



The program that takes the struggle out of math

## Level 1 Teacher's Manual Sample

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# **Preparing for Level 1**

## Start Here!

To prepare for teaching *All About Math* Level 1, you can either watch our short videos or follow the checklist on the subsequent pages. Do whichever works best for you!

### Option 1: Watch the Videos



Go to [www.aalp.tv/math-level-1](http://www.aalp.tv/math-level-1) on your phone, tablet, computer, or scan the QR code to be taken directly to the videos.



Let us show you how to get set up for success!



After watching the videos, turn to page 35 of this Teacher's Manual to start teaching the first lesson.



### Option 2: Read the Following Pages



Check off each as you complete it.



## Is Your Student Ready for *All About Math 1*?

Beginning Level 1 of *All About Math* is an exciting milestone for both you and your student. Before you begin, use the checklist below to see if your student has the foundational skills that support learning and will help your student be successful.

### Your student:

- |   |  |
|---|--|
| <input type="checkbox"/> Can follow simple multistep directions like, “Please get your jacket off the hook and put it on.”  | <input type="checkbox"/> Participates in conversations by asking and answering simple questions.   |
| <input type="checkbox"/> Has an attention span of at least 10 minutes. Can focus on playing a game, building with blocks, working on a puzzle, coloring, or engaging in a similar activity for at least 10 minutes. | <input type="checkbox"/> Retells simple stories or describes recent events. For example, “This morning, I dug a hole in the yard, and three bugs crawled out of it! One of them got on my hand, but I brushed it off.” |
| <input type="checkbox"/> Can speak or communicate to express needs, wants, and thoughts clearly enough to be understood by the person teaching the program.   | <input type="checkbox"/> Can orally count to at least 5.   |
| <input type="checkbox"/> Can play a game with rules such as Chutes and Ladders, Simon Says, or Tic Tac Toe.   | <input type="checkbox"/> Is beginning to trace, copy, and draw simple lines and shapes like circles and squares.   |
|   | <input type="checkbox"/> Is starting to form letters and numbers, especially those in their name.  |

These skills are not strict requirements, but they will help to both create a smoother start and build confidence as your student begins their learning journey.

### How did your student do?

- If you checked seven or more of the boxes, your student is ready to try the Level 1 *All About Math* program.
- If you checked six or fewer boxes, you might want to provide additional practice with the skills that your student struggled with before beginning Level 1.

If you have any questions about the program or would like to learn how to adapt certain aspects of the program to accommodate your child’s needs, feel free to call us at 715-477-1976 or email us at [support@allaboutlearningpress.com](mailto:support@allaboutlearningpress.com). And if you need ideas on how to help your child build skills, just let us know—we are always happy to help!



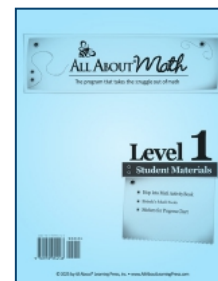
## Gather the Materials

In addition to this Teacher's Manual, you will need the following items:

### 1 Student Packet

The Student Packet contains:

- *Hop into Math!* activity book
- Stickers for the Progress Chart
- Brinda's Math Tools (See page 25, Preview *Brinda's Math Tools*, for more details)



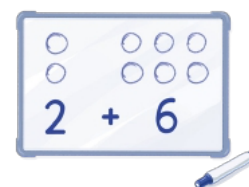
### 2 All About Math Manipulatives Kit

The manipulatives kit includes hands-on materials to support learning. See page 21, Learn about the Manipulatives, for more details about the manipulatives for Level 1.



### 3 Dry-erase board and Markers

You can use any size. We recommend a hand-held dry-erase board for ease in demonstrating concepts. However, if you already have a dry-erase board for *All About Reading* or *All About Spelling*, you can also use your existing board.



### 4 Folders (Optional)

It's helpful to have a folder for storing Brinda's Math Tools. You may also want a folder for storing Brinda's Math Fun! games so they can be replayed.





## The *All About Math* Method

**First of all, you can do this!** *All About Math* is a scripted, open-and-go program developed for busy parents, teachers, and tutors who want to teach mathematics in the most effective way possible. This program doesn't require long periods of study, you don't have to develop your own lesson plans, and you don't have to stress over what to teach next—because everything is laid out for you, step-by-step. You'll get a solid grounding in how to teach mathematics without being overwhelmed.

**Your student will be actively involved in the learning process.** This is a truly multisensory program; your student will learn through sight, sound, and touch. Everything is taught in context, and your student will apply what he has learned right away. Your student will be engaged in thinking, processing, comparing, and learning.

Students who use the *All About Math* method tend to feel a sense of excitement in learning. And they should! They are learning how to think, explore, and grow in their abilities. They will feel successful as they see continual progress.

**There are no gaps in this program.** *All About Math* teaches your student everything he needs to know to build a strong foundation of numeracy, operation, and algebraic thinking. Each concept builds upon the previous one, ensuring a comprehensive understanding that leverages existing knowledge.

Level 1 introduces basic skills like subitizing and counting to 100 and builds upon those skills to teach adding and subtracting two-digit numbers, comparing numbers, measuring, and more!

### ***All About Math* acknowledges the diverse needs of learners and addresses the five key components of effective instruction:**

1. **Strong Conceptual Understanding:** We connect mathematical concepts, fostering a deeper understanding that transcends memorization.
2. **Procedural Fluency and Skills:** Students master essential skills like addition, subtraction, multiplication, and division through practice and application.
3. **Communication and Collaboration:** We encourage students to explain their reasoning, fostering collaboration and clear communication through discussions and activities.
4. **Assessment and Differentiation:** Our program offers regular assessments so you can see how your student is doing. It allows you to cater to individual needs by offering differentiated instruction; instruction that allows you to adjust the pace, complexity, and activities to your student's needs.
5. **Positive Learning Environment:** We encourage students to believe in their ability to learn and grow through perseverance and effort.



***All About Math* is a mastery-based program.** As such, the levels don't necessarily correspond to grade levels. In mastery-based learning, students master foundational concepts before moving on to more advanced concepts, regardless of age or grade level. Some concepts will take many lessons to master. The instructions in each lesson help you know whether to move on, while the concept reminders on the *Daily Review Tracker* help you continue to work toward mastery.

**Most importantly, *All About Math* is committed to results.** The *All About Math* program has a very focused mission: to enable you to teach your student mathematics while guaranteeing retention and enjoyment. Our approach to mathematics focuses on enabling students to become confident, fluent mathematicians who can absorb and retain new information.

If you ever have a question as you are teaching, please feel free to contact us at [support@allaboutlearningpress.com](mailto:support@allaboutlearningpress.com) or 715-477-1976.

We're here to help!



## Preview the Teacher's Manual

As you flip through the Teacher's Manual, you'll notice that all the lessons are laid out for you step-by-step. You'll also find two types of lessons:

- **New Concept Lessons:** In these lessons, your student will learn new skills and concepts. You can see an example of a typical "New Concept" lesson in Lesson 2 on page 41.
- **Progress Monitoring Lessons:** In the Show What You Know! lessons, your student will review and practice the new concepts taught in the previous lessons. You can see an example of a typical Progress Monitoring lesson in Lesson 11 on page 103.

Each new concept lesson consists of six parts:

1. **Before You Begin:** This cream-colored box contains an overview of the lesson and is meant only for you, the teacher. Reading it takes only a few minutes, after which you'll be well-equipped to teach the lesson confidently.
2. **Review:** You will begin the lesson by reviewing concepts learned previously, giving your student a quick review of skills or concepts essential to the new learning. Starting in lesson 5, you will need your student's *Daily Review Tracker* for this part of the lesson.
3. **New Teaching:** This is the hands-on, multisensory portion of the lesson. Your student will work with the manipulatives as you gradually introduce new concepts. Scaffolding techniques such as modeling, guided practice, and feedback help students progress at their own pace and achieve deeper understanding.

Then, your student will use activity sheets as she continues to practice the new concepts. The activities encourage teachers to highlight connections, helping students see the bigger picture and develop a more coherent understanding of mathematical concepts.

Finally, Math Reflections encourage your student to ask questions and express her understanding. This allows the teacher to identify any misconceptions and address them directly.

(See page 17, Math Reflections and Dialogue, for more details)

4. **Extended Practice:** Optional activities are included for students who need more practice. By revisiting and practicing the skills in different ways if needed, students develop fluency and automaticity, allowing them to solve problems and perform calculations with greater accuracy and speed.
5. **Brinda's Math Fun!:** Fun and engaging activities provide opportunities for your student to use and apply the new concepts she has learned in a meaningful context. This helps her move the information from short-term to long-term memory, strengthening her understanding and improving her ability to recall and apply concepts later. These activities are designed to encourage playing more than once to reinforce concepts and skills.

6. **Track Your Progress:** At the end of each lesson, record your student's progress on the Progress Chart.

Take a few minutes to flip through the Appendices section starting on page 491. The Appendices include a few extra resources to help you and your student get the most out of your math lessons.



## Math Reflections and Dialogue

It's incredibly important for children to talk about what they are learning in math. Verbalizing their thinking helps deepen their understanding, build critical reasoning skills, and strengthen their ability to communicate complex ideas. That is why you will find “Math Reflection” sections in every *All About Math* Lesson, and you will also see dialogue encouraged throughout. Here are some key benefits of encouraging math discussions:

### Math Reflection

“Let’s Reflect!”

Ask some questions to guide your student’s reflection:

- “What is an example of a teen number?”
- “How can a *10-Frame* help you with building teen numbers?”
- “What is one thing you want to practice more?”

This section is located after the Complete Activity Sheet section in each New Concept Lesson and after the last question in each Progress Monitoring Lesson.

**Deepens Understanding:** When your student talks through a problem, he is forced to clarify his thinking. Explaining his reasoning helps solidify the concepts in his own mind, making it easier for him to understand and retain the material. Talking through math problems can also reveal misunderstandings or gaps in knowledge. If he is unable to explain his thinking, it may highlight areas where he will need further instruction or support.

**Encourages Active Engagement:** Math discussions help your student move from passively receiving information to actively engaging with the material. When he verbalizes his thought processes, he is more likely to take ownership of his learning and develop a deeper connection to the content.

**Promotes Critical Thinking and Problem Solving:** Talking about math encourages your student to reason logically and justify his thinking. Discussing different strategies and approaches fosters critical thinking and can lead to deeper insights and a broader range of strategies for solving problems.

**Enhances Mathematical Vocabulary:** Talking about math helps your student develop and expand his mathematical vocabulary and encourages him to use specific, accurate language, which reinforces his understanding of the terms and concepts involved.

**Improves Memory and Retention:** When your student talks about math, he is engaging both the verbal and cognitive centers of the brain, which enhances memory and understanding. Explaining concepts to others forces him to organize and articulate his knowledge in a coherent way, and reinforces learning and retention.

**Encourages a Positive Attitude Toward Math:** By encouraging your student to talk about his learning, we help him see math as a subject he can engage with and discuss, rather than a subject that is difficult or intimidating. Positive discussions about math help develop a healthy attitude toward the subject and can reduce math anxiety.

Talking about math in real-world contexts or through stories can help him see the relevance and practical applications of what he is learning, making math more engaging and meaningful.



- Progress Chart
- *Daily Review Tracker*
- Activity Sheets
- *Brinda's Math Fun!*
- Certificate of Achievement

The lesson plans in the Teacher's Manual will tell you which pages you need for each lesson. The pages in the activity book are perforated for easy removal.

Let's take a quick look at each part of the activity book.

## Progress Chart



The *Progress Chart* can be found on page 5 of the activity book.

This chart is a fun and encouraging way to help students see their progress as they work toward understanding mathematics.

Remove the chart along the perforation and find a special spot to display it. You might choose a bulletin board, the refrigerator, a folder, or any other place that is easy to access and see.

After finishing each lesson, have your student color in or place a sticker over the corresponding circle on the chart. It is a great way to celebrate her hard work!

## Daily Review Tracker

The *Daily Review Tracker* can be found on pages 7 to 8 of the activity book.

Lesson 1: Basic Reading Strategies			
Skills Objectives	Age	Language and Literacy	Notes
<ul style="list-style-type: none"> <li>Identify and label the different groups of objects.</li> <li>Classify objects (e.g. flowers) according to their color.</li> </ul>	4-5 years	<ul style="list-style-type: none"> <li>2-30 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Read and understand the text.</li> </ul>	5-6 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Identify and label the different groups of objects.</li> </ul>	6-7 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Read and understand the text.</li> </ul>	8-9 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Identify and label the different groups of objects.</li> </ul>	10-11 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Read and understand the text.</li> </ul>	12-13 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Identify and label the different groups of objects.</li> </ul>	14-15 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Read and understand the text.</li> </ul>	16-17 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Identify and label the different groups of objects.</li> </ul>	18-19 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Read and understand the text.</li> </ul>	20-21 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Identify and label the different groups of objects.</li> </ul>	22-23 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Read and understand the text.</li> </ul>	24-25 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Identify and label the different groups of objects.</li> </ul>	26-27 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Read and understand the text.</li> </ul>	28-29 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Identify and label the different groups of objects.</li> </ul>	30-31 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Read and understand the text.</li> </ul>	32-33 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Identify and label the different groups of objects.</li> </ul>	34-35 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Read and understand the text.</li> </ul>	36-37 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Identify and label the different groups of objects.</li> </ul>	38-39 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Read and understand the text.</li> </ul>	40-41 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Identify and label the different groups of objects.</li> </ul>	42-43 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Read and understand the text.</li> </ul>	44-45 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Identify and label the different groups of objects.</li> </ul>	46-47 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Read and understand the text.</li> </ul>	48-49 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Identify and label the different groups of objects.</li> </ul>	50-51 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Read and understand the text.</li> </ul>	52-53 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Identify and label the different groups of objects.</li> </ul>	54-55 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Read and understand the text.</li> </ul>	56-57 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Identify and label the different groups of objects.</li> </ul>	58-59 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Read and understand the text.</li> </ul>	60-61 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Identify and label the different groups of objects.</li> </ul>	62-63 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Read and understand the text.</li> </ul>	64-65 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Identify and label the different groups of objects.</li> </ul>	66-67 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Read and understand the text.</li> </ul>	68-69 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Identify and label the different groups of objects.</li> </ul>	70-71 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Read and understand the text.</li> </ul>	72-73 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Identify and label the different groups of objects.</li> </ul>	74-75 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Read and understand the text.</li> </ul>	76-77 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Identify and label the different groups of objects.</li> </ul>	78-79 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>
<ul style="list-style-type: none"> <li>Read and understand the text.</li> </ul>	80-81 years	<ul style="list-style-type: none"> <li>10 different objects</li> <li>10 different colors</li> </ul>	<ul style="list-style-type: none"> <li>10 different objects</li> </ul>

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Lesson 1: Basic Reading Strategies

This *Daily Review Tracker* is a tool for you to use with your student during the review section of each lesson. It helps build a strong foundation in mathematics by supporting concept retention and reinforcing understanding, while also tracking mastery of each skill.

Starting in Lesson 4, you will be prompted to enter the date next to skills that have been introduced. This will help you track which skills have been taught and should be included as part of your daily review.

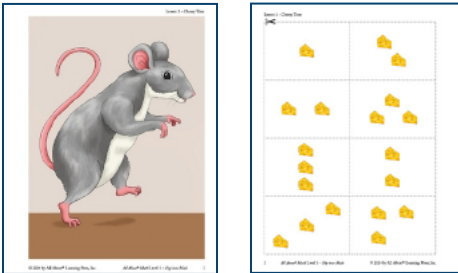
In Lesson 5, you will begin using the tracker to identify areas where your student may need more practice to reach mastery. You will know she has achieved mastery when she can perform the skill

consistently without assistance. Once she has demonstrated mastery, record the date in the ‘Date Mastered’ column.

As always, you are welcome to revisit any skill marked as mastered for a refresher or extra practice as needed.

Activity Sheets

The activity sheets are highly motivating for most students, offering a variety of ways to practice the new concepts introduced in each lesson. They often include engaging themes, colorful visuals, and hands-on interactive elements that make learning both fun and meaningful.

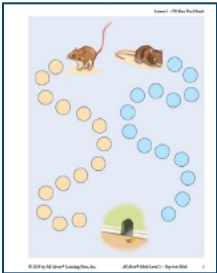


Take a look at the activity called “Cheesy Time” on page 9 of the activity book. When you get to Lesson 1, the lesson plans prompt you to cut out cheese cards. You will mix up and place the cards face down, and your student will choose a card to tell how many pieces of cheese she sees. If she is correct, she gets to give the cheese to the mouse.

If you are working with an older student who does not need the additional practice for a certain concept, or does not want to do “kid” activities, feel free to skip that particular activity sheet. But you may find that even adult learners enjoy the mental break that the activity sheets provide.

Brinda’s Math Fun!

Math games make learning math exciting by turning practice into play, allowing students to explore concepts in a fun and interactive way. They will build confidence and fluency with math concepts while keeping your student engaged and motivated.



Brinda’s Math Fun! can be found at the end of each new concept lesson. You can choose to play these games directly after the lesson or at another time. These games are designed to be played multiple times and are a great way to practice skills that are still developing.

Remove the Brinda’s Math Fun! games along the perforation. Once you have completed a game, place it in a safe spot or folder for easy access for later play.

Certificate of Achievement



The *Certificate of Achievement* can be found on page 395 of the activity book.

Presenting your student with a certificate upon completing the Level 1 program is a wonderful way to celebrate her hard work and achievements. It will boost her confidence and give her a sense of pride in reaching an important milestone.

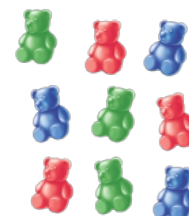


## Learn about the Manipulatives

We will be using four types of manipulatives. Below is an introduction to some of their uses.

**Counting Bears** are colorful, plastic bear-shaped manipulatives. They can be used for:

- **Counting and Number Recognition:** Students practice counting and identifying how many bears are in a group (subitizing).
- **Sorting and Patterns Sequencing:** Children can sort the bears by color or arrange them in repeating patterns (e.g. red, blue, red, blue), which helps them learn to classify, understand patterns, and predict sequences.
- **Basic Addition and Subtraction:** The bears can be used for hands-on practice with addition and subtraction by adding or removing bears from a group and counting the results.
- **Spatial Awareness:** Counting bears can also be used to teach concepts like “in front of,” “behind,” “next to,” and “on top of” as children place bears in different spatial arrangements.



**Connecting Cubes** can be snapped together to form longer chains or structures. They can be used for:

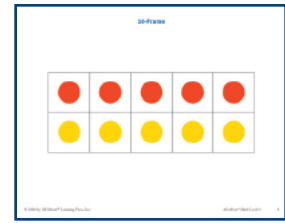
- **Counting and Number Recognition:** Connecting cubes are great for teaching children to count, recognize numbers, and understand one-to-one correspondence. By stacking cubes, students can visualize numbers and relate them to physical quantities.
- **Addition and Subtraction:** Connecting cubes can be used to model addition and subtraction problems. For example, adding cubes to a stack represents addition, while taking cubes away illustrates subtraction.
- **Place Value:** Connecting cubes can be grouped into tens to represent place value. A group of 10 cubes can represent “10,” and children can build numbers by combining different groups. This helps them understand the concept of tens, ones, and place value in a tangible way.
- **Measurement:** Cubes can be used to measure length or height by stacking them end-to-end. Children can compare the lengths of different objects by counting the number of cubes it takes to match the length or height of each object.
- **Patterns and Sequences:** Connecting cubes come in a variety of colors, making them ideal for teaching patterns. Children can create repeating patterns, such as “black, green, black, green,” and extend them. This promotes the understanding of patterns and sequencing.





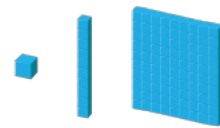
**Two-Color Counters** are small, circular discs that are red on one side and yellow on the other side. They can be used for:

- **Addition and Subtraction:** Two-color counters are often used to model simple addition and subtraction problems. Students can combine groups of different colors to find the total or remove some counters to show the difference.
- **Comparing Numbers and Greater Than/Less Than:** Children can visually compare different sets of numbers.
- **Understanding the Structure of 10:** Students can place some counters of one color in a 10-frame and then fill the 10-frame with the other color to identify pairs that make 10. Students can visualize teen numbers as the sum of 10 and some more.



**Base-10 Blocks**, also known as **place value blocks**, represent units of 1, 10, 100, and 1000. They can be used for:

- **Understanding Place Value:** Base-10 blocks are primarily used to teach the concept of place value. By physically grouping different blocks together, students can see how numbers are built up from ones and tens, and they can better understand how place value works. Each type of block represents a different place value:
  - **Unit (ones):** Small cubes that represent the number 1.
  - **Rod (tens):** Long rods that represent groups of 10.
  - **Flat (hundreds):** Square flats that represent groups of 100.
  - **Cube (thousands):** Cube that represents a group of 1000 (not used in Level 1).
- **Addition and Subtraction:** Students can use base-10 blocks to add numbers by combining groups of blocks. For example, adding 23 (2 tens and 3 ones) and 15 (1 ten and 5 ones) can be done by physically combining rods (tens) and cubes (ones), which helps students visualize the process of addition. When subtracting, students can remove blocks, and, if necessary, regroup (e.g., trading a rod for 10 units when subtracting more than is available).
- **Understanding the Concept of Larger and Smaller Numbers:** By using base-10 blocks, students can easily compare numbers based on their sizes. A number with more blocks (larger place values) is clearly seen to be greater. For example, 30 is represented by 3 rods, while 20 is represented by 2 rods, making it easy to visually see which number is larger.
- **Finding 1 more, 1 less, 10 more, or 10 less:** Base-10 blocks help students see how numbers increase or decrease as they add or remove blocks with different place values.



The *All About Math* Manipulatives Kit also includes:

- **Dry Erase Pocket:** a transparent-plastic pocket that turns any Math Tool or activity page into a dry-erase board.

The remaining items, Fraction Tiles, Rulers, and Protractor, will be used in higher levels.

The *All About Math* Manipulatives Kit comes in a plastic Storage Bin for ease and convenience.

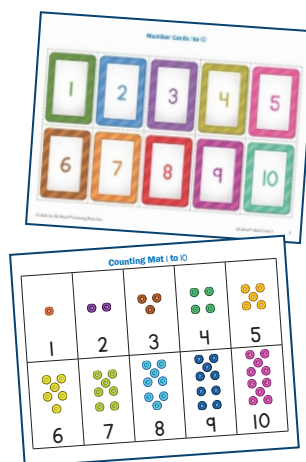




## Preview Brinda's Math Tools

Math Tools are printed resources that can be used in numerous ways to support student learning. In Level 1, Math Tools are primarily used to support numeracy, including counting and reading numbers. These tools include:

- Dot Cards
- Number Cards 0 to 120
- Counting Mat 1 to 10
- 5-Frame
- Comparing Mat 1 to 10
- 10-Frame
- 3 Read Strategy Poster
- Number Mat 1 to 120
- Double 10-Frame
- Addition and Subtraction Equation Mat
- Base-10 Tens Mat



Math Tools are reused for many lessons, so once you use them, be sure to save them for future use.



Consider keeping the materials in a folder and storing them in a binder or in the manipulatives storage bin.



## Learn about the *All About Math* Number Style

The *All About Math* number style in Level 1 reduces the likelihood of reversals or number confusion. Students do not have to write numbers the way the teaching materials show. Feel free to follow your own handwriting preferences and curricula. *All About Math* will transition to a standard number style in later levels.

Other Number Styles	<i>All About Math</i> Number Style
<div>69</div> <p>6 and 9 are rotations of each other.</p>	<div>69</div> <p>6 is composed of curves; 9 is composed of a circle and a line.</p>
<div>25</div> <p>The circular parts of numbers 2 and 5 have a similar size and shape, making these numbers prone to vertical reversals for some children.</p>	<div>25</div> <p>The curve of the 2 is more elongated and has a much wider opening. The curve of the 5 has a circular shape and a much narrower opening to distinguish it from a 2.</p>
<div>17</div> <p>The extension at the top of the 1 mimics the 7.</p>	<div>17</div> <p>The 1 is a straight line to distinguish it from a 7.</p>
<div>49</div> <p>A closed 4 may be mistaken for a 9.</p>	<div>49</div> <p>The open 4 prevents confusion with a 9.</p>



## How Much Time Should I Spend on Math?

*All About Math* lessons are designed so that you can work at your student's pace. Here are some general guidelines.



### Spend 20 minutes per day teaching math.

We recommend spending about 20 minutes per day, five days a week, on math instruction, but you can adjust this to meet your particular student's needs.

It can be helpful to set a timer. When 20 minutes are up, consider whether you have reached a logical stopping point in the lesson; you may want to complete the task or part of the task before stopping. Then, mark the spot in the lesson where you stopped. If your student is still engaged at the end of 20 minutes, feel free to extend the time if you wish.

When you begin teaching the next day, start with 1 or 2 items from the *Daily Review Tracker*, briefly review the New Teaching from the previous day, and then pick up in the Teacher's Manual where you left off previously. If your student struggles to remember previous learning, you can begin from an earlier point in the lesson.

Short daily lessons are much more effective than longer, less frequent lessons. Your student's attention is less likely to wander, and you can accomplish more when your student is actively engaged in the lesson.

If you aren't done with the lesson when the 20 minutes are up, don't worry! The next tip is for you.



### Lessons often take more than one day to complete.

Please know that the lessons in *All About Math* are not meant to be completed in one day.

A number of variables, including your student's age, attention span, prior experience, the difficulty of the concept being taught, and the length of the lesson, all play a part in how quickly a lesson can be completed.



## Bring a Great Attitude!

**Teaching your student can be a wonderful way to show him that he has great value in your eyes.** You can view this as an opportunity to build him up and help him develop skill and character. Can you see yourself as a calm, uncritical coach with the worthy goal of helping this child fulfill his natural potential? Imagine the type of teacher you would want: friendly, supportive, with a you-can-do-it attitude. Smile. Point out what your student has done right more often than you point out his mistakes. Treat lesson time as a special time between the two of you.

**Praise your student when he does well.** We can get so used to correcting students that sometimes we overlook opportunities to let him know when he is doing something right. Listen to yourself to see if you need to fit in more expressions of approval. Here are some ideas to get you started:

“Wow, you catch on fast!”

“Excellent—you did so well!”

“Very good! You are a quick learner!”

“I love to work with you.”

“Hey, you got that the first time!”

“You are doing great!”

“That was a tough one, and you got it!”

“Good for you!”

“You’re getting it!”

“Awesome job!”

“You remembered that from yesterday—great!”

“I can tell that you tried hard to figure that out.”

“Way to go!”

“Just last week, you couldn’t have done that!”

“Kind words can be short and easy to speak,  
but their echoes are truly endless.”

—Mother Teresa

2

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# **Complete Step-by-Step Lesson Plans**

# Lesson 1      Small Groups of Objects

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## Objective

Your student will learn to recognize and name small groups of objects and images without counting.

## You Will Need

- ☐ *Hop into Math!* pages 9 to 12
- ☐ Dot Cards 1 to 3, *Brinda's Math Tools*, page 1
- ☐ 3 Counting Bears

## Before You Begin

At the beginning of each lesson, you will find a cream-colored “Before You Begin” section like this one. Review these instructions before you begin the lesson.

The actual lesson plan you will teach your student begins after the “Before You Begin” section.

## Preview Subitizing

This lesson teaches a skill called *subitizing*. Subitizing is the ability to quickly and accurately recognize the number of items in a small group without needing to count them individually. Instead of counting, a student will quickly know how many objects there are and say the number aloud.

While some students might choose to count each object, in this lesson, we are concentrating on recognizing groups of objects without having to count them. This skill improves the understanding of numbers, making math and daily tasks easier.

## New Teaching

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## Practice Counting

“Let’s warm up our math minds by counting as high as we can. We can do this together!”

Count along with your student as high as she can go.

“Way to go! You counted to number \_\_\_\_ (add in the number she counted to).”



## New Teaching

(continued)



Your student is not expected to count to 100 without mistakes until the end of the Level 1 program. Continuous counting practice will be provided in the review section throughout the Level 1 program.

### Noticing Quantities of Counting Bears

“Quickly knowing how many objects there are helps us in games, sharing, and lots of other fun stuff we do every day. It is like having a special superpower that makes everything easier and more fun!”

“Before we use our superpowers, let’s count small groups of counting bears and notice how we see them.”

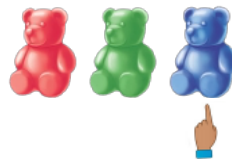
Show your student 1 counting bear.



“Can you tell me how many bears there are?” *One.*

“That is right! We know there is only 1 counting bear. We can see just 1 bear. Let’s try another one.”

Show your student 3 counting bears in a line. Point to each bear as you count along with your student.



“How many bears do you see?” *Three.*

“Nice work! There are 3 bears. (point to each bear) I see 1, 2, 3.”

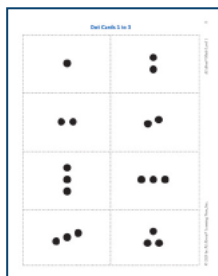
Show your student 2 counting bears. You may place them any way you like.

“How many bears do you see?” *Two.*

“Yes, there are 2 bears. With practice, you will be able to tell how many objects there are without needing to count them.”

## Practice Subitizing

“You noticed how many bears you saw in a group.”



### Dot Cards 1 to 3

Find the *Dot Cards* from *Brinda's Math Tools*, page 1. Cut out each of the dot cards that show 1 to 3 dots.

“Now, I am going to show you some pictures with dots on them. Your job is to look at the picture and tell me how many you see. The idea is to quickly know how many dots there are without counting. It is okay if you need to count each one in the beginning.”

Show your student the *Dot Card* of 2 dots as shown in this image.



“Here is a picture of dots. I knew right away there were 2 dots without needing to count. I can see (point to the dots) 1 dot and another dot. There are 2 dots.”

“Did you also notice there were 2 dots?”

“Now, it is your turn to try. Remember, it is okay if you need to count the dots.”

Show your student the *Dot Card* of 3 dots in a line.



“How many dots do you see?” *Three.*

“Great job! I see 3 dots in a line. (point to each dot) 1, 2, 3.”

“You have been telling me how many dots you saw. This time, I would like to know how you knew there were that many.”

Show your student the *Dot Card* of 3 dots in a diagonal.



“How many do you see?” *Three.*

“How do you know there are that many?” *I just know it is 3. I counted 1, 2, 3. It looks like the dots on a die.*

## New Teaching

(continued)

Asking your student how she knows how many objects there are will help her understand that numbers represent quantities.



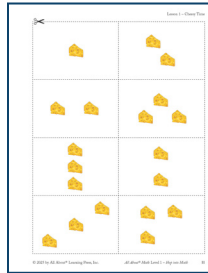
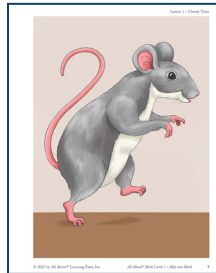
Continue to practice recognizing how many there are using the remaining *Dot Cards*.

Be sure to ask:

- “How many dots do you see?”
- “How do you know there are that many?”

## Complete Activity Sheet

“Let’s practice finding how many.”

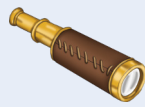


### Cheesy Time

Remove pages 9 and 11 from the *Hop into Math!* activity book. Cut out the cheese cards, mix them up, and place them face down.

Tell your student there is a mouse that just loves eating cheese. He cannot seem to get enough of it!

“Let’s help the mouse get his fill of cheese! You are going to choose a card. As soon as you flip the card over, tell how many pieces of cheese you see. If you are correct, we can give the cheese to the mouse.”



### Look For

Your student may want to count each object individually, even with a small group of objects.

**Here’s How to Help:** Provide your student with opportunities to practice the skill of recognizing the number of 1 to 3 objects in a small group without counting. For example, you can encourage your student to quickly recognize how many cups there are at meal time, use blocks to create small groups of objects with different quantities, or identify groups of objects in a grocery store.

## New Teaching

(continued)

## Math Reflection

“Let’s Reflect!”

Ask some questions to guide your student’s reflection:

- “What is one thing you found easy?”
- “What is one thing you want to practice more?”

## Extended Practice (*Optional*)

If your student struggles with subitizing, or if she expressed the need for more practice, continue working on this skill.

Use your *Dot Cards* or the cheese cards from the *Cheesy Time* activity to continue practicing how quickly your student can recognize how many objects she sees.

Since this is the first lesson on subitizing, she may need to count the objects frequently. This skill will improve over time. She will also practice subitizing in the next few lessons and during daily reviews. Please feel free to proceed to the next lesson or continue to practice using the *Dot Cards*.

If your student can quickly recognize the amount shown on each card, try reducing the amount of time you show the card to challenge her.



## Brinda's Math Fun!

### I'll Race You Home!

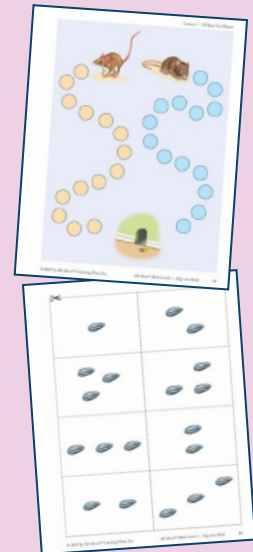
"Let's practice our math skills!"

#### Materials

- I'll Race You Home! Gameboard, *Hop into Math!* page 13
- Seed Cards, *Hop into Math!* page 15
- 2 Counting Bears or Connecting Cubes, to use as gamemarkers

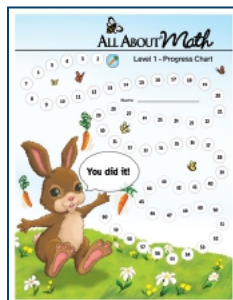
#### Directions

1. Each player will choose a mouse character, or one player can play for both characters and see which one wins.
2. Place a counting bear or connecting cube on each mouse at the starting point.
3. Cut out and mix up the *Seed Cards*. Place them face down in the center of the playing area.
4. Decide who will go first. The first player draws the top card from the stack to tell how many seeds there are without counting.
5. If the player is correct, she can move her marker that many spaces.
6. Continue playing, with each player taking turns drawing cards and telling how many there are.
7. The player who reaches the mouse home first wins!



## Track Your Progress

### Mark the Progress Chart



Have your student mark Lesson 1 on the Progress Chart.

# Lesson 2      Small Groups Around Me

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## Objective

Your student will learn to recognize small groups of objects in his environment.

## You Will Need

☐ *Hop into Math!* page 17

☐ Dot Cards 1 to 3

## Before You Begin

### Preview Noticing Small Groups

In this lesson, your student will hunt for clues like a detective to identify small groups of objects within his environment. He will recognize and name groups, including images of objects.

Noticing small groups (subitizing) in the environment provides your student with valuable opportunities to develop foundational math skills, make connections between math and the real world, and build his language abilities.

The focus is on noticing small groups of objects that are together. However, it is okay if your student spots or counts larger groups of objects. When he uses number names to describe these groups, he is connecting quantities with real objects in his environment.

### Review Sections and Counting Skills

Throughout Level 1, your student will engage in different counting activities and review other skills previously taught in the review section.

Note that counting skills take time to develop. Your student is not expected to master counting to 100 until the end of Level 1. Over time, your student will understand that, when counting, each object will be counted only once and that numbers have a set sequence. Your student will also learn how to apply counting in different situations.

### Prepare

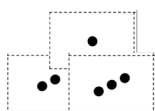
Place 5 small groups of objects, like pencils or other objects around your learning space. There should be one group of 1 object, two groups of 2 objects, and two groups of 3 objects. You are not limited to these objects or environments. If you would like, you can even explore outside.

### Daily Review

“Let’s get started by warming up our math minds and practice counting together to see how high we can go.” Count along with your student as high as he can go.

### Practice Subitizing

“Now, let’s review finding how many dots are in a small group without counting.”



Gather the *Dot Cards* you used in the previous lesson, mix them up, and place them face down in front of your student.

“Here are the *Dot Cards* we used in the previous lesson. You are going to turn over a card, tell me how many dots you see, and tell me how you know there are that many.”

Have your student turn over one card at a time. After each card, ask:

- “How many dots do you see?”
- “How do you know there are that many?”

If your student can quickly identify how many dots there are without counting, consider reducing the amount of time the card is shown, making adjustments as needed.



## New Teaching

### Finding Small Groups

“You are becoming a detective by noticing how many objects there are in a small group. There are groups of objects all around us.”

Point to a nearby group of 2 or 3 objects. Discuss with your student how many objects there are and how you know there are that many. For example, “Here are 2 pencils that are together. I know there are that many because I can see 1, 2 pencils.”

## New Teaching

(continued)

Feel free to show a few more examples to your student as needed.



It is okay if your student needs to count each object to tell how many there are. This skill develops over time and with practice.

“Now, it is your turn to put your detective skills to use. Let’s pretend to be detectives looking for 5 small groups that are in your environment.”

Have your student walk around his environment to find small groups of objects that are together. Give him as much time as he needs to find them. You may step in once your student has found at least 3 groups of objects.

“You used your detective skills to find objects that are in small groups. I am excited to see what you found!”

Have your student show you all the groups he found. As he shows you the groups, ask him the following questions:

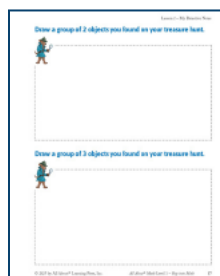
- “How many do you see there?”
- “How do you know there are that many?”

“When we see 2 apples or 3 toy cars together, we are learning about how numbers work in our everyday lives.”

“You found many groups of objects. Which group was the easiest for you to recognize quickly?” *Student answers will vary. The group with 2 objects together was easy to see.*

## Complete Activity Sheet

“Let’s show the small groups of objects we found.”



### My Detective Notes

Turn to page 17 in the *Hop into Math!* activity book.

“You worked really hard as a detective looking for small groups of objects around you. Detectives love to keep notes on what they discover.”

“Think about the groups of objects you found. Draw your favorite group of 2 objects and your favorite group of 3 objects on your activity page.”



## New Teaching

(continued)



### Look For

Your student may draw more items than what was seen.

**Here's How to Help:** Have your student show you the objects he wanted to draw. Count the objects together. Then have him draw only one image per object.

## Math Reflection

“Let’s Reflect!”

Show your student the *Dot Card* showing 3 dots.



“Show me how you would explain to a friend how many dots you see on this *Dot Card*.”

## Extended Practice (Optional)

If your student is not able to recognize groups of 2 or 3 objects, or he expressed the need for more practice, continue working on this skill.

There may be groups of objects that your student has not discovered yet. Pretend to be adventurers or detectives looking for lost objects. Take a walk through your environment, and look for more objects that are grouped together.

Excitedly point out objects, and discuss how many you see and how you know there are that many.

If it is a nice day, you can even go outside to find objects in nature. The ability to quickly recognize the number of objects in a small group without counting is a skill that develops over time with practice. You can proceed to the next lesson without the full mastery of the skill.

## Brinda's Math Fun!

### I Spy Small Groups

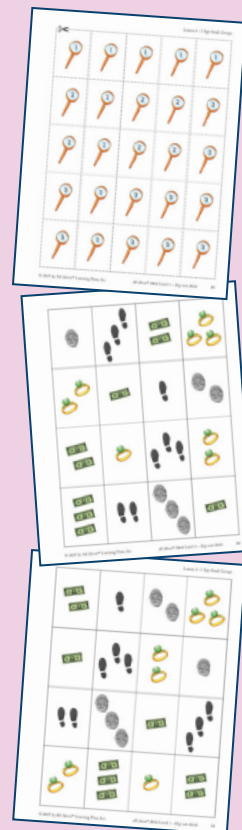
"Let's practice our math skills!"

#### Materials

- I Spy Small Groups Number Cards, *Hop into Math!* page 19
- I Spy Small Groups Gameboards, *Hop into Math!* pages 21 to 23
- Two-Color Counters

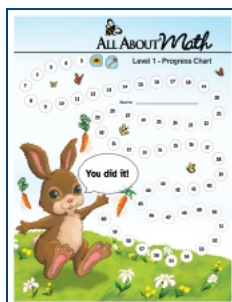
#### Directions

1. Place an *I Spy Small Groups* gameboard in front of each player.
2. Cut out and mix up the *I Spy Small Groups* number cards.
3. Use the *I Spy Small Groups* number cards to randomly call out the numbers 1 to 3.
4. Each player will look for the space showing the amount that was called out and will place a two-color counter over that amount.
5. The player who gets 4 in a row first is the winner.



## Track Your Progress

### Mark the Progress Chart



Have your student mark Lesson 2 on the Progress Chart.



I love seeing groups of 3!  
3 yummy dandelions,  
3 yummy clover petals!

# Lesson 3

## Noticing How Many

---

### Objective

Your student will learn to recognize and name small groups of dots and to describe how she sees them.

### You Will Need

- ☐ *Hop into Math!* pages 25 to 26
- ☐ Dot Cards 1 to 3
- ☐ Dot Cards 4 to 5, *Brinda's Math Tools*, page 2
- ☐ 5 Connecting Cubes

### Before You Begin

### Preview Recognizing and Naming Small Groups

In previous lessons, you explored the skill of subitizing, which means quickly recognizing the number of objects in a group without counting each one. In this lesson, you will continue to reinforce the skill of subitizing by increasing the group size to 5. This skill will help your student understand the relationship between numbers and quantities.

Throughout the lesson, you will ask your student how many dots she sees and how she knows there are that many. For example, she may describe 5 dots as a group of 4, with 1 in the middle. This type of questioning builds the understanding that organizing a group of objects in different ways will still show the same quantity. It also builds the foundation of addition by describing how the parts of a group of objects can equal the whole amount.

When you are asked to show your student a *Dot Card*, give her only a few seconds to see the card. Limiting the time she can see the card will encourage her to move away from counting each dot to find the total amount.

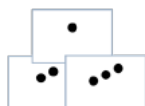
When you are asking your student to find the number of dots in the group, think about using the word “say” instead of “count.” For example, instead of saying, “Count the number of dots you see on the card,” try, “Say the number of dots you see on the card.” It is simple, but language matters.

## Review

“Let’s get started by warming up our math minds and practice counting together to see how high we can go.” Count along with your student as high as she can go.

### How Many Dots in the Group?

“Now, let’s find the amount of dots in a group.”



Find the *Dot Cards* 1 to 3 from *Brinda’s Math Tools*.

Hold up a *Dot Card* for your student to see. Hold the card up for only a few seconds, and then put it back down.

With each card, ask her, “How many dots did you see?” Continue until you have used all the *Dot Cards*.



You can reduce the amount of time the card is shown if your student can quickly identify how many dots there are without counting.

## New Teaching

### How Many Do You See?

“We have been working on saying the amount of objects in a group without counting each object. Now, we are going to practice saying the amount of objects in larger groups.”

“Let’s pretend we are in a grocery store. I need your help telling me how many of each kind of fruit I am putting into the grocery bag so I do not buy too much. We will use the connecting cubes as our pretend fruit.”

## New Teaching

(continued)



### What's in the Shopping Bag?

Remove page 25 from the *Hop into Math!* activity book. Place the shopping bag in front of your student.

Place 3 connecting cubes, as shown in the image, on the shopping bag. You can choose the type of fruit to name the connecting cubes to add some fun!



“How many do you see?” *Three.*

“Great job! I see a group of 2 and 1 on the side. I know that makes a group of 3.”

Clear the shopping bag. Then put 5 connecting cubes, as shown in the image, on the shopping bag.



“How many do you see?” *Five.*

“Yes! I see a group of 4, like the four corners of a square, and 1 in the middle. I know that makes a group of 5. I am going to buy 1 more type of fruit.”

Put 4 connecting cubes, as shown in the image, on the shopping bag.

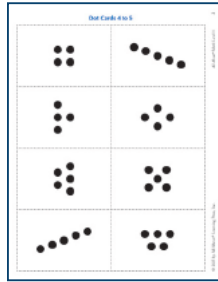


“How many do you see?” *Four.*

“You are right! How did you know there are 4?” *Answers may vary. I see a group of 2 on the top and a group of 2 on the bottom.*

“Thank you for helping me with the groups of fruit. Being able to see how many objects are in a group without counting is one way to find the total amount faster.”

## Is It 2?



### Dot Cards 4 to 5

Remove *Dot Cards* 4 to 5 from *Brinda's Math Tools*, page 2. Cut each *Dot Card* apart if you have not previously done so. You will also need *Dot Cards* 1 to 3 from *Brinda's Math Tools*.

Take out the *Dot Cards* showing 1, 2, and 4 dots. You will use the rest of the *Dot Cards* later in the lesson.

“Now, we are going to play a game called ‘Is It 2?’ When I show you a *Dot Card*, think about whether it shows the quantity of 2. If it is 2, give a thumbs up. If it is not 2, touch your toes.” Feel free to modify the actions based on your student’s needs.

Display each *Dot Card* one at a time, and each time, ask, “Is it 2?”

Show your student the *Dot Card* with 1 dot, followed by the *Dot Card* with 4 dots, and then the *Dot Card* with 2 dots.

This activity can be adjusted to meet the needs of your student. For example, you can have her do a thumbs down instead of touching her toes. Here are some other examples: stand up or sit down, touch her head or rub her tummy, or say yes or no.

“You did a great job playing the game ‘Is It 2?’ I can tell you are really catching on to recognizing the number of objects in a group! Now, I would like for you to share with me how you knew whether the amount on the *Dot Card* was 2.”

Show your student the *Dot Card* with 1 dot again.

“This was the first card. How did you know it was not showing the number 2?” *I can see there is only 1 dot on the card.*

Show your student the *Dot Card* with 4 dots again.

“This was the second card. How did you know it was not showing the number 2?” *I can see a group of 2 dots and another group of 2 dots. That makes 4 dots total.*

Show your student the *Dot Card* with 2 dots again.

“This was the third card. How did you know it was showing the number 2?” *I can see just a group of 2 dots.*

## New Teaching

(continued)

Asking your student how she compared the amount of dots on the *Dot Cards* to the number 2 increases her number sense by making the connection that numbers represent quantities and that each number has a specific quantity.

**Tip!**

## Complete Activity Sheet

“Let’s practice noticing how many are in a group.”



### Let’s Go Grocery Shopping!

Turn to page 26 in the *Hop into Math!* activity book.

Tell your student that you need her help again to find all the items you need from the grocery store. You have all the things you need drawn on a shopping list.

Your student will help make sure you get the correct amount of each item. Name the number of each item on the shopping list. For example, you would say “I need 3 tomatoes.” Your student would find the image showing 3 tomatoes and cross out those items.

Monitor your student’s work for accuracy in crossing out the correct items.



### Look For

Your student may want to individually count each object, even with a small group of objects.

**Here’s How to Help:** Provide your student with opportunities to practice the skill of recognizing small groups without counting each object. For example, you can encourage your student to quickly recognize how many small snack items you put out or the number rolled on a die while playing a game. The more your student practices this skill, the easier it will become!

## Math Reflection

“Let’s Reflect!”

Ask some questions to guide your student’s reflection:

- “How can you know the number of objects that are in a group quickly?”
- “What is one thing you found easy?”
- “What would you like more practice with?”



## New Teaching

(continued)

## Extended Practice (Optional)

If your student still needs to count each item instead of subitizing, or if she expressed the need for more practice, continue working on this skill.

Use all the *Dot Cards* to continue practicing how quickly your student can recognize how many objects she sees on each card. You can make it a game to see how many cards she can recognize in 10 seconds.



You can adjust the time (to more or less) that you give your student to recognize the cards.

Your student will continue to practice the skill of subitizing in future lessons. This is also a skill that will develop over time with practice. You can proceed to the next lesson without the full mastery of the skill.

## Brinda's Math Fun!

### How Many Groceries Do You See?

“Let’s practice our math skills!”

#### Materials

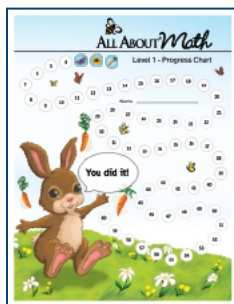
How Many Groceries Do You See? Cards, *Hop into Math!*  
pages 27 to 29.

#### Directions

1. Cut out and mix up the cards.
2. Divide the cards so that each player has the same amount.
3. Put the stacks of cards face down in front of each player.
4. At the same time, each player turns over the top card in the stack.
5. The player with the highest number of plums in her shopping bag wins the round and gets to keep the cards.
6. If all the players flip over the same number of plums, they will flip over the next card. Whoever has the highest number wins all of the cards from both rounds.
7. The game ends when one player has all the cards.



### Mark the Progress Chart



Have your student mark Lesson 3 on the Progress Chart.





Ooooo, that grocery shopping trip was exciting! So many yummy treats for us to eat! What's your favorite? Can you guess my favorite? Yep! It's carrots!

# Lesson 8      Counting Groups Within 10

## Objective

Your student will learn to show and explain how he counted a group of up to 10 objects and images.

## You Will Need

- ☐ *Hop into Math!* pages 57 to 60
- ☐ 5-Frame, *Brinda's Math Tools*
- ☐ Connecting Cubes
- ☐ 6 small cups
- ☐ dried beans or other small objects (optional)
- ☐ glue (optional)

## Before You Begin

### Preview Counting Groups

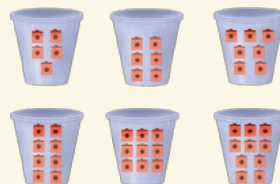
The activities in this lesson will provide your student with opportunities to show and explain how he counted.

It is important for your student to show and explain how he counted a group of objects and images, because this skill is crucial for understanding the relationship between numbers and quantities. Additionally, when your student explains his thought process, it helps to solidify his understanding and allows you to identify and address any struggles he may have.

Make sure to give your student an appropriate amount of time to process his thinking. It is okay if your student cannot identify all the numbers or explain his thinking at this time. His confidence in number identification and explanation will develop throughout the Level 1 program.

## Prepare

Prepare 6 small cups, one cup each with 5 connecting cubes, 6 connecting cubes, 7 connecting cubes, 8 connecting cubes, 9 connecting cubes, and 10 connecting cubes.



Set aside the cup of 7 connecting cubes. You will use this cup to model counting in the New Teaching section.

## Review

## Daily Review

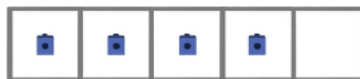
Level 1: Basic Reading Worksheet			
Section	Qs	Questions and Answers	Test Questions
Introduction	1	1.1 What is the purpose of this worksheet?	1
Section 1: Basic Reading Skills	2-5	2.1 What is the main idea of the passage? 2.2 What is the author's purpose? 2.3 What is the author's tone? 2.4 What is the author's attitude?	2-5
Section 2: Reading Comprehension	6-10	6.1 What is the main idea of the passage? 6.2 What is the author's purpose? 6.3 What is the author's tone? 6.4 What is the author's attitude?	6-10
Section 3: Reading Comprehension	11-15	11.1 What is the main idea of the passage? 11.2 What is the author's purpose? 11.3 What is the author's tone? 11.4 What is the author's attitude?	11-15
Section 4: Reading Comprehension	16-20	16.1 What is the main idea of the passage? 16.2 What is the author's purpose? 16.3 What is the author's tone? 16.4 What is the author's attitude?	16-20
Section 5: Reading Comprehension	21-25	21.1 What is the main idea of the passage? 21.2 What is the author's purpose? 21.3 What is the author's tone? 21.4 What is the author's attitude?	21-25
Section 6: Reading Comprehension	26-30	26.1 What is the main idea of the passage? 26.2 What is the author's purpose? 26.3 What is the author's tone? 26.4 What is the author's attitude?	26-30
Section 7: Reading Comprehension	31-35	31.1 What is the main idea of the passage? 31.2 What is the author's purpose? 31.3 What is the author's tone? 31.4 What is the author's attitude?	31-35
Section 8: Reading Comprehension	36-40	36.1 What is the main idea of the passage? 36.2 What is the author's purpose? 36.3 What is the author's tone? 36.4 What is the author's attitude?	36-40
Section 9: Reading Comprehension	41-45	41.1 What is the main idea of the passage? 41.2 What is the author's purpose? 41.3 What is the author's tone? 41.4 What is the author's attitude?	41-45
Section 10: Reading Comprehension	46-50	46.1 What is the main idea of the passage? 46.2 What is the author's purpose? 46.3 What is the author's tone? 46.4 What is the author's attitude?	46-50
Section 11: Reading Comprehension	51-55	51.1 What is the main idea of the passage? 51.2 What is the author's purpose? 51.3 What is the author's tone? 51.4 What is the author's attitude?	51-55
Section 12: Reading Comprehension	56-60	56.1 What is the main idea of the passage? 56.2 What is the author's purpose? 56.3 What is the author's tone? 56.4 What is the author's attitude?	56-60
Section 13: Reading Comprehension	61-65	61.1 What is the main idea of the passage? 61.2 What is the author's purpose? 61.3 What is the author's tone? 61.4 What is the author's attitude?	61-65
Section 14: Reading Comprehension	66-70	66.1 What is the main idea of the passage? 66.2 What is the author's purpose? 66.3 What is the author's tone? 66.4 What is the author's attitude?	66-70
Section 15: Reading Comprehension	71-75	71.1 What is the main idea of the passage? 71.2 What is the author's purpose? 71.3 What is the author's tone? 71.4 What is the author's attitude?	71-75
Section 16: Reading Comprehension	76-80	76.1 What is the main idea of the passage? 76.2 What is the author's purpose? 76.3 What is the author's tone? 76.4 What is the author's attitude?	76-80
Section 17: Reading Comprehension	81-85	81.1 What is the main idea of the passage? 81.2 What is the author's purpose? 81.3 What is the author's tone? 81.4 What is the author's attitude?	81-85
Section 18: Reading Comprehension	86-90	86.1 What is the main idea of the passage? 86.2 What is the author's purpose? 86.3 What is the author's tone? 86.4 What is the author's attitude?	86-90
Section 19: Reading Comprehension	91-95	91.1 What is the main idea of the passage? 91.2 What is the author's purpose? 91.3 What is the author's tone? 91.4 What is the author's attitude?	91-95
Section 20: Reading Comprehension	96-100	96.1 What is the main idea of the passage? 96.2 What is the author's purpose? 96.3 What is the author's tone? 96.4 What is the author's attitude?	96-100

As part of your math time each day, refer to your student's *Daily Review Tracker*. Choose 1 or 2 skills, and take a few minutes to practice.

## Practice Counting a Group of Objects

“Now, we will count a group of objects and tell how many there are.”

Place 4 connecting cubes in front of your student. Have him count the connecting cubes by either touching each one or moving each one to the 5-*Frame* as he counts.



“How many connecting cubes are there?” *Four.*

*“How do you know?” I touched each one as I counted, and I said the number 4 for the last one I touched, so there are 4 altogether. I moved each one to the 5-Frame as I counted it. The last one I moved was 4, so there are 4 in the group.*

## New Teaching

## Counting Groups of Objects

“You can find groups of balloons in many places, like birthday parties and carnivals. Let’s pretend that we have a balloon shop and need to count groups of balloons for our customers.”



## Beautiful Balloons

Remove page 57 from the *Hop Into Math!* activity book.

“We will use this balloon page to organize groups of connecting cubes.”

## New Teaching

(continued)

Show your student the cup with 7 connecting cubes that you have set aside.

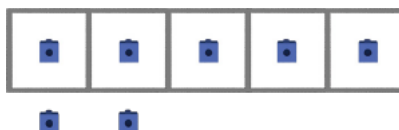
“I have a group of balloons. Watch me touch and move each connecting cube on top of each balloon as I count them.”

Place each connecting cube on top of a balloon as you are counting.



“I have 7 balloons. I counted them one by one as I placed each connecting cube on a balloon.” Now, watch me count the same group of connecting cubes a different way.”

Place the *5-Frame* in front of your student. Move 5 of the connecting cubes onto the *5-Frame*, and put the other 2 connecting cubes under the *5-Frame*.



“This time, I used the *5-Frame* to help me organize my objects as I counted them.

If your student needs more time working with groups within 5, use smaller groups of connecting cubes until he is ready to move to larger ones.



Have your student use the cups with 6 and 9 connecting cubes you prepared before the lesson. The other 3 cups will be used with the *Hop into Math!* activity book page later in the lesson.



Guide your student to pour the connecting cubes out of a cup. Then, have him count the connecting cubes by using the balloon page. When he is finished counting, ask:

- “How many are there?”
- “How did you count them?”

## New Teaching (continued)

Once he has answered and explained his way of counting, have him move and count the connecting cubes onto the *5-Frame*. Ask, “How many are there?” Then move on to the next cup until both groups have been counted.

## Complete Activity Sheet

“Let’s count groups of objects and explain how we counted them.”

The activity sheet is a table with three rows and two columns. The first column is titled 'How many?' and the second column is titled 'How did you count the collection?'. Each row contains a set of colored connecting cubes (red, yellow, green, blue, purple) and a 5-frame (a row of five boxes) for recording the count. The cubes are arranged in a single column in each row, representing the numbers 5, 8, and 10 respectively.

### Count the Cubes

Turn to page 59 in the *Hop into Math!* activity book.

Give your student the cups with 5, 8, and 10 connecting cubes that were prepared before the lesson. He will use these cups of connecting cubes to complete an activity.

Have your student pour the collection of connecting cubes out of a cup. Then, he will count the connecting cubes in a way that makes sense to him. Next, he will write how many connecting cubes there are in the cup and circle the picture that shows how he counted them.

### Answer Key

The answer key is a table with three rows and two columns. The first column is titled 'How many?' and the second column is titled 'How did you count the collection?'. Each row contains a set of colored connecting cubes (red, yellow, green, blue, purple) and a 5-frame (a row of five boxes) for recording the count. The cubes are arranged in a single column in each row, representing the numbers 5, 8, and 10 respectively. The numbers 5, 8, and 10 are written in the first column, and the 5-frame is empty in the second column.



### Look For

While it is okay for students to count objects in a random order, they should learn the importance of organizing their groups of objects. As groups of objects get bigger, neatly arranging them helps make counting easier and more accurate.

**Here’s How to Help:** Encourage your student to count in an organized way by modeling this behavior, and have him join in when cleaning up toys, putting away groceries or dishes, or getting out a snack.

## New Teaching

(continued)

## Math Reflection

“Let’s Reflect!”

Create two groups of 8 connecting cubes.

- One group should be in a random arrangement.
- One group should use the *5-Frame* as an organizational tool.

Have your student count each group. Ask these questions to guide his reflection:

- “How many are in each of the groups?”
- “Was one group easier to count than the other? Why or why not?”

## Extended Practice (Optional)

If your student is not able to count groups of objects, or if he expressed the need for more practice, continue working on this skill.



### So Many Balloons

Remove page 60 from the *Hop into Math!* activity book.

Have your student look at the number given in the balloon. Then, have him draw or glue small objects to represent the number. Have him organize them in a way that makes sense to him.

Your student is beginning to count groups of objects. There will be plenty of counting practice throughout the Level 1 program. You can proceed to the next lesson without the full mastery of the skill.



### Party Bears!

"Let's practice our math skills!"

#### Materials

- Party Bears!, *Hop into Math!* pages 61 and 63
- Number Cards 1 to 10
- Large pile of Counting Bears

#### Directions

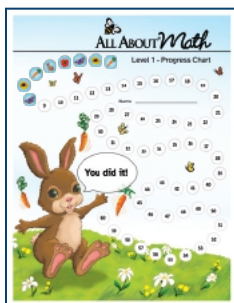
1. Scatter the counting bears in the center of the playing area.
2. Shuffle the *Number Cards*, and place them face down in a stack.
3. Each player takes turns choosing a *Number Card*.
4. When it is a player's turn, that player chooses a card and counts out the corresponding number of counting bears from the center of the playing area.
5. The player counts the counting bears aloud and then checks the count against the number on the card.
6. If the player's count matches the number, that player keeps the *Number Card* and adds the bears to the *Party Bears!* page.
7. If the count is incorrect, the counting bears are returned to the center of the playing area and the *Number Card* is returned to the bottom of the stack.
8. Play continues, with each player taking turns choosing a card and counting out bears until all the cards have been used.
9. The player with the most counting bears at the party wins!

Play can be extended by reshuffling the *Number Cards* and going through the stack again.



## Track Your Progress

### Mark the Progress Chart



Have your student mark Lesson 8 on the Progress Chart.

# Lesson 16      Creating Groups with More or Fewer

## Objective

Your student will learn to create groups of objects with very different quantities.

## You Will Need

- ☐ *Hop into Math!* pages 107 to 110
- ☐ 9 Counting Bears
- ☐ Connecting Cubes
- ☐ dry-erase board and marker

## Before You Begin

### Preview Comparing and Creating Groups

In the previous lesson, your student compared groups of objects with very different quantities and identified which group had more or fewer. This type of thinking helps your student understand how to compare quantities and strengthens his comparative reasoning skills.

In this lesson, your student will continue to compare groups of objects by creating groups that have more or fewer objects. Creating the groups of objects requires your student to actively add or remove objects to make a group larger (with more) or smaller (with fewer). Physically creating the groups strengthens his ability to manipulate numbers, to understand how quantities change, and to build his operational thinking skills.

Together, these skills build a strong foundation in number sense, preparing your student for more advanced math concepts in the future.

## Review

### Daily Review

Date	Skill	Description	Status
	Counting	Counting objects	
	Comparing	Comparing groups of objects	
	Adding	Adding objects to a group	
	Subtracting	Removing objects from a group	
	Number sense	Understanding the relationship between numbers	
	Problem solving	Solving problems using math	
	Communication	Explaining math thinking	
	Connections	Connecting math to other subjects	
	Reflection	Reflecting on math learning	

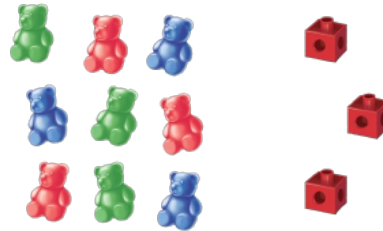
As part of your math time each day, refer to your student's *Daily Review Tracker*. Choose 1 or 2 skills, and take a few minutes to practice.

## Review

(continued)

### Groups with More or Fewer

“Let’s review finding out which group has more and which group has fewer.” Show a group of 9 counting bears. Show a separate group with 3 connecting cubes.



Your student should be able to visually tell which group has more.

“Which group has more?” *Bears.*

“How do you know there are more bears?” *I can count the bears: 1, 2, 3, 4, 5, 6, 7, 8, 9. I have 9 bears. There are only 3 connecting cubes. I can just tell. It looks like there is a big pile of bears and a small pile of connecting cubes.*

Your student might be able to visually see which group has more. If not, guide him to count each group separately to tell how many there are.

## New Teaching

### Creating More and Fewer with Objects

“We are going to compare amounts by creating groups showing more or fewer. Let’s pretend that we are going camping and that we’ll need lots of equipment, such as tents, sleeping bags, canteens, flashlights, and more. We are going to create groups of camping equipment to see which groups have more and which have fewer.”

Place 4 connecting cubes in front of your student.



“I am going to pretend these connecting cubes are canteens. I wonder how to make a group of canteens that has more than this group (pause to show thinking). Hmm, I think I can make this same group of canteens and then keep adding more.”

## New Teaching

(continued)

Make another group of 4 connecting cubes, and then add more cubes to that group without going over 10.

“I can count the canteens I have in my first group. Then, I can count the second group of canteens that has more.” Point to each connecting cube while counting each group out loud.

“This group has 4, and this group has \_\_\_\_ (add in the number of cubes you created). I know \_\_\_\_ is more than 4. Now, it is your turn to create groups. Which camping item do you want to pretend your connecting cubes are?”

Place 3 connecting cubes in front of your student.



“Use your connecting cubes to make a group with more than these connecting cubes.” Your student will make a new group that has more than the original group.

“Great job! Can you tell me how many \_\_\_\_\_ (use the item your student chose) are there in your new group?”

“We practiced making groups to show more. This time, we are going to make groups to show fewer. Let’s pretend our connecting cubes are flashlights.” Place 5 connecting cubes in front of your student.



“Here are 5 flashlights. Oh no, some of them got lost while we were camping! How can we make a group to show that some of the flashlights got lost?” Listen to your student’s response.

“Yes, we can make another group that matches the first group and then take some away. Make a group that shows fewer.” Watch as your student makes a group that has fewer connecting cubes than the original group. “How many flashlights are in your new group?”

“Nice work showing me a group with fewer! I hope that we don’t lose many flashlights.”

## Drawing to Show More and Fewer

“Drawings can also be used to show more or fewer.”

## New Teaching

(continued)

Drawing is an important part of math development, because it bridges the connection between physical objects and your student's thoughts.



Show 6 connecting cubes.



"Here is a group of tents. We can draw objects to represent more items than this group of tents has. How many tents are there?" *Six.*

"Correct. We need to draw more than 6 objects." Hand your student the dry-erase board and marker.

"Draw objects to show more than 6 tents." (Your student should first draw 6 objects to match the same number of connecting cubes and then draw more objects to show more. It is okay for him to draw triangles or circles to represent tents.)

"Wow, you showed more tents! Erase your drawing. Let's do one more together. Pretend that you took down some of the tents to leave the campsite. Draw objects to show me fewer tents." (Your student should first draw 6 objects to match the same number of connecting cubes and then erase objects to show less.)

"How can you use objects or drawings to show more or fewer?" *First, I can make a new group that matches the first group. Then, I can add more or take some away.*

Continue practicing showing more and fewer by using:

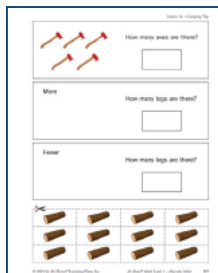
- 7 connecting cubes
- 9 connecting cubes
- 2 connecting cubes

Prompt your student with the following if he is struggling to begin.

- "How many connecting cubes do you have?"
- "Draw a picture with the same amount first."
- "Show me more by adding or drawing more objects."
- "Show me fewer by taking away or erasing objects."

## Complete Activity Sheet

“Let’s show more and fewer.”



### Camping Trip

Turn to page 107 in the *Hop into Math!* activity book.

“We’re getting ready for the big camping trip, and we need your help collecting logs.”

First, cut out the logs at the bottom of the page. Have your student count and write the number of axes shown in the box at the top of the page. Then, follow the prompts and use the logs to make groups that show more and fewer logs than axes. Finally, have him count and write the number of logs used to show more and fewer in the box.



### Look For

Sometimes, students only use the numbers 10 and 1 to show more or fewer. For example, for any number below 10, your student might use the number 10 to show more, and for any number above 1, he might use 1 to show fewer.

**Here’s How to Help:** To ensure that your student understands the skill, ask him if he can show more or fewer by using another amount.

## Math Reflection

“Let’s Reflect!”

Ask some questions to guide your student’s reflection:

- “How can you create a group that has more?”
- “How can you create a group that has fewer?”
- “What would you like more practice with?”

## Extended Practice (Optional)

If your student is not able to create groups of objects with different amounts, or if he expressed the need for more practice, continue working on this skill.

## New Teaching (continued)



## Camping Equipment

Remove page 109 from the *Hop into Math!* activity book.

Tell your student that he will gather equipment for camping. Follow the prompts to draw items that show more or fewer than the number of items shown.

Your student will have many opportunities to practice creating groups that show more or fewer in the next few lessons. You can proceed to the next lesson without the full mastery of the skill.

## Brinda's Math Fun!

### It's More or Fewer

"Let's practice our math skills!"

#### Materials

- It's More or Fewer Gameboard, *Hop into Math!* page 111
- It's More or Fewer Cards, *Hop into Math!* page 113
- Counting Bears to use as game markers
- Connecting Cubes

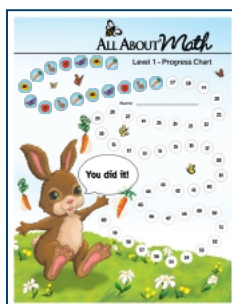
#### Directions

1. Cut out the *It's More or Fewer* cards.
2. Each player selects a counting bear as a game marker and places it on the Start space of the gameboard.
3. Mix up the cards, and place them face down in the center of the playing area.
4. The players take turns drawing one card from the deck and revealing it.
5. The number on the card represents the target amount.
6. The player uses connecting cubes to create a group with more or fewer than the target amount on the card.
7. For example, if the target amount is 5, the player can create a group with 4 connecting cubes (fewer than 5) or a group with 6 connecting cubes (more than 5).
8. The player must verbally state whether the group has more or fewer than the target amount.
9. If correct, that player advances his game piece on the gameboard by one space and returns the card to the bottom of the deck.
10. Play continues, with the players taking turns drawing a card, creating a group, and advancing, until one player reaches the "Finish" space.





### Mark the Progress Chart



Have your student mark Lesson 16 on the Progress Chart.







Camping sounds like a lot of fun!  
I've never used a tent, though.  
I sleep in my nice, cozy burrow  
with my brothers and sisters.  
It's nicer when there are *more*  
bunnies in the nest with me...  
and *fewer* bugs!

# Lesson 24 Adding More to Make 11 to 19

## Objective

Your student will learn to identify quantities by adding more ones to a group of 10 ones to compose numbers from 11 to 19.

## You Will Need

- ☐ *Hop into Math!* page 157
- ☐ 20 Two-Color Counters
- ☐ 10-Frame, *Brinda's Math Tools*
- ☐ dry-erase pocket and marker
- ☐ Number Cards 1 to 9 (optional)

## Before You Begin

## Preview Adding More

In the previous lesson, your student was introduced to teen numbers. The focus of the lesson was to help him understand that teen numbers are made up of 10 ones and some more ones.

In this lesson, your student will build on his understanding of teen numbers by adding more ones to a full *10-Frame* to make a teen number. The goal is for your student to begin understanding that if a *10-Frame* is full, there are 10 without the need to count them one by one. Once he grasps that concept, he should begin counting at 10 and then count the additional ones he added as 11, 12, 13, and so on to identify the number he composed.

Learning to identify teen numbers by adding more ones to a group of 10 strengthens your student's understanding of number structure, counting, and number sense. These skills are essential building blocks for understanding place value in the future.

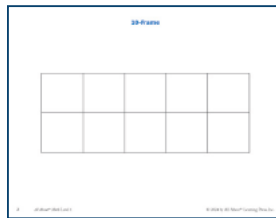
## Review

## Daily Review

Lesson 24 Daily Review Tracker		
Date	Area	Comments
	Counting	
	Number Cards	
	10-Frame	
	Two-Color Counters	
	Math Tools	
	Math Facts	
	Math Problems	
	Math Games	
	Math Projects	
	Math Journals	
	Math Art	
	Math Writing	
	Math Reading	
	Math Thinking	
	Math Communication	
	Math Problem Solving	
	Math Reasoning	
	Math Connections	
	Math Reflection	
	Math Self-Assessment	
	Math Peer Assessment	
	Math Teacher Assessment	

As part of your math time each day, refer to your student's *Daily Review Tracker*. Choose 1 or 2 skills, and take a few minutes to practice.

## Counting Within a 10-Frame



### 10-Frame

Find the *10-Frame* from *Brinda's Math Tools*. Use the two-color counters and the *10-Frame* to display 15 counters—as a full *10-Frame* and 5 more.

“In the last lesson, you used a *10-Frame* and some two-color counters to build teen numbers. Here is a *10-Frame* with some two-color counters on it.”

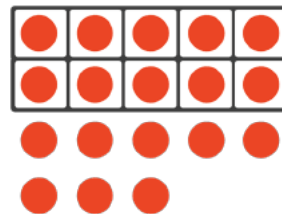
“How many counters are there?” *There are 15 counters.*

“How do you know there are that many counters?” *I pointed to each one and counted one by one.*

“How many two-color counters are in the *10-Frame*?” *Ten.*

“How many more two-color counters are outside the *10-Frame*?” *Five.*

“Right! Clear off the two-color counters from the *10-Frame*. Can you make the number 18?”



“How did you make the number 18?” *I counted them out as I put them on the 10-Frame.*

“How many two-color counters did you put in the *10-Frame*?” *Ten.*

“How many more two-color counters do you put below the *10-Frame*?” *Eight.*

### Adding More to 10

“Pretend that each *10-Frame* is like a soccer field. We will be adding more players to see how many we have in total.” Give your student a *10-Frame* and 10 two-color counters.

“Use the two-color counters to fill the *10-Frame*. Count them aloud as you place them in the *10-Frame*.”

“This *10-Frame* is a full *10-Frame*. There are 10 boxes, and each box has a two-color counter in it. When we see a full *10-Frame*, we know that there are 10 without needing to count them. Using the *10-Frame* you just made, add 6 more players (two-color counters) to it.”

Guide the student to start with 10 and then count on to find how many two-color counters there are altogether.

“How many players do you have now?” *There are 16 players.*

“That’s right! When you add 6 more players to a full field of 10, you get 16 players.”

### Drawing Teen Numbers

“Representing numbers with drawings is so important when we are learning math. We are going to draw circles to represent the players on a basketball court.” Place the *10-Frame* into a dry-erase pocket.

“Draw circles to fill in the *10-Frame* to show how many players are on the basketball court.”

“How many circles did you draw in the *10-Frame*?” *Ten.*

“Yes, when a *10-Frame* is full, it represents a group of 10. Now, add 9 more players under the *10-Frame*.”

“How many circles are there?” Guide your student in counting on from 10 by starting with 10 and counting on: 11, 12, and so on. *There are 19 circles.*

“How do you know?” *I know that there are 19 circles, because the 10-Frame is full, and I drew 9 more circles.*

## New Teaching

(continued)

“Great! There is a group of 10 ones and 9 more ones, which is 19 altogether. 10 and 9 is 19. Write the number 19 to show how many circles there are.”

Have your student write the number 19 under the *10-Frame*.

“Take a look at the drawing you just completed.”

“What number did you make?” *Nineteen.*

“What does the 1 in that number stand for?” *One group of 10 ones.*

“How many more did you need to make 19?” *Nine more ones.*

“How many are 10 ones and 9 more ones?” *Nineteen.*

“Let’s practice building more teen numbers.”

Repeat the previous steps by using the numbers 7, 4, and 0 to add on to a full *10-Frame*.

## Complete Activity Sheet

“Let’s build teen numbers by adding more to a full *10-Frame*.”



### Fun with Sports

Turn to page 157 in the *Hop into Math!* activity book.

Have your student help build a larger collection of sports equipment. He will draw circles under the *10-Frame* for each number given.

Encourage him to count on from a group of 10 to determine the number of items there are now. Then, have him write the number in the box.

### Answer Key



## New Teaching

(continued)



### Look For

Sometimes, students struggle to move on from individually counting all the objects to counting on from 10. Being able to smoothly switch between these methods is important. The mastery of this skill will lead to understanding place value later.

**Here's How to Help:** If your student chooses to count the two-color counters one by one, remind him that a *10-Frame* can hold 10 counters. Highlight how efficient it is to count them together as a group of 10 and to then continue counting from that starting point.

## Math Reflection

“Let’s Reflect!”

Ask some questions to help your student reflect:

- “How do we make teen numbers?”
- “How does using a full *10-Frame* help you count?”
- “What would you like to practice more?”

## Extended Practice (Optional)

If your student is struggling with identifying the teen number that is made when combining 10 and some more ones, or he expressed the need for more practice, continue working on this skill.

In this activity, you will use *Number Cards* 1 to 9 and a full *10-Frame*. Mix up the cards, and place them face down in front of your student. Place 10 two-color counters on the *10-Frame* so that it is full.

Have him pick a card and add that number of two-color counters under the full *10-Frame*. He can also draw that number of circles underneath the *10-Frame* instead of using counters. Then, have him count the number of objects and write the teen number on the side of the *10-Frame*.

Encourage him to count the amount by starting with a group of 10 and then counting on to find the total. You can proceed to the next lesson without the full mastery of the skill.

## Brinda's Math Fun!

### Goal Getter

"Let's practice our math skills!"

#### Materials

- Goal Getter Spinner, *Hop into Math!* page 159
- Goal Getter Gameboard, *Hop into Math!* page 161
- pencil
- paper clip
- 9 Two-Color Counters
- Connecting Cubes

(see Appendix B for Spinner instructions)

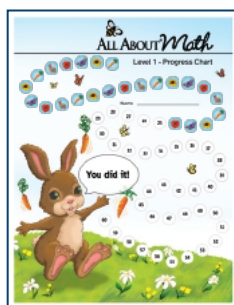
#### Directions

1. Spin for a number. If you land on the soccer ball, you can choose any number on the spinner.
2. Look at the number you landed on, and then add that many two-color counters below the *10-Frame*.
3. Count the total number of the full *10-Frame* and the two-color counters you added.
4. Find that number on the soccer field mat, and then cover it with a connecting cube.
5. If you make a number that you have already covered, spin again.
6. Keep playing until you have covered all the soccer balls on the field.



## Track Your Progress

### Mark the Progress Chart



Have your student mark Lesson 24 on the Progress Chart.

## Lesson 28 Expressions and Story Problems

## Objective

Your student will learn to connect expressions to story problems.

## You Will Need

- ☐ *Hop into Math!* pages 181 to 184
  - ☐ 10 Two-Color Counters
  - ☐ dry-erase board and marker
  - ☐ red and yellow crayons or markers

## Math Vocabulary

expression, plus sign (+), addition, minus sign (-), subtraction

## Before You Begin

## Preview Expressions

In this lesson, your student will learn to write expressions for story problems. An expression is a combination of numbers and symbols that represents a value. Expressions do not have an equal sign like an equation does. For example,  $3 + 4$  is an expression.

When students are able to write and identify expressions from a representation, it helps them understand and solve mathematical problems. They can break down math problems into smaller parts, making it easier to comprehend what the problem is asking.

## Review

## Daily Review

Level 1, Unit Review: Trigonometry			
Topic	SW	Concepts and Skills	Topic Resources
<ul style="list-style-type: none"> <li>Right-angle triangles</li> <li>Trigonometric functions</li> <li>Graphs of trigonometric functions</li> <li>Trigonometric identities</li> </ul>	<ul style="list-style-type: none"> <li>1.1-1.2</li> <li>1.3-1.4</li> <li>1.5-1.6</li> <li>1.7-1.8</li> </ul>	<ul style="list-style-type: none"> <li>1.1 Right-angle triangles</li> <li>1.2 Trigonometric functions</li> <li>1.3 Graphs of trigonometric functions</li> <li>1.4 Trigonometric identities</li> </ul>	<ul style="list-style-type: none"> <li>Chapter 1</li> </ul>
<ul style="list-style-type: none"> <li>Real and imaginary numbers</li> <li>Complex numbers</li> <li>Complex addition and subtraction</li> <li>Complex multiplication and division</li> </ul>	<ul style="list-style-type: none"> <li>2.1-2.2</li> <li>2.3-2.4</li> <li>2.5-2.6</li> <li>2.7-2.8</li> </ul>	<ul style="list-style-type: none"> <li>2.1 Real and imaginary numbers</li> <li>2.2 Complex numbers</li> <li>2.3 Complex addition and subtraction</li> <li>2.4 Complex multiplication and division</li> </ul>	<ul style="list-style-type: none"> <li>Chapter 2</li> </ul>
<ul style="list-style-type: none"> <li>Complex numbers</li> </ul>	<ul style="list-style-type: none"> <li>2.9-2.10</li> </ul>	<ul style="list-style-type: none"> <li>2.5 Complex numbers</li> </ul>	<ul style="list-style-type: none"> <li>Chapter 2</li> </ul>
<ul style="list-style-type: none"> <li>Graphing methods</li> </ul>	<ul style="list-style-type: none"> <li>3.1-3.2</li> </ul>	<ul style="list-style-type: none"> <li>3.1 Graphing methods</li> </ul>	<ul style="list-style-type: none"> <li>Chapter 3</li> </ul>
<ul style="list-style-type: none"> <li>Graphs and trigonometric functions</li> </ul>	<ul style="list-style-type: none"> <li>3.3-3.4</li> </ul>	<ul style="list-style-type: none"> <li>3.2 Graphs and trigonometric functions</li> </ul>	<ul style="list-style-type: none"> <li>Chapter 3</li> </ul>
<ul style="list-style-type: none"> <li>Represent, differentiate and integrate trigonometric functions</li> </ul>	<ul style="list-style-type: none"> <li>3.5-3.6</li> </ul>	<ul style="list-style-type: none"> <li>3.3 Represent, differentiate and integrate trigonometric functions</li> </ul>	<ul style="list-style-type: none"> <li>Chapter 3</li> </ul>
<ul style="list-style-type: none"> <li>Trigonometric identities</li> </ul>	<ul style="list-style-type: none"> <li>3.7-3.8</li> </ul>	<ul style="list-style-type: none"> <li>3.4 Trigonometric identities</li> </ul>	<ul style="list-style-type: none"> <li>Chapter 3</li> </ul>

As part of your math time each day, refer to your student's *Daily Review Tracker*. Choose 1 or 2 skills, and take a few minutes to practice.



## Review

(continued)

## Representing Story Problems

“Let’s practice using drawings to represent and solve story problems. Listen to me read this story problem aloud. There are 4 flowers in the garden. Tom plants 5 more flowers. How many flowers are in the garden in all?”

Have your student draw on a dry-erase board to represent the story problem. If your student prefers to represent the story problem using two-color counters, that is also fine.

“Draw circles on the dry-erase board to show how many flowers were in the garden at first.” Look to see that your student draws 4 circles, and then reread the story problem.

“There are 4 flowers in the garden. Tom plants 5 more flowers. How many flowers are in the garden in all? Show me what you need to do to show that Tom planted 5 more flowers.”

“The question in the story problem asks how many flowers there are in all. What do you need to do to answer the question?” *Count all of the circles.*

“How many flowers are there in all?” *Nine.*

“Nice job! There are 9 flowers in the garden because 4 and 5 more is 9.”

## New Teaching

## Introduce New Math Vocabulary

“We are going to learn new words to help us think about and explain math. In this lesson, we will solve story problems and then write expressions to represent them.”

“An **expression** is a group of numbers and symbols that show the value of something. You already know what numbers are. Give me an example of a number.” *Answers will vary.*

“Great! An expression also has symbols. There are two symbols you will be using today.”

## New Teaching

(continued)



### Plus and Minus Signs

Remove page 181 from the *Hop into Math!* activity book, and cut out the *Plus and Minus Sign* cards. You will use these cards to help your student learn about these symbols.

“A **plus sign** is a symbol we use when we add, or put numbers together. We call this **addition**.” Write a large plus sign on the left side of the *Plus Sign* card you cut out.

“I’m going to put some red and yellow circles on this card to show two groups being added together. This will help you remember when to use the plus sign.” Draw 3 red circles and 2 yellow circles on the right side of the card.



“The other symbol we will use today is a **minus sign**. A minus sign is a symbol we use when we take some away from a group. We call this **subtraction**.” Write a large minus sign on the left side of the *Minus Sign* card you cut out.

“I’m going to put some red circles on here and cross some off to show them being taken away from the group. This will help you remember when to use the minus sign.” Draw 5 red circles, and cross out 3 circles on the right side of the card.



### Practice Writing Expressions

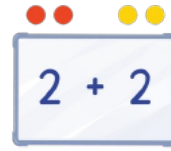
“Let’s pretend we are visiting a flower garden. There are beautiful blossoms everywhere. We can use our two-color counters to represent flowers in the garden.” Gather 4 two-color counters. Show the two-color counters as 2 red and 2 yellow counters.

“I have 2 red flowers (two-color counters) and 2 yellow flowers (two-color counters). How many flowers are there in all?” *Four.*

## New Teaching

(continued)

“I can use a plus sign (point to the *plus sign* card) and write an expression to show what is happening with the counters. I have 2 red two-color counters (write the number 2 on the dry-erase board). I have 2 yellow two-color counters (write another 2 to the side of the first one). I want to add them together, so I use a plus sign (write a plus sign between the 2 and the 2) to show that action.”



“Now, you can try to write an addition expression using these counters.” Show your student 2 red counters and 1 yellow counter.

“How many red flowers (counters) do you see?” *I see 2 red flowers.*

“How many yellow flowers (counters) do you see?” *I see 1 yellow flower.*

“Yes, write the number 2 and the number 1 on the dry-erase board. Be sure to leave enough space in the middle for the symbol. Are we adding more or taking away?” *Adding more.*

“Correct, we are adding more. This means we need to use the plus sign. Write the plus sign between the two numbers.”

“You just wrote your first expression! Now, let’s write another expression. This time we are going to draw flowers or circles.” Draw 4 flowers or circles on the dry-erase board.

“Here are some flowers. How many flowers do you see?” *I see 4 flowers.*

“Yes. Write the number 4 underneath the picture.” Cross out 3 of the flowers or circles. “When we cross out objects, are we adding more or taking away?” *Taking away.*

“That is correct. This means we need to use the minus sign because we are taking away, or subtracting. Write the minus sign after the number 4.”

“How many flowers are crossed out?” *Three flowers are crossed out.*

“Write the number 3 after the minus sign. Good. You wrote an addition and a subtraction expression. We can use expressions when solving story problems.”

## Connecting Expressions to Solve Story Problems

“Now, let’s practice writing expressions for story problems about flower gardens. Listen as I read a story problem aloud. There are 4 flowers in the garden. Tom plants 3 more. How many flowers are there in all? Use the two-color counters to show what is happening in the story problem.”

Reread the story problem as needed.



“How many flowers were there to start with?” *Four.*

“Write the number 4 on the dry-erase board. How many more did Tom plant?” *Three.*

“Write the number 3 to the right side of the 4. Were there more flowers added to the group, or were some taken away?” *There were more added.*

“When more are added to the group, do we use a plus sign (point to the *Plus Sign* card) or a minus sign (point to the *Minus Sign* card)?” *Plus sign.*

“Good. Write a plus sign between the 4 and the 3.”

$$4 + 3$$

“We read this expression like this: 4 plus 3. Can you read the expression aloud for me?” *4 plus 3.*

“Now, let’s solve the story problem. What is 4 plus 3? Use your counters to find the answer. How many flowers are there in all?” *Seven.*

“Let’s solve another story problem by drawing pictures and writing the expressions to represent them. Listen carefully as I read the story problem aloud. There are 8 sunflowers in the garden. Cam picks 4 of them. How many sunflowers are left in the garden?” You may reread the story problem as needed.

“How many sunflowers were in the garden?” *Eight.*

“Draw 8 circles at the top of the dry-erase board to help you solve this story problem. How many did Cam pick?” *Four.*

## New Teaching

(continued)

“Were more sunflowers added to the group, or were some taken away?”  
*There were some taken away.*

“Cross out 4 of the circles to show they were taken away. Then, write the numbers 8 and 4 on the dry-erase board underneath. When some are taken away from the group, do we use a plus sign (point to the *Plus Sign* card) or a minus sign (point to the *Minus Sign* card)?” *Minus sign.*

“That’s right! Write a minus sign between the 8 and the 4. Then, read the expression aloud for me.” *8 minus 4.*

“Now, we need to solve the story problem. Use your circles to solve 8 minus 4. How many flowers are left in the garden?” *Four.*

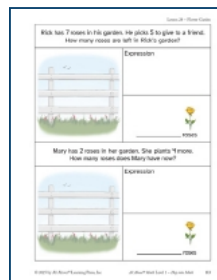
“Great job! Think about the story problems you worked on. When do you use a plus sign?” *When you add more to a group.*

“When do you use a minus sign?” *When you take some away from a group.*

“Give me an example of an expression.” (Have your student write an expression on the dry-erase board and then read the expression to you.)

## Complete Activity Sheet

“Now, let’s solve two story problems and write expressions for them.”

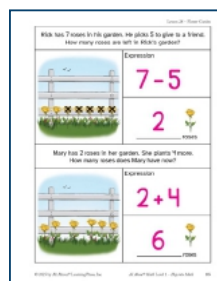


### Flower Garden

Turn to page 183 in the *Hop into Math!* activity book.

Read each story problem aloud to your student. Have him use two-color counters or a drawing to represent the flowers and understand the story problem on his own. Next, have him write the expression to represent the number of flowers in the garden. Finally, have him write the total number of flowers as the answer.

### Answer Key



## New Teaching

(continued)



### Look For

Your student may need additional support and practice using the correct symbol. He may show his work correctly with the math tools or drawings but use the wrong symbol in the expression.

**Here's How to Help:** Continue using the *Plus and Minus Sign* cards you made for this lesson. You can also turn snack time or clean-up time into a quick review. For example, you can give your student a few slices of apples, then give him a few more, and ask him if you are adding or taking away. Then, ask him to make the plus or minus symbols with his fingers.

## Math Reflection

“Let’s Reflect!”

Ask some questions to guide your student’s reflection:

- “How can you represent a story problem?”
- “What symbol tells you to add?”
- “What symbol tells you to take away?”

## Extended Practice (Optional)

If your student shows the need for more practice with connecting expressions to solve story problems, or if he expressed the need for more practice, continue working on this skill.

Read each story problem aloud. Have your student use objects or drawings to represent the story problem. Then, have him write the connected expression and the answer on his dry-erase board.

- Joe has 5 lilies in his garden. He plants 5 more. How many lilies does Joe have altogether?
- Katie has 9 carnations in her garden. She picks 5 to give to her mom. How many carnations are left in Katie’s garden?
- Jamie has 8 tulips in her garden. She picks 2 to give to a friend. How many tulips are left in Jamie’s garden?
- Jamie has 4 violets in her garden. She plants 3 more violets. How many violets are there in all?

Your student is developing how to represent story problems and connect expressions to the problems. There are many practice opportunities for this skill throughout Level 1. You can proceed to the next lesson without full mastery of the skill.

## Garden Stories

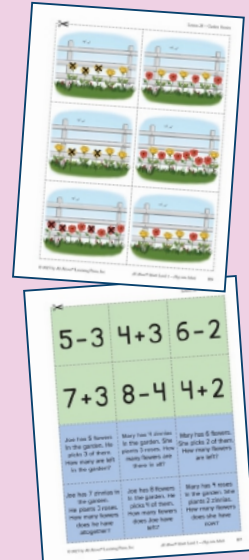
"Let's practice our math skills!"

### Materials

- Garden Picture Cards, *Hop into Math!* page 185
- Garden Story and Expression Cards, *Hop into Math!* page 187

### Directions

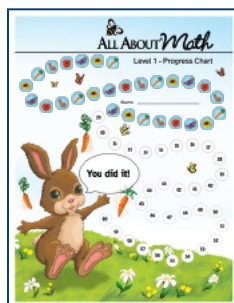
1. Cut apart the *Garden Picture* cards and the *Garden Story and Expression* cards, mix up all the cards, and spread them out face up.
2. Choose one of the *Garden story* cards and read it aloud to your student.
3. The players will take turns finding the matching *Garden Picture* card and *Garden Expression* card for each story problem.
4. Repeat until all cards are matched.



You can play a variation of the game by mixing up the *Garden Picture* cards and the *Garden Expression* cards and spreading them out face down. Have your student match the expression with the correct *Garden Picture* card by playing the memory game.

## Track Your Progress

### Mark the Progress Chart



Have your student mark Lesson 28 on the Progress Chart.

# Lesson 36      How Many Are Missing?

## Objective

Your student will learn to find the number that makes 10 when added to a given number.

## You Will Need

- ☐ *Hop into Math!* page 235
- ☐ 10-Frame, *Brinda's Math Tools*
- ☐ dry-erase board and marker
- ☐ 10 Two-Color Counters
- ☐ 7 Red and 3 Green Connecting Cubes
- ☐ bag (optional)

## Before You Begin

## Preview Composing 10

In the previous lesson, your student matched an equation to a model of two-color counters and discussed the meaning of equations and the equal sign.

The goal of this lesson is for your student to focus on finding how many more items are needed to equal 10 when one amount is given. This will continue to develop his understanding of equations and how they are used to represent two amounts that add up to a total.

Understanding how different equations can equal the same amount will increase your student's fluency with addition and subtraction facts, a foundational skill that he will need as Level 1 progresses.

## Review

## Daily Review

As part of your math time each day, refer to your student's *Daily Review Tracker*. Choose 1 or 2 skills, and take a few minutes to practice.



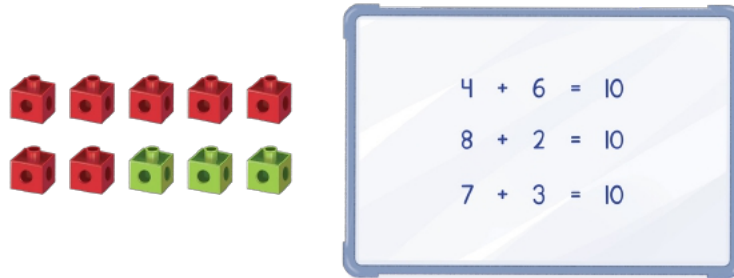
## Review

(continued)

### Finding a Matching Equation

“I’m going to show you some connecting cubes.” Scatter 7 red connecting cubes and 3 green connecting cubes in front of your student.

“I’d like you to group these by color as I write 3 equations on the dry-erase board that might match the cubes.”



“How many red cubes do you have?” *Seven.*

“How many green cubes do you have?” *Three.*

“How many total cubes do you have in total?” *Ten.*

“Can you find an equation on the dry-erase board that matches the red and green connecting cubes?” Your student should circle the equation  $7 + 3 = 10$ .

If your student chose an equation other than  $7 + 3 = 10$ , count the connecting cubes of each color with him, and group them as if they were on a *10-Frame*. This format might help your student count and visually match the equation.



“Good job finding the equation that matches the connecting cubes!”

## New Teaching

### Using Fingers to Make a 10

“We are going to continue finding pairs of numbers that make a 10 by using our math tools. Let’s pretend we are volunteering to create flower arrangements to deliver to the senior living home in town. Each arrangement must have 10, and exactly 10, total flowers, but each one can have two different colors of flowers.”

## New Teaching

(continued)

“We can use our fingers as math tools.” Hold up your two hands with your fingers spread apart.

“Let’s count my fingers together: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10. When I have all my fingers up, I’m showing 10 fingers, just like we need to include 10 flowers in our arrangements.”

“We can use our fingers to build the number 10 to make sure we have the correct number of flowers.” Show your student both hands, and hold up 5 fingers.

“I have 5 red flowers (hold up 5 fingers). I can count on to see how many more flowers I need to make 10. I will hold up 1 finger as I count until I have all 10 fingers up. Count with me: 6, 7, 8, 9, 10. I have to hold up 5 more fingers to make 10. I need 5 yellow flowers for my arrangement. So, 5 and 5 more makes 10.”

Your student might be able to look at a full hand of fingers and know that it represents the number 5 without counting. Students might still need to count, and that is okay. Provide positive feedback if he still needs to count, reminding him that we know that one hand should always mean 5.



“Now, I’m going to hold up a different amount of flowers (fingers). I want you to tell me how many purple flowers (fingers) I am holding up. Then, decide how many more red flowers (fingers) I need to hold up to make 10.” Hold up 7 fingers.

“How many am I holding up?” *Seven.*

“How many more do I need to have 10 fingers up?” *Three.*

“How did you know how many more were needed to make 10?” *I just knew you had 3 more fingers left to hold up, because you were showing 5 and 2, which left 3 on the other hand. I counted from 7 to 10 and held up that many fingers to keep track of how many I needed to get to 10.*

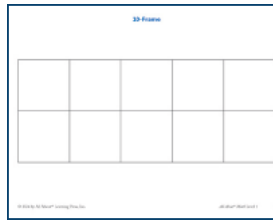
“Now we know two different equations that equal 10:  $5 + 5 = 10$  and  $7 + 3 = 10$ .”

## Using Other Math Tools to Make a 10

“Now, let’s use other math tools to help us find numbers that we can compose to make 10.”

## New Teaching

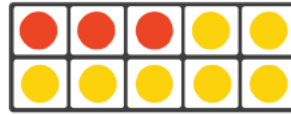
(continued)



### 10-Frame

Find the *10-Frame* from *Brinda's Math Tools*. You will also need 10 two-color counters.

Show your student a *10-Frame* with 3 red two-color counters and 7 yellow two-color counters.

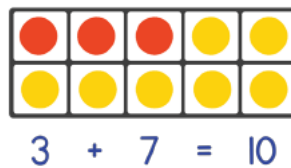


“I volunteered to play a game of Go Fish with 3 residents at the senior living center and then another game with 7 residents, just like the groups of two-color counters on the *10-Frame*.”

“What can you tell me about the two-color counters I have on the *10-Frame*?” *There are 3 red and 7 yellow two-color counters.*

“Correct! I have 3 red and 7 yellow two-color counters. Show how the counters can be represented by writing an expression on the dry-erase board.” Look to see that your student writes  $3 + 7$  on the dry-erase board.

“I know that there are a total of 10 two-color counters because all the spaces on the *10-Frame* are filled. I can represent that by writing the equal sign and the number 10 at the end of the expression. You can compose 3 and 7 to make 10. Now, we have an equation:  $3 + 7 = 10$ . I played games with 10 residents at the senior living center.”



“This time, I will give you the two numbers that will be composed to make 10. You will use the numbers to fill the *10-Frame* with two-color counters.”

“This time, I sang songs with 9 residents of the senior living center, and then I played the piano for 1 resident. I would like for you to use the numbers 9 and 1. Place the counters onto the *10-Frame*.” Ensure that your student places 9 and 1 two-color counters, using different colors, onto the *10-Frame*.

## New Teaching

(continued)

“Great! Now, write the equation that represents the two-color counters on the dry-erase board.” Look to see that your student writes the equation  $9 + 1 = 10$ .

“Explain to me how you knew the equation to write to represent the two-color counters on the *10-Frame*.” *First, I used the numbers of red and yellow two-color counters. Then, I knew I needed to add them together, so I put the plus sign between the numbers. I knew the numbers made 10, so I added the equal sign and the number 10.*

Your student might need support to understand where each number and symbol should be written in the equation. You can guide him through writing the equation by pointing out that there are 9 red counters (write the number 9) and 1 yellow counter (write the number 1). We want to show that we both sang songs and played the piano for residents, so the plus sign goes between the two numbers (write the plus sign between the 9 and the 1). Point out that the *10-Frame* is full, so the total amount equals 10 (write the equal sign and the number 10).



“We had fun volunteering for groups of 10 at the senior living center!”

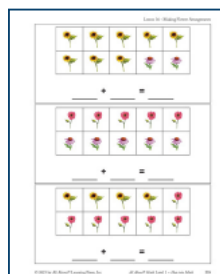
Repeat the same steps to find other pairs of numbers that build to make a 10. Your student can use the *10-Frame* and two-color counters for support. Write the different equations on the dry-erase board after making the two numbers with counters.

Possible pairs of numbers to use are:

- 1 and 9
- 2 and 8
- 4 and 6
- 6 and 4
- 8 and 2

## Complete Activity Sheet

“Let’s compose numbers to make a 10.”

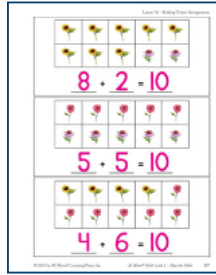


### Making Flower Arrangements

Turn to page 235 in the *Hop into Math!* activity book.

Have your student look at the different types of flowers on the *10-Frame*. Then, have him write the equation that represents the flowers.

**Answer Key**



**Look For**

Your student might not be able to write the equation that represents the flowers on the *10-Frame*.

**Here's How to Help:** Review what each number and symbol in the equation represents.

**Math Reflection**

“Let’s Reflect!”

Ask some questions to guide your student’s reflection:

- “How can you find the numbers needed to make 10?”
- “What does it mean for the total amount when the *10-Frame* is full?”
- “What is one thing you want to practice more?”

**Extended Practice (Optional)**

If your student shows the need for more practice with finding the missing numbers to make 10 with math tools, or he expressed the need for more practice, continue working on this skill.

Have your student place 10 connecting cubes into a bag. He will reach into the bag to grab a handful of connecting cubes. He will place the connecting cubes he gathered onto the *10-Frame*. He will use the number of connecting cubes on the *10-Frame* and the number of blank spaces to write the equation that represents composing a 10 on the dry-erase board.

Your student will continue practicing composing numbers to make 10 in future lessons. You can proceed to the next lesson without the full mastery of the skill.

### Let's Sing at the Senior Center!

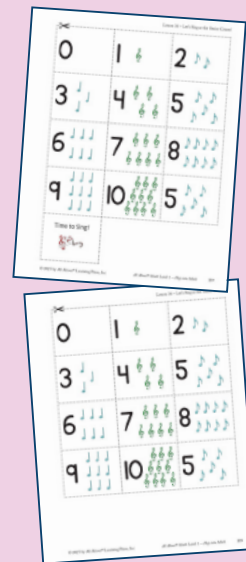
"Let's practice our math skills!"

#### Materials

Let's Sing at the Senior Center! Number Cards, *Hop into Math!*  
pages 237 and 239

#### Directions

1. Remove pages 237 and 239 from the *Hop into Math!* activity book.
2. Cut apart and mix up the *Let's Sing at the Senior Center!* number cards. Deal a card, face down, to each player, until all the cards are passed out.
3. The players look at their own cards to find two numbers that make a 10. Each player pulls that pair of cards from the rest of their cards. The players then take turns reading their pair of numbers like an equation and placing the pair of cards face up in front of themselves on the playing surface.
4. After completing all the pairs they can make from their own cards, the players take turns choosing one card from their opponent's cards not yet placed on the playing surface and adding it to their own cards. If the player can now form a 10 with the new card, that player places the pair of cards face up on the playing surface.
5. Play continues in this way until all the cards have been paired, leaving one *Let's Sing at the Senior Center!* card as the last card without a pair. The player who has that card at the end of the game sings a song!



## Track Your Progress

### Mark the Progress Chart



Have your student mark Lesson 36 on the Progress Chart.



Singing and playing games  
with seniors sounds like fun!  
I wish I could sing with  
you... but all I can do is  
chatter and chirp!

# Lesson 41    Show What You Know! 4: Equations and Expressions

---

## Objective

The purpose of this lesson is to assess your student's academic growth and performance over time and to identify both areas of strength and areas needing improvement.

## You Will Need

- ☐ *Hop into Math!* pages 269 to 274
- ☐ 10-Frame, *Brinda's Math Tools*
- ☐ Number Cards 1 to 20
- ☐ dry-erase board and marker
- ☐ Two-Color Counters

## Before You Begin

## Preview Lesson

It's time to do a review to help you monitor your student's progress and to see what your student has retained versus what might still need some practice. Don't worry if your student struggles with any concepts. At the end of this lesson, there is a chart that helps you know what lessons to review if that happens.

Remember that math skills develop gradually over time as your student builds on what she has learned. Through regular practice, such as daily reviews, engaging activities, and *Brinda's Math Fun* games, your student will develop a stronger grasp of math, improving her skills step by step over time.

Like with all the lessons, you do not have to complete the review in one sitting. Feel free to take breaks or to break up this lesson over multiple days. Keep things light, and be sure to encourage your student along the way!

## Progress Monitoring

---

"You worked really hard learning about ways to make 10 and about equations within 5. Now, we will do a review so you can show me what you learned. You can take as much time as you need to think about and solve the problems."



## Progress Monitoring (continued)

“Let’s show what you know!”

1. Count to \_\_\_\_\_  
(without error, stopping at 100)

2. Count by tens to \_\_\_\_\_  
(without error, stopping at 100)

3. Count in sequence, starting from 5 to: \_\_\_\_\_  
(without error, stopping at 20)  
Count in sequence, starting from 10 to: \_\_\_\_\_  
(without error, stopping at 20)

4. Count backward from 10 to: \_\_\_\_\_  
(without error, stopping at 0)

5. Can recognize and name the numbers:  
(Circle the numbers your student can identify.)  
1 2 3 4 5 6 7 8 9 10  
11 12 13 14 15 16 17 18 19 20

Notes:

### Show What You Know! 4

Turn to page 269 in the *Hop into Math!* activity book for questions 1 to 5.

### Question 1

“Show me how high you can count, starting with the number 1.”

“Great job!”

To keep a record of how high your student can count, write down the last number she said before making an error or when she reached 100 on the line for question number 1.



Don't  
Forget!

Students are not expected to count to 100 without error until the end of the Level 1 program.

### Question 2

“Now, count by tens. Show me how high you can go.”

Write down the last number that your student said either before stopping or when she reached 100 on the line for question number 2.

### Question 3

“Show me how you can count, starting from the number 6.”

Have your student count as high as she can go, or stop when she reaches 20. Write down the last number she said either before stopping or when she reached 20 on the line for question number 3.

“Show me how you can count, starting from the number 13.”

Have your student count as high as she can go, or stop when she reaches 20. Write down the last number she said either before stopping or when she reached 20 on the line for question number 3.

## Progress Monitoring (continued)

### Question 4

“Show me how you can count backward from 10.”

Write down the last number she said either before making an error or when she reached 0 on the line for question number 4.

### Question 5

For this question, you will use *Number Cards* 1 to 20.

“I am going to show you some numbers on cards. When I raise a *Number Card*, tell me what number you see. If you do not know the number, say, ‘I don’t know.’”

Circle the numbers your student can identify in question number 5.

Sometimes, students can memorize the order of numbers. It is important to show the number cards out of order to properly assess what your student knows about identifying numbers.



“Let’s have fun making 10 in different ways!”

Lesson 41: Show What You Know! 4

6. Can you match equations equal to 10 with the 10-frame representations? (Circle your observations.) Yes No  
None

7. Can you use a 10-frame and ten-color counters to find the missing number in equations? (Circle your observations.) Yes No  
None

8. Can you use math tools to create a representation and an equation using a 10-frame? (Circle your observations.) Yes No  
None

9. Can you sort pictorial and numerical expressions to the correct value? (Circle your observations.) Yes No  
None

10. Can you compare the value or differences of expressions that have a value within 10? (Circle your observations.) Yes No  
None

11. Can you find the missing number in equations within 10? (Circle your observations.) Yes No  
None

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### Show What You Know! 4

Turn to page 270 in the *Hop into Math!* activity book for questions 6 to 11.

### Question 6

Lesson 41: Equation Matchup

$1 + 9 = 10$	$2 + 8 = 10$
$6 + 4 = 10$	$3 + 7 = 10$

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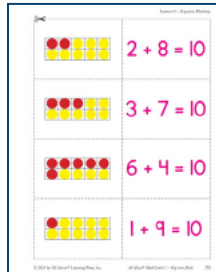
### Equation Matchup

Remove page 271 from the *Hop into Math!* activity book for your student. Cut out each of the *10-Frame* pictures and equations on the page. Have your student match each *10-Frame* to the equation that it represents.

## Progress Monitoring

(continued)

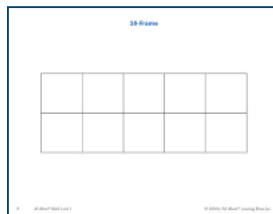
### Answer Key



Record your observations in question number 6.

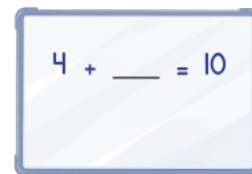
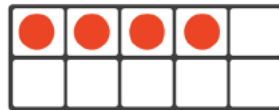
### Question 7

#### 10-Frame



Find the *10-Frame* from *Brinda's Math Tools*. You will also need the dry-erase board, a marker, and two-color counters.

Write the equation  $4 + \underline{\quad} = 10$  on the dry-erase board. Add 4 red two-color counters to the *10-Frame*.



“Use the *10-Frame* and two-color counters to solve this equation. Write the missing number on the line.”

Repeat using these equations:

- $7 + \underline{\quad} = 10$
- $5 + \underline{\quad} = 10$

Record your observations in question number 7.

### Question 8

You will need the dry-erase board, a marker, *Number Cards* 1 to 9, a *10-Frame*, and 10 two-color counters.

## Progress Monitoring

(continued)

Write the equation  $\underline{\quad} + \underline{\quad} = 10$  on the dry-erase board. Show *Number Card* 8.

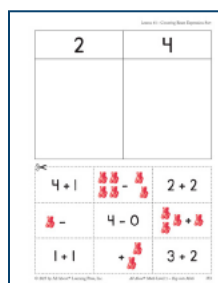
“Look at the *Number Card*, and use your *10-Frame* and two-color counters to help you find how many more you need to make 10. Then, write an equation to match.”

Repeat, using *Number Cards* 6, 4, and 1.

Record your observations in question number 8.

### Question 9

“Now, let’s work with expressions and equations within 5!”



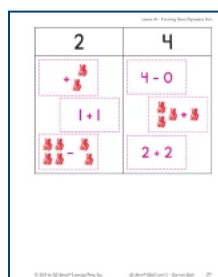
### Counting Bears Expression Sort

Remove page 273 from the *Hop into Math!* activity book for your student. Cut out the expressions at the bottom of the page. Have your student find expressions with the value of 2 or 4. Then, she can either place or glue them in the correct category.

Not all of the expressions have the value of 2 or 4.



### Answer Key



Record your observations in question number 9.

### Question 10

You will need the dry-erase board and marker for this question. You will draw circles to represent an expression.

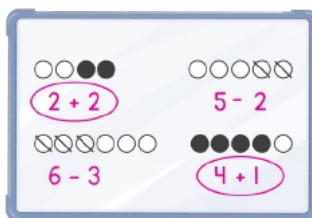
## Progress Monitoring

(continued)

Draw circles as shown in the image below on the dry-erase board. Then, have your student write the expression that matches each of your drawings.



“Write the expression to match each drawing.” Give your student enough time to write each expression. Then, have her circle the expression that is greater in each row.



Record your observations in question number 10.

### Question 11

You will need the dry-erase board, marker, and two-color counters for this question. Write the following equations on the dry-erase board. Then, have your student find the missing number in each equation.

- $4 - \underline{\quad} = 1$
- $\underline{\quad} + 0 = 2$
- $4 + \underline{\quad} = 5$
- $\underline{\quad} - 3 = 0$

“Find the missing number in each equation. You may use the two-color counters to help you.”

### Answer Key

3, 2, 1, 3

Record your observations in question number 11.

## Progress Monitoring

(continued)

## Math Reflection

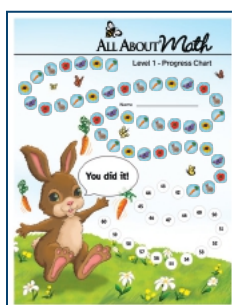
“Let’s Reflect!”

Ask some questions to guide your student’s reflection:

- “What would you like more practice with?”
- “What is your favorite topic to practice?”

## Track Your Progress

### Mark the Progress Chart



Have your student mark Lesson 41 on the Progress Chart.

## Skill Chart

### Review Student Progress

This section is just for the parent.

Take a look at your student’s progress, and think about the areas where she can use extra practice building her skills. This is a great time to update your student’s progress on her *Daily Review Tracker*.

Refer back to any lesson below that may require more practice.

Taking time to review the questions your student found difficult can help identify any patterns or areas where she might need extra help. Going over these challenging questions again gives her a chance to practice these skills.



## Skill Chart

(continued)

Question 1: Counting to 100	<i>Daily Review Tracker</i>  You can include different voices or movements when counting to make it fun.
Question 2: Counting by tens	<i>Daily Review Tracker</i>
Question 3: Counting to 20, starting at any number other than 1	<i>Daily Review Tracker</i>  You can take turns choosing a number to start from.
Question 4: Counting backward	<i>Daily Review Tracker</i>  Before doing a task at home, have a countdown from either 5 or 10.
Question 5: Identifying numbers 1 to 20	Lessons 5, 6, 23, 24, and 25
Question 6: Equations that show 10	Lesson 35
Question 7: How many are missing?	Lesson 36
Question 8: Making 10 in many ways	Lesson 37
Question 9: Expressions and images within 5	Lesson 38
Question 10: Addition and subtraction expressions within 5	Lesson 39
Question 11: Parts to make 5	Lesson 40

Your student will continue practicing these skills through the daily checklist, and the lessons will continue helping her build these skills. You can move on to the next lesson at any time. If your student had difficulty answering 2 or more questions within questions 6 to 11, spend a few days reviewing the material before proceeding.

# Lesson 48 Finding 10 More and 10 Less

## Objective

Your student will learn to use base-10 understanding to mentally determine 10 more or 10 less than a two-digit number.

## You Will Need

- ☐ *Hop into Math!* pages 319 to 322
- ☐ dry-erase board, pocket, and marker
- ☐ Connecting Cubes

## Before You Begin

### Preview Finding 10 More and 10 Less

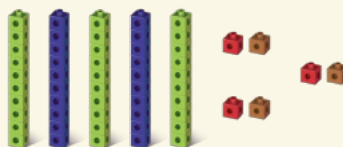
In previous lessons, your student added and subtracted, using models to build base-10 understanding.

Base-10 understanding is founded on place value. Each digit in a number has a value based on its position. Base-10 uses digits from 0 to 9. When you reach 10, you start a new place.

In this lesson, your student will work to develop mental math skills by using base-10 understanding to solve problems. The development of these skills takes time, repetition, and practice. Your student will identify numbers that are 10 more or 10 less than a given two-digit number and explain his reasoning. For example, when given the number 45, he will identify that 35 is 10 less and that 55 is 10 more. Drawing on his understanding of base-10 and knowing that 1 ten is the same as 10 ones will help him as he works to mentally solve problems.

## Prepare

Make 5 towers, each of 10 connecting cubes. Have 6 additional connecting cubes (not connected) available for your student.





## Review

### Daily Review

Skill	Date	Student's Name	Score
Addition and Subtraction Facts			
Multiplication and Division Facts			
Fractions, Decimals, and Percents			
Geometry			
Measurement			
Number Sense			
Problem Solving			
Reasoning and Communication			
Connections			
Standards			

As part of your math time each day, refer to your student's *Daily Review Tracker*. Choose 1 or 2 skills, and take a few minutes to practice.

### Adding and Subtracting a Multiple of 10

“Previously, you learned how to add a multiple of 10 to another two-digit number. Let’s review what you learned.” Write  $35 + 20$  on the dry-erase board.

“To find the sum of 35 and 20, we can use our models to help us add. Show me how to represent 35 by using the connecting cubes.”

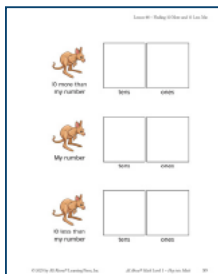
“I see 3 tens and 5 more cubes. What should we add to our model to show that we are adding 20 (point to the 20 in the equation)?” *We need to add 20, or 2 towers of ten.*

“Exactly! Place 2 tens in your model. How many do we have in all?” *We have 55 in all.*

“Nice job! 35 plus 20 is 55.”

## New Teaching

### Finding 10 More



#### Finding 10 More and 10 Less Mat

Turn to page 319 in the *Hop into Math!* activity book.

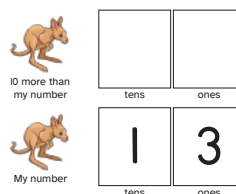
Fold the *Finding 10 More and 10 Less Mat* so that you see only the top two rows (labeled “10 more than my number” and “My number”). Then, place the mat into the dry-erase pocket, and gather the dry-erase marker.

## New Teaching

(continued)

“Today, we will continue to explore tens while we work to build our mental math skills. This means solving problems without using any math tools. We might use math tools to explain our thinking, but we are going to try to solve the problems without them. First, we are going to practice identifying the number that is 10 more than another number. Let’s start with the number 13.”

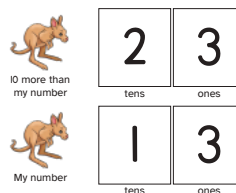
“Write the number 13 in the row titled ‘My number’ on the *Finding 10 More and 10 Less Mat*.”



“We have represented two-digit numbers with our connecting cubes by using towers of ten and more ones. In this lesson, we will use the word “*tens*” when we think about a tower of ten. How many tens are in the number 13?” *One*.

“That’s right! The number 13 has 1 ten (point to the 1 in the number 13). So, the number that is 10 more must have 1 more ten. 1 ten plus 1 ten is 2 tens. Write the number 2 in the tens place in the row titled ‘10 more than my number’”.

“Now, 13 has 1 ten and 3 ones, so my new number will also have 3 ones. Write a 3 next to the 2 to make the number 23.”



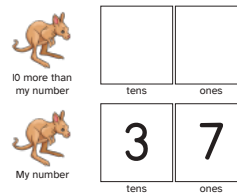
“Good. 10 more than 13 is 23. I can prove my thinking by using connecting cubes.” Gather 1 tower of ten and 3 individual cubes to represent the number 13.

“This model represents the number 13. If I add 1 more tower of ten (place 1 additional tower of ten with the tower of ten you already have), I get a total of 23. So, I know that 23 is 10 more than 13.”

## New Teaching

(continued)

“Let’s name a number that is 10 more than another number.” Clear the mat, and write the number 37 in the row titled “My number.”

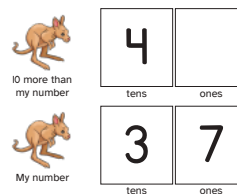


“What number did I write?” *Thirty-seven.*

“Right. How many tens are in this number (point to the digit 3 in 37)?” *Three.*

“Good. 10 more than 37 means that the new number will have 1 more ten. Since we already have 3 tens, 3 tens plus 1 more ten is how many tens?” *4 tens.*

Write the digit 4 in the tens place in the row titled “10 more than my number.”



“The number 10 is made up of 1 ten and 0 ones. I’ve already added the 1 ten, and since there are no ones to add, I know that the digit in the ones place will stay the same.” Point to the 7 in 37, and then write a 7 next to the 4 to make 47.

“So, 10 more than 37 is how much?” *Forty-seven.*

“Yes. When we add 10 more to a number, how does the new number look different?” *The number of tens is 1 more. The number on the left is bigger.*

“Way to go! When we add 10 more, the number of tens increases by 1. Now, let’s try to name the number that is 10 more than 25.”

If your student quickly identifies the number, move on. If he is a little unsure, write 25 in the row titled “My number.” Provide wait time for your student to think about the answer. If he thinks he knows the number, have him share his thinking. He should identify 35 as being 10 more than 25.

## New Teaching

(continued)

“What do you notice when we name a number that is 10 more than another number?” *The number of tens increases by 1. The number of ones stays the same.*



If your student is unsure or asks for help, gather 25 connecting cubes, assembled as 2 tens and 5 ones, and an additional 10 cubes that are connected. Say, “This model shows 25 cubes (show him the set of 2 tens and 5 ones). If I add 10 more, how many will you see?” If guidance is needed, say, “I think 10 more than 25 is 35. The number 35 has 1 more ten than 25.”

**Tip!**

## Finding 10 Less



Remove the *Finding 10 More and 10 Less Mat* from the dry-erase pocket, and fold it so you and your child can see the rows titled “My number” and “10 less than my number.” Place the mat back into the pocket.

“Now, let’s use our mental math skills to find numbers that are 10 less than other numbers.” Write the number 54 in the row titled “My number.”

 My number	<table><tbody><tr><td>5</td><td>4</td></tr><tr><td>tens</td><td>ones</td></tr></tbody></table>	5	4	tens	ones
5	4				
tens	ones				
 10 less than my number	<table><tbody><tr><td></td><td></td></tr><tr><td>tens</td><td>ones</td></tr></tbody></table>			tens	ones
tens	ones				

“What number did I write?” *Fifty-four.*

“Yes! If I wanted to build a model of 54, I would use 5 towers of ten. So, 54 has 5 tens (point to the 5). To find 10 less than this number, I am going to take 1 ten away. I know that 5 minus 1 equals 4. So, my new number will have 4 tens.” Write a 4 in the tens place in the row titled “10 less than my number.”

 My number	<table><tbody><tr><td>5</td><td>4</td></tr><tr><td>tens</td><td>ones</td></tr></tbody></table>	5	4	tens	ones
5	4				
tens	ones				
 10 less than my number	<table><tbody><tr><td>4</td><td></td></tr><tr><td>tens</td><td>ones</td></tr></tbody></table>	4		tens	ones
4					
tens	ones				

## New Teaching

(continued)

“Remember that the number 10 is made up of 1 ten and 0 ones. Since we are taking away 0 ones, the amount of ones will stay the same in our new number.” Write a 4 in the ones place next to the 4 in the tens place to make the number 44.

“So, 10 less than 54 is 44. I know this is true because if I make a model of 54 (draw 5 lines and 4 dots below the number 54), and I then take 1 ten away (cross out 1 line), my model will show 4 tens and 4 ones, or 44.”

Follow these same steps to have your student find the number that is 10 less than 96 and the number that is 10 less than 25.

If your student quickly identifies the number, move on. If he is a little unsure, write the number in the row titled “My number.” Provide wait time for your student to think about the answer. If he thinks he knows the number, have him share his thinking. He should identify 86 as being 10 less than 96 and 15 as being 10 less than 25.

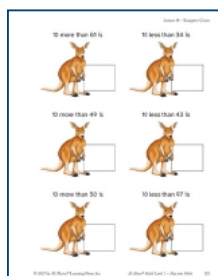
“What do you notice when we name a number that is 10 less than another number?” *The number of tens decreases by 1. The number of ones stays the same.*

If your student is unsure or asks for help, gather 25 connecting cubes, assembled as 2 tens and 5 ones. Say, “This model shows 25 cubes (show him the set of 2 tens and 5 ones). If I take away 1 ten, how many will you see?” If guidance is needed, say, “I think 10 less than 25 is 15. The number 15 has 1 less ten than 25.”



## Complete Activity Sheet

“Let’s practice finding numbers that are 10 more and 10 less.”



### Kangaroo Count

Turn to page 321 in the *Hop into Math!* activity book.

“The kangaroos are counting the number of plants they have eaten this week. Use the statements to help you identify the numbers, and write them next to the kangaroos bellies.”

Help your student read each statement if needed. He will write the number that makes the statement true.

## New Teaching

(continued)

### Answer Key

Top row: 71, 24. Middle row: 59, 33. Bottom row: 60, 87.



#### Look For

Your student might mix up the digits when writing the number.

**Here's How to Help:** Remind him to first write the digit in the tens place and then write the digit in the ones place. If he is struggling to name the number, provide him with the *Finding 10 More and 10 Less Mat* to show his thinking for 1 or 2 problems.

## Math Reflection

“Let’s Reflect!”

Ask some questions to guide your student’s reflection:

- “How do you know that 10 more than 34 is 44?”
- “How do you know that 10 less than 34 is 24?”
- “What is one thing you want to practice more?”

## Extended Practice (Optional)

If your student cannot identify numbers that are 10 more or 10 less, or he expressed the need for more practice, continue working on this skill.

Have your student practice naming numbers that are 10 more or 10 less.

- 10 more than 57 is \_\_\_\_.
- 10 less than 92 is \_\_\_\_.
- 10 more than 44 is \_\_\_\_.
- 10 less than 57 is \_\_\_\_.
- 10 more than 14 is \_\_\_\_.

Your student is building his mental math skills. These skills will continue to grow with practice and repetition. Continue practicing naming numbers that are 10 more or 10 less in your daily review. You can proceed to the next lesson without the full mastery of the skill.

### Answer Key

10 more than 57 is 67, 10 less than 92 is 82, 10 more than 44 is 54, 10 less than 57 is 47, 10 more than 14 is 24.

## Brinda's Math Fun!

### Kangaroo Hop

"Let's practice our math skills!"

#### Materials

- Kangaroo Hop Spinner, *Hop into Math!* page 323
- Kangaroo Hop Number Cards, *Hop into Math!* page 325

(see Appendix B for Spinner instructions)

#### Directions

1. Cut apart the *Kangaroo Hop* number cards, shuffle the cards, and place them face down in a stack.
2. The first player turns over the top card and spins the spinner.
3. The player names the number that is 10 more or 10 less than the card based on the direction on the spinner.
4. If the player correctly names the new number, that player keeps the card. If the player is incorrect, the card is placed at the bottom of the pile.
5. The next player follows the same steps.
6. Play continues until all the cards have been used. The player with the most cards is the winner!



## Track Your Progress

### Mark the Progress Chart



Have your student mark Lesson 48 on the Progress Chart.

# Lesson 56 Making a New Ten

## Objective

Your student will learn to add one-digit and two-digit numbers by composing (making) a new ten and using place value understanding and the properties of operations.

## You Will Need

- ☐ *Hop into Math!* page 369
- ☐ dry-erase board and marker
- ☐ Base-10 Blocks

## Before You Begin

### Preview Making a Ten

In the previous lesson, your student learned how to use base-10 blocks to add two-digit numbers. The problems in the previous lesson did not require your student to compose a new ten.

Composing a new ten helps develop your student's number sense and place value understanding.

In this lesson, your student will practice composing a new ten when adding numbers. The focus will be on understanding when to compose a ten and how to do so. Your student will need to regroup and exchange 10 ones for 1 ten to solve the problems.

### Properties of Operations

Your student will also use the properties of operations to add numbers. The main operations in math are addition, subtraction, multiplication, and division. Properties of operations are rules that explain how we can combine numbers. For example, the commutative property shows us that we can add numbers in any order and get the same sum, as in  $2 + 3 = 5$  and  $3 + 2 = 5$ .



## Daily Review

As part of your math time each day, refer to your student's *Daily Review Tracker*. Choose 1 or 2 skills, and take a few minutes to practice.

## Adding Two-Digit Numbers

“Let’s review how to add two-digit numbers using base-10 blocks and drawings.” Write the equation  $17 + 30 = \underline{\quad}$  on the dry-erase board.

“Show me how you can use the base-10 blocks to solve the equation  $17 + 30 = \underline{\quad}$ . Explain what you are doing as you add the numbers.” *I made 17 with 1 ten and 7 ones. Then, I represented 30 with 3 tens. I counted all the tens. Then, I counted on by ones to get 47.*



Your student might need prompting to explain how he solved the equation  $17 + 30 = \underline{\quad}$ . You can ask the following guiding questions:

- “How many tens and ones are in the number 17?”
- “How many tens and ones are in the number 30?”
- “When you put them all together, how did you count them?”

“Great job! You can also create a base-10 drawing and use your drawing to find the answer to an equation.” Write the equation  $3 + 25 = \underline{\quad}$  on the dry-erase board. Have your student show how to find the answer through base-10 drawings and explain what he draws.

### Adding with Composing by Using Base-10 Blocks

“Let’s pretend we are planting a garden. We will need lots of seeds! We can add to find the total amount of seeds we are planting. Let’s plant some tomato seeds first. How many will we plant?” Write  $45 + 5 = \underline{\quad}$  on the dry-erase board.

“Show me how you can represent 45 seeds and 5 seeds by using your base-10 blocks.”



“What can we do to find the total amount?” *We can combine the tens and ones to find the total.*

“Let’s count the base-10 tens blocks (point to each base-10 tens block as you count): 10, 20, 30, 40. And now, let’s count the ones: 41, 42, 43, 44, 45, 46, 47, 48, 49, 50. So, 45 plus 5 is equal to 50. I notice that when I add the ones cubes together, I have a total of 10 ones cubes. And, 10 ones cubes have the same value as 1 tens block. I can replace the 10 ones cubes with 1 tens block.” Remove the 10 ones cubes, and replace them with 1 tens block.

“We just composed a new ten! Compose means to put things together to make something. Now, I have a total of 5 tens blocks and 0 ones cubes. I did not take away or add any base-10 blocks. I just grouped them differently to make counting easier by organizing our tomato seeds into neat rows. My sum is still 50. When I have a total of 10 ones cubes, I can regroup the ones cubes by replacing them with 1 tens block.” Write the answer of 50 in the equation.



## New Teaching

(continued)

“This time, let’s plant green pepper seeds, where a new ten gets composed.” Write  $38 + 4 = \underline{\quad}$  on the dry-erase board.

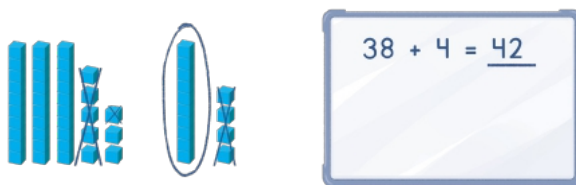
“First, represent 38 seeds and 4 seeds by using the base-10 blocks.”



“Great! Now, show me how you can find the sum.” Encourage your student to count by tens and then by ones until arriving at a total of 42.

“Great job! The total is 42. I notice that there are 12 ones. How can you replace some ones with a ten?” *I can count 10 ones and replace them with a ten.*

Have your student remove 10 ones and replace them with 1 ten.



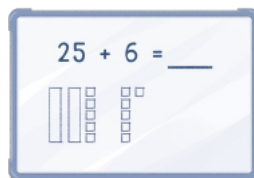
“The total has 4 tens and 2 ones, which makes a value of 42. Good work composing a new ten by counting 10 ones.”

Using base-10 blocks is a hands-on way for your student to understand the concept of composing a ten to add. If he needs more practice to grasp this concept, you can continue to use the base-10 blocks in place of drawing pictures in the next activity.



## Drawing Pictures to Add

“I can also solve problems using a base-10 drawing. Let’s count the carrot seeds in our garden. I can add 25 seeds and 6 seeds by representing them with a drawing.” Write  $25 + 6 = \underline{\quad}$  on the dry-erase board, and represent the numbers with base-10 drawings.



## New Teaching

(continued)

“Let’s see if we can compose a tens block. How many ones cubes did I draw altogether?” *Eleven.*

“Right! I can regroup, or compose a new tens block, by crossing out 10 ones cubes and replacing them with a drawing of another tens block.” Count and cross out 10 ones, and then draw a new ten.



“I now have 3 tens blocks and 1 ones cube. Let’s count them together to find the total, just as we would count all the carrot seeds in our garden: 10, 20, 30, 31. So, 25 plus 6 is equal to 31.” Write the answer of 31 in the equation.

“Let’s solve another addition problem to find the total number of green bean seeds planted in our garden. We can add 47 green bean seeds and 6 green bean seeds by drawing base-10 blocks.” Write the equation  $47 + 6 = \underline{\hspace{2cm}}$  on the dry-erase board.

“Represent the numbers 47 and 6 by using base-10 drawings on the dry-erase board.”



“Let’s look at the total number of ones cubes to decide if we can compose a tens block. How many ones cubes did you draw in total?” *Thirteen.*

“Yes. Do we need to regroup?” *Yes.*

“Show me how to regroup.” Look to see that your student crosses out 10 ones cubes and replaces them with a drawing of 1 tens block.

“Great job! Now, count all the tens and ones to find the total amount. What is the sum?” *Fifty-three.*



## New Teaching

(continued)

“How do you know when you need to compose a new ten?” *When I count 10 ones cubes.*

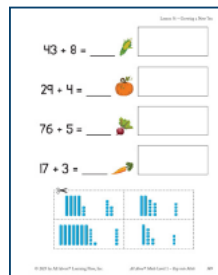
Have your student use the same process to solve the following equations. If your student doesn't regroup 10 ones to create a new ten, help him to do so. Write the equation on the dry-erase board, and allow your student to write the answer:

- $64 + 7 = \underline{\quad}$  (Answer: 71)
- $51 + 9 = \underline{\quad}$  (Answer: 60)
- $37 + 5 = \underline{\quad}$  (Answer: 42)

“Good work finding the total number of seeds in our garden! You used your observational skills to decide if 10 ones cubes could be replaced with a tens block.”

## Complete Activity Sheet

“Let's practice composing a new ten.”






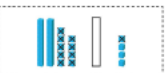




### Growing a New Ten

Remove page 369 from the *Hop into Math!* activity book. Cut apart the base-10 representations along the bottom of the page.

Have your student match the base-10 representations to the correct equation. Then, show how to compose a new ten on the representation to solve the equation.

### Answer Key

$43 + 8 = \underline{51}$ 		$76 + 5 = \underline{81}$ 	
$29 + 4 = \underline{33}$ 		$17 + 3 = \underline{20}$ 	



### Look For

Some students might count all the ones cubes instead of remembering to compose a new tens block.

**Here's How to Help:** Remind your student that 10 ones cubes can be crossed out but need to be replaced with a tens block so that the total amount does not change. He is not removing the ones cubes but is instead replacing them with a tens block.

## New Teaching

(continued)

## Math Reflection

“Let’s Reflect!”

Ask some questions to guide your student’s reflection:

- “How can base-10 blocks help you add?”
- “What do you do when you have 10 ones cubes?”
- “What is one thing you want to practice more?”

## Extended Practice (Optional)

If your student struggles with representing addition and composing a new ten, or he expressed the need for more practice, continue working on this skill.

Write the following addition equations on the dry-erase board:

- $54 + 9 = \underline{\quad}$  (*Answer: 63*)
- $18 + 6 = \underline{\quad}$  (*Answer: 24*)
- $77 + 7 = \underline{\quad}$  (*Answer: 84*)

Have your student use base-10 blocks or drawings to solve the addition problems. He should write the answers to the addition problems on the lines. If your student is struggling, this activity can help him count out each ten and one in the equation.

Since this is the first time your student is regrouping to compose a new ten, he might need more practice to become fluent. This skill will improve over time. He will also practice regrouping during the daily reviews. You can proceed to the next lesson without the full mastery of the skill.

## Brinda's Math Fun!

### Veggie Venture

"Let's practice our math skills!"

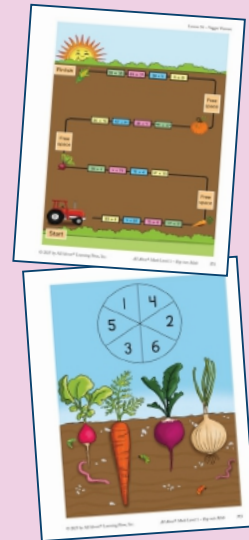
#### Materials

- Veggie Venture Gameboard, *Hop into Math!* page 371
- Veggie Venture Spinner, *Hop into Math!* page 373
- Base-10 Blocks
- dry-erase board and marker
- Counting Bears (for game markers)

(see Appendix B for Spinner instructions)

#### Directions

1. Remove pages 371 and 373 from the *Hop into Math!* activity book.
2. The players take turns spinning the spinner and moving along the rows in the garden.
3. The players solve the addition problems they land on by using base-10 blocks and the dry-erase board.
4. Once both players agree that the representation and the sum are correct, it is the next player's turn.
5. The first player to reach the finish line is the winner!



## Track Your Progress

### Mark the Progress Chart



Have your student mark Lesson 56 on the Progress Chart.

3

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# Appendices



## APPENDIX A

# Scope and Sequence of Level 1

Your Student Will:	Lesson
Learn to recognize and name small groups of objects and images within groups of 3 without counting.	1
Learn to recognize small groups of objects in the environment.	2
Learn to recognize and name small groups of dots and describe how they appear.	3
Learn to identify groups of objects or images with the same quantity without counting.	4
Learn to count and identify a collection within a set of 5 objects.	5
Learn to connect quantities to written and spoken numbers.	6
Learn to count collections of up to 5 objects and answer questions about how many there are.	7
Learn to show and explain how a collection of up to 10 items is counted.	8
Learn to count groups of up to 10 images and understand that the order counted does not change the number of images.	9
Learn to determine the missing number from the set of 1 to 10.	10
Review all concepts learned in Lessons 1 to 10.	11
Learn to identify the number that is one more or one less than a given number.	12
Learn to find the total number of images in both organized and scattered groups.	13
Learn to count to find the total number of images in 2 scattered groups.	14
Learn to visually compare groups of objects with very different quantities to identify which group has more or fewer.	15
Learn to create groups of objects with very different quantities.	16
Learn to compare groups of up to 10 objects or images that are matched.	17

<b>Your Student Will:</b>	<b>Lesson</b>
Learn to compare groups of up to 10 images that are not matched.	18
Learn to compare numbers by representing each group of objects or images with numbers 1 to 10.	19
Learn to compare numbers 1 to 10 and to determine which number is more.	20
Learn to compare numbers 1 to 10 and determine which number is less.	21
Review all concepts learned in Lessons 11–21.	22
Learn to compose (build) teen numbers by using 10 ones and some more ones.	23
Learn to identify quantities by adding more ones to a group of 10 ones to compose (build) numbers from 11 to 19.	24
Learn to identify quantities 11 to 19 by adding more ones to a group of 10 ones.	25
Learn to use objects to demonstrate the actions of addition and subtraction in stories.	26
Learn to draw a picture to represent and solve a story problem.	27
Learn to connect expressions to story problems.	28
Learn to use the 3 Reads Strategy to understand and solve story problems.	29
Learn about the number zero, choose strategies for solving story problems, and give an explanation.	30
Learn to compare and solve addition and subtraction story problems.	31
Learn to compose two groups of objects in different ways to make the same number, using numbers up to 9.	32
Learn to decompose (break apart) written numbers up to 9 in many ways and look for patterns in decompositions.	33
Review all concepts learned in Lessons 23–33.	34
Learn to match equations with compositions and decompositions of 10.	35
Learn to find the number that makes 10 when added to a given number.	36

<b>Your Student Will:</b>	<b>Lesson</b>
Learn to compose 10 in many ways	37
Sort expressions, both with and without pictures, to build fluency in adding and subtracting within 5.	38
Learn to compare expressions resulting in a total or difference within 5.	39
Develop fluency with adding and subtracting within 5.	40
Review all concepts learned in Lessons 35–41.	41
Learn to identify and write numbers up to 120.	42
Learn to understand that 10 ones make a unit called a ten and will compose and decompose teen numbers with a ten and some ones.	43
Gain a deeper understanding that teen numbers are composed of a ten and some ones, and find the value that makes an addition equation true when one addend is 10.	44
Learn to interpret different base-10 representations of multiples of 10.	45
Learn to add and subtract multiples of 10 from multiples of 10.	46
Learn to add a two-digit number and a multiple of 10.	47
Learn to use base-10 understanding to mentally determine 10 more or 10 less than a two-digit number.	48
Learn about place value and understand that two-digit numbers are composed of tens and ones.	49
Learn to interpret base-10 representations of two-digit numbers.	50
Learn to compare two-digit numbers based on place value.	51
Learn to order numbers based on the values of the tens and ones digits.	52
Learn the meaning of the symbols $<$ and $>$ .	53
Learn to compare numbers based on the value of the tens and ones digits and read and write comparisons using $<$ , $>$ , or $=$ .	54
Learn to add tens or ones to two-digit numbers, without composing a ten.	55

<b>Your Student Will:</b>	<b>Lesson</b>
Learn to add one-digit and two-digit numbers, with composing (making) a new ten, using place value understanding and the properties of operations.	56
Learn to compare the length of objects by lining up the endpoints and ordering the objects by length.	57
Learn to indirectly compare the lengths of two objects indirectly by comparing each with the length of a third object.	58
Learn to measure the lengths of objects using various units and recognize that the value of a measurement depends on the unit chosen.	59
Review all concepts learned in Lessons 42–59.	60

## APPENDIX D

# Solving Number Reversal Problems

Within the set of numbers 0–9, there are several pairs of numbers that students often confuse with each other. The most notorious of these pairs is 6 and 9.

It is easy to see where the confusion comes in: rotate the 6 and it becomes a 9. The beginning student may not realize that the direction of the numbers matters, or may not be able to remember which number is which.

Numbers that are commonly reversed include:

**6 9      2 5      3 5**

### What is considered normal?

If your student is between the ages of three and seven, is just starting to read and write numbers, and makes occasional reversal errors when reading or writing, it's perfectly normal. It doesn't mean that your student has dyslexia or a learning disability. Make a gentle correction and move on.

But if your student is eight years or older, has had prior mathematics instruction, and is making frequent number reversal errors, it is important to take action to solve the reversal problems.

As teachers, we have two jobs to do regarding reversals:

1. Try to prevent confusion.
2. Where confusion exists, resolve it.

### Try to prevent number confusion before it begins.

The *All About Math* program uses a number style that was carefully selected to minimize the likelihood of reversals when reading numbers.

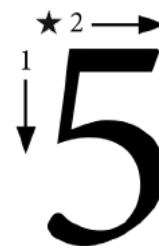
When your student is learning to print, be sure to correct number formation. Doing so is critical to prevent confusion. Using the *Counting Mat 1 to 10* as a visual can help students with directionality until they are ready to write numbers on their own.

Below are some suggestions for differentiating between commonly reversed numbers.



**2-5 Reversals:** When forming the number 2, use one stroke. Go around the curve and across the bottom.

When forming the number 5, use two strokes. Start in the upper left corner and draw straight down, then around in a curve. Finally go back and draw the straight line at the top.



**3-5 reversals:** Emphasize the three “points” on the number 3. Draw a 3 and make the top, middle, and bottom end points larger dots to make them a stronger visual. Say, “3 has 3 dots”.

5 is a two-stroke number. Start in the upper left corner and draw straight down, then around in a curve. Finally go back and add the hat (straight line at the top).



**6-9 reversals:** Say, “6 sits, 9 stands up. This is because 9 is the bigger number. It stands to show it is bigger.”



## Two-Digit Number Reversals

As students progress from reading and writing one-digit numbers to reading and writing two-digit numbers, they might reverse the order of the digits in a number. For example, they might read 24 as “forty-two.”

To address this, put a star or a smiley face on the upper-left corner of the page or whiteboard, and refer to it each day with the reminder, “All numbers start from this side.” Some students may also benefit from drawing an arrow that starts at the sticker and points to the right to reinforce the directionality.

The following lessons reinforce the mathematical concepts that can help prevent multi-digit reversals:

- In Lessons 23–25, students are introduced to teen numbers (11–19)
- In Lesson 42, students learn to read and write numbers up to 120.
- In Lesson 49, students learn to understand place value.

## **What to do if your student already reverses numbers.**

If you are working with older learners, it may be too late to prevent confusion. They may have had a few false starts in reading and writing numbers and may have already confused these troublemakers. They may encounter the number 6 and misinterpret it as the number 9. They may read the number 85 as 58. You might give a gentle correction and reteach the numbers separately, but your student still mixes them up.

Below are additional tips for clearing up tough reversal problems. The demonstrations are for correcting 6 and 9, but the same concepts can be applied to any number. Please note that it is important to concentrate on just one number per session. Wait until that number is completely mastered before tackling another number.

### **1. Teach the number pair using tactile surfaces**

Have a variety of tactile surfaces for your student to choose from. Possibilities include flannel fabric, corrugated cardboard, very fine sandpaper, fluffy fur fabric, or a carpet square. Ask your student which surface reminds him of the number 6, and then cut a large 6 out of the chosen tactile surface. Using the pointer finger of his dominant hand, have your student trace the number 6 on the textured surface. Be sure he starts and ends in the correct place. Practice until he can easily write the number 6. When your student is ready to go on to a new number, choose a different textured surface. If fine sandpaper was used for the number 6, perhaps furry fabric can be used for the number 9.

### **2. Use “air writing” to reinforce proper number formation.**

Another simple but powerful method for correcting reversals is “air writing.” Using the dominant hand, the student uses his entire arm to write numbers in the air as he says the number. The whole arm should be involved, and the student should pretend that his pointer finger is a pen.

Brain research shows that two ideas practiced at the same time can permanently bond the ideas together. In this case, the large movements of the arm combined with saying the number helps link these two concepts together in your student’s brain. Additionally, this multisensory activity takes advantage of the fact that the muscles in the shoulder and in the jaw have muscle memory, and this makes it easier for your student to recall the shape of the number.

Reversals can be very ingrained and may take consistent, daily practice over time to undo. If you have additional concerns, please feel free to contact us at [support@allaboutlearningpress.com](mailto:support@allaboutlearningpress.com) or 715-477-1976. We're here to help!