___ points for you to enter the competition. Our team has ___ points!

(More points than required.)

T: In this competition, you will be working with your team to choose and complete a math task. If you correctly solve the task you've chosen, your group will level up to the next color. Right now you are at Blue. The next color level is Purple. If you do not correctly solve the task you've chosen, you have one more opportunity to level up by solving the second task. If your group chooses, you may cash in all of your points to ask for a hint before you start on the second task. If you don't use up all your points and you answer correctly, you get to start the next level with 10 bonus points. You should collaborate with your team to complete the task, and I will only check your answer when the group agrees on a final answer together. You may use any of the tools we have used up to this point to solve, including the 100 Chart, the Place Value Chart or Cards, Base Ten Pieces, and SmartPALs. Here are the tasks you may choose from.

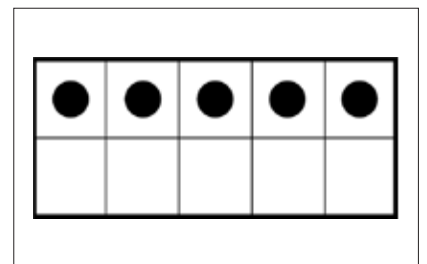
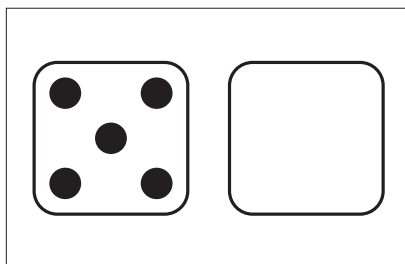
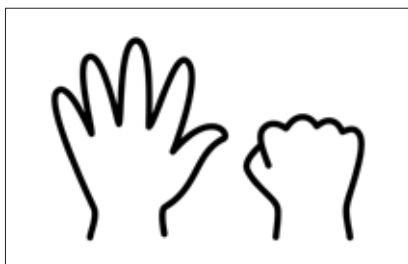
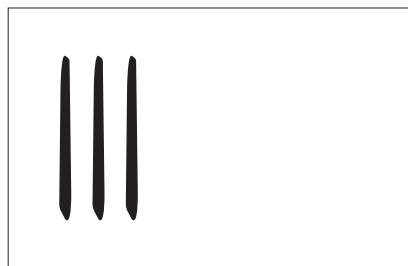
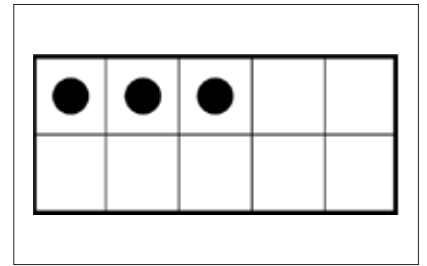
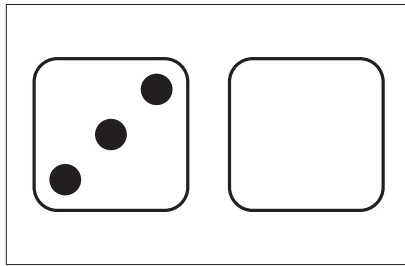
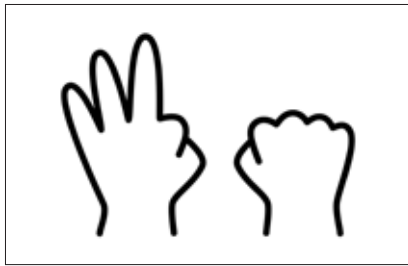
Show Activity Card 53 and give the team time to decide which of the two tasks they want to complete. If incorrect on the task they choose, they may try the second one with or without a hint. A hint can be bought with all of their points. If they don't use a hint and answer it correctly, they get 10 bonus points to start the next level.

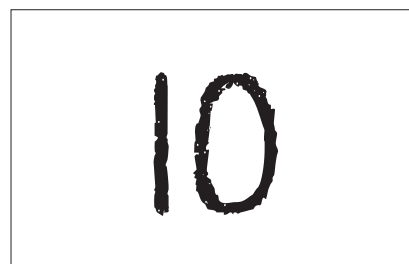
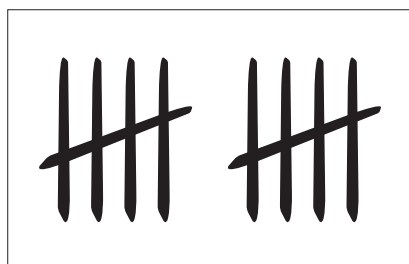
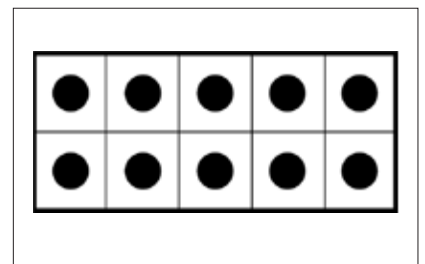
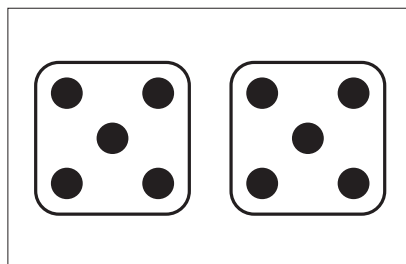
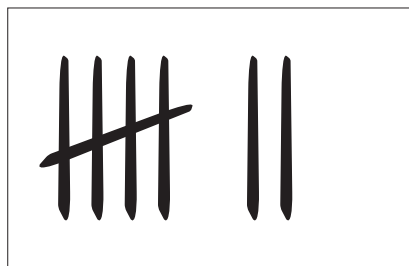
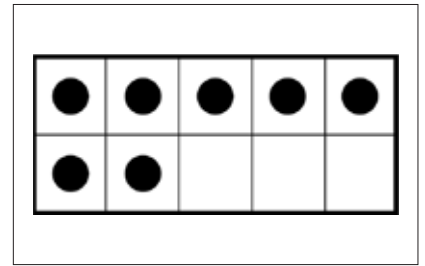
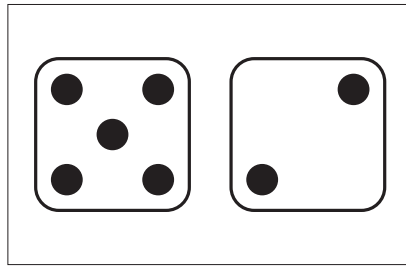
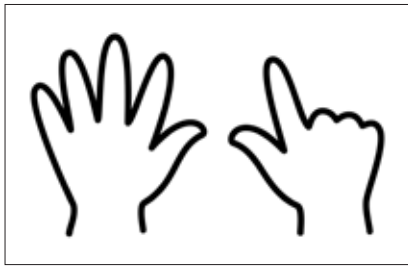
Hint (upon group request):
"Use a Place Value Chart to draw the task yourselves."

Perhaps your group has answered the first question incorrectly, has taken the hint, and is still headed in the incorrect direction for the second question. Encourage/nudge the group by saying, "Would you like to use a math tool (Number Line, Base Ten Pieces, a Place Value Chart, etc.) to help you solve the problem?" If they seem done and are about to finalize their answer but you see they still have the wrong answer, try hinting, "I'm going to give you a minute to check your work one last time before finalizing your answer." It is the instructor's job to give them every possible tool to be successful on their own. The colored levels should be a fun and positive reward for coming to the group and making progress.

DecaDeck Sample Cards

The **Kickstart: Number Sense** DecaDeck features five visual representations of each of the numbers 0–10. Students see what each number looks like on their fingers, on dice, in a ten frame, as tally marks, and as a printed numeral. See examples below.





KICKSTART

Number Sense

Learn more about ***Kickstart: Number Sense***, including access to foundational research and efficacy studies:

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