

Daily Routines to Jump-Start Math Class, Elementary

THE BOOK AT-A-GLANCE

A quick-reference table provides you with a brief description of each task, along with the corresponding task purpose.

JUMP-START ROUTINES AT-A-GLANCE

	ROUTINE	DESCRIPTION	PURPOSE
1	<i>Math Yapper</i>	Students provide clues for partners to guess mystery numbers, concepts, or vocabulary.	Develop understanding of concepts and vocabulary to communicate clearly.
2	<i>The Count</i>	Students make predictions about counting when given starting points and an interval.	Develop counting and skip-counting skills and estimation.
3	<i>The Missing</i>	Students determine missing numbers on a number chart.	Develop advanced strategies about counting.
4	<i>Big or Small</i>	Students determine when a number represents something big and when a number represents something small.	Develop sense of quantity and magnitude through contexts for number.
5	<i>Picture It</i>	Students estimate quantities in pictures.	Develop understanding of magnitude of numbers by reasoning about them in context.
6	<i>Show It 3</i>	Students represent a number in three diverse ways.	Develop deeper understanding of single and multi-digit number concepts.
7	<i>How Can You Make It?</i>	Students determine ways to make a number.	Develop understanding of number composition and decomposition.
8	<i>The Mighty Ten</i>	Students find combinations of 10, multiples of 10, 100, or 1,000.	Develop fluency with combinations of ten and transfer this fluency to multi-digit numbers.
9	<i>Make It Friendly</i>	Students add more than one number by finding friendly numbers.	Develop strategies for adding and subtracting numbers using decomposition and compatible numbers.
10	<i>Mystery Number</i>	Students use clues about a number to determine if they have the mystery number.	Develop understanding about number through attributes and relationships.
11	<i>Number Bio</i>	Students complete prompts about a given number.	Develop understanding about numbers through representations, attributes, and relationships.
12	<i>Condition</i>	Students use conditions about a number to earn points.	Develop understanding of number and flexibility of reasoning.
13	<i>Where's the Point?</i>	Students determine possible values for unknown locations on empty number lines.	Develop understanding of number relationships with number lines.

Video Demonstrations
bring the jump-start routines
to life and help you visualize
how they might work in your
classroom.



JUMP-START ROUTINES

● VIDEO DEMONSTRATIONS:



The Count



Where's the Point?



The Missing



Is This the End?



Big or Small



More or Less



Show It 3



This or That?



How Can You Make It?



Another Way to Say It



Condition



The Truth



All videos can be viewed at resources.corwin.com/jumpstart routines/elementary

An **About the Routine** section provides an overview of what the routine entails.

ROUTINE 3

THE MISSING (COUNTING AND SKIP-COUNTING)

About the Routine

Students learn about and use all sorts of tools to help them count and make sense of number relationships. A number chart is one of the most fundamental tools that students work with. Though this tool is instrumental, if not used well, it can undermine student progress toward more complex ideas about numbers and counting. Often, missing numbers on the chart are surrounded by known or completed numbers. In some cases, the entire chart is completed with the exception of a handful of *missing* numbers. Students are then asked to find the missing numbers. Students are likely to simply count on from knowns. Unfortunately, some students may still begin with 1 and count on to find the missing number, even though many of the numbers are already present. There are missed opportunities to discuss other counting strategies, including 10 more and 10 less, two more and two less, and so on. *The Missing* asks students to find

1	2	3	4	5	6	7	8		
						17			
31									
			54						
61									
									80
									90
				95					

specific missing numbers with few markers to offer support. After finding targeted unknowns, students then share how they counted thus exposing others to possibly unknown, unfamiliar, or uncomfortable counting strategies.

Why It Matters

This routine helps students:

- persevere when solutions or solution paths are not obvious (MP1);
- reinforce relationships between numbers (MP2);
- discover that numbers are related to other numbers in more than one way (MP2);
- look for patterns within counting numbers, known and unknown numbers (MP7);
- make use of structure when counting (MP8);
- better understand how number charts work and support thinking (MP5); and
- communicate their strategies to others (MP3).



All tasks can be downloaded for your use at resources.corwin.com/jumpstartroutines/elementary

Why It Matters sections encapsulate the relevance of the routine for student learning and call out any related Standards for Mathematical Practice.

Online Resources icons signal the availability of downloadable tasks.

What They Should Understand First sections explain what mathematics students should ideally know before embarking on the routine at hand.

What to Do sections break down exactly how to use the routine in your classroom, step by step.

What They Should Understand First

How Do You Make It? works with any number or type of number, including fractions and decimals. You should use it after students show conceptual understanding of number and decomposition. They might show understanding through a collection of representations, but they must also be able to communicate how those representations connect to symbolic representations (numbers). Students should also show some ability to decompose a number. In kindergarten, decomposition might be limited to *one-more than* or *two-more than* a

number. For example, they might only be able to think of 11 as 1 and 10 or 2 and 9. In later grades, decomposition might be limited to place value. Either is fine. The routine itself is intended to expose, develop, and reinforce new ideas about decomposing numbers. You might provide students with tools, such as 10 frames or base 10 blocks, during initial exposures to the routine. In these early experiences, you should also record and connect symbolic decompositions to representations if students do not do so themselves.

What to Do

1. Select a number for students to decompose. (Note: Consider giving some examples of how it might be decomposed the first few times the routine is introduced.)
 - » What do you notice about how we decomposed the number?
 - » What two decompositions are most alike?
 - » How did the numbers in those examples change?
2. Direct students to decompose the number. (Optional: Have students decompose the number in two ways or more than three ways.)
 - » Do you notice any patterns in how we broke apart the numbers?
3. Have students share their decomposition(s) with a partner.
 - » Do you think this pattern will work with other numbers?
4. Have students share their examples with the group.
 - » Which of the examples are easiest for you to think about?
 - » Which of the examples are hardest for you to think about?
5. Record student examples. Note that there is no better number of examples to record. In some instances, five will be plenty. In others, nine or 10 examples might be collected and recorded.
6. Discuss with the group the decomposition examples that were recorded. Questions to ask might include:
 - 7. After discussion, ask students to decompose the number in a new way that wasn't recorded.
 - 8. Have students share their new decompositions with partners and then the whole class.

Anticipated Strategies for This Example

For this example, students are asked to decompose 15. It is a good choice for later in the kindergarten year or early in first grade. Many students are likely to first decompose 15 into 10 and 5. Some students may be able to only decompose it into 10 and 5. Students who

extend beyond place value decomposition are likely to use breaking a number into 1 and something and 2 and something. In this example, that would be 14 and 1 and 13 and 2. You should listen for students who consistently share something and 1 or something and 2 for different reasons. Some who rely on a number and 1 (14 and 1) might think of it in ways of counting and may not recognize that it is a decomposition. Those that understand might

How can you make
15?

Anticipated Strategies for This Example describe and distill the key strategies that will likely arise while students are working through each routine.

Additional Examples sections explain how you can adjust the routine for grade-specific content and leverage it to further develop students' mathematical skills.

They might avoid three-digit numbers with the same digit in each place value. As you notice these vacancies in student creations, you can pose new conditions to *nudge* your students toward thinking about *different* numbers. For example, you may find that no student numbers have a 0 in them. The next condition you pose could award a point for a number that has zero tens. And, you might ask it again the next day to get a sense if any students latched on

to the thought that a three-digit number can have zero tens. Some conditions in the routine are better suited for reasoning and discussion than others. The third condition in the featured example petitions for numbers that round to 700. Some students will think of numbers between 650 and 699, others will think of numbers between 700 and 749, and others will identify both sets. This is an example of a condition prompt that has potential for rich discussion.

CONDITION—ADDITIONAL EXAMPLES

A. You can use *Condition* with all elementary students, as you can easily modify it for any concept or range of numbers. Example A shows how you might use it in a kindergarten classroom. The two 10 frames captured in the image are available with the slide deck in the downloadable content. You could also choose to have a large double 10 frame on the board that can be manipulated. For young students, you might choose to have them make a model of their number before posing conditions. Conditions themselves can make use of representations.

A Create a number on your ten frames. Match the **CONDITION** to earn a point.

- Your number
- is the smallest number in the class
 - is more than 10
 - is one more than 7
 - is more than 12
 - is two more than 4



IS THIS THE END? VARIATION—DIFFERENT KNOWNS

One location was given in the previous examples. You can take another approach to the routine as well. You could ask students to find locations other than endpoints. Or, you might provide an endpoint and a known location and ask students to place other numbers on the number line.

E. Clearly, Example E is quite different than the other examples of the routine. But, the thinking and reasoning remains the same. Students still have to think about how numbers are related to one another. In fact, it still makes use of a midpoint. As noted in the directions, it is fine for you to tell students that the arrow/value is exactly in the middle of the number line. In this example, knowing that the middle is 20 other relationships have to be considered. What would the right endpoint be? Are all of the options presented (10, 22, and 45) possibilities for this number line as drawn? 45 isn't on this number line as drawn. It would be just past the right endpoint. It would also be acceptable for students to extend the number line to justify where 45 should be placed.

E The arrow is pointing at 20. About where is 10? 22? 45?



F. A criticism of number line use is that the endpoints are often stagnant and rely on a left endpoint of 0. This is not to say those endpoints

F

Variations on each routine are provided to further deepen student understanding and provide ways to meet the varied needs of your learners.