

Stickers: A Context for Place Value

In Grade 2, students make a critical shift from thinking and working primarily in 1s to thinking and working with groups of 1s. Most are coming to understand that ten ones are equivalent to one group of ten.

In order to make this shift, important groundwork must be laid. In Kindergarten and Grade 1, students focus on being able to count by 1s fluently. They begin to think about groups as they investigate the number of eyes or hands in their classroom and begin to learn about coin equivalencies (five pennies equal one nickel). They also count sets of objects in different ways (i.e., by 1s and then by 2s, 5s, or 10s) and think about whether the quantity remains the same. They look at the way numbers are written and begin to explore the difference between 15 and 51, 23 and 32.

Using groups in meaningful ways requires that students coordinate *all* of the above ideas, not just one or two of them. *Investigations* helps them do so by offering a variety of contexts which involve groups of two, five, and ten, such as eyes, fingers, and dimes. That work is built on in this unit as students are introduced to a new context, a store that sells stickers individually (as singles, or ones) or in strips of ten. (In later units, sheets of 100 will also be added.) This context helps students think about place value, or how numbers in our number system are structured (in tens and ones).



In this unit, students see a set of stickers and figure out how many there are, or they figure out how to show a particular number with stickers. As students count stickers and represent quantities with them, they are working in a context that promotes counting by 10s and are exploring the idea that 53 is made up of five tens and three ones. This work helps students develop more efficient strategies for solving addition and subtraction problems. For example, as students become more comfortable with the idea of *one ten*, they will be much less likely to count all, or even to count on by 1s for a problem like this:

Karen has two strips of ten stickers. For her birthday her brother gave her another strip of ten stickers and three singles. How many does she have now?

The sticker context sets the stage for the place-value work students will do throughout the elementary grades. It makes students more likely to use a numerical strategy such as breaking numbers into tens and ones and adding like groups.

$$20 + 13 = 20 + 10 + 3$$

$$20 + 10 = 30$$

$$30 + 3 = 33$$

It also helps students achieve a strong understanding of 100 by the end of Grade 2. Students build on this foundation as they investigate the structure of much larger numbers (hundreds, thousands, hundred thousands, and millions).

In later units, the sticker context is extended to 100 as students are introduced to sheets of 100 stickers and sticker books with pages that hold 100 stickers, both organized in rows of ten. This work extends their thinking about place value, or how numbers in our number system are structured (in ones, tens, hundreds, and so on). It also helps students achieve a strong understanding of how 100 is composed.