Grade 3: Early Multiplication/ Understanding Equal Groups

Dear _____

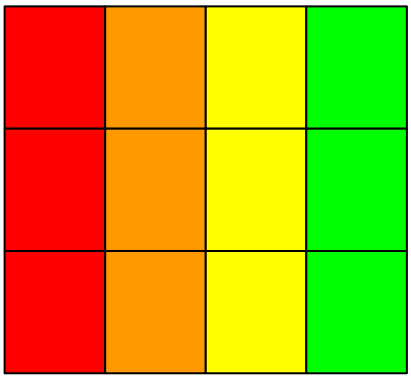
Focus of the Unit

This unit will focus on beginning multiplication and division concepts. In third grade students are formally introduced to multiplication as an operation. Students build bridges between additive reasoning and multiplicative reasoning. At the start of our unit students will be considering equal groups of objects. The focus will be on representing stories about equal sized groups and using strategies to determine the total number of objects. As students draw pictures and clearly distinguish between groups and group size, they will also assign mathematical symbols to represent these situations.

Building off Past Mathematics

In grade 2 students explored arrangements of objects into equal rows and columns (arrays) and used fluency within 20 to determine totals. While students were working with equal sized groups and repeatedly adding them, they were not yet multiplying. In this unit we will build on these ideas and solidify students' think of these equal groups as a unit as they multiply.

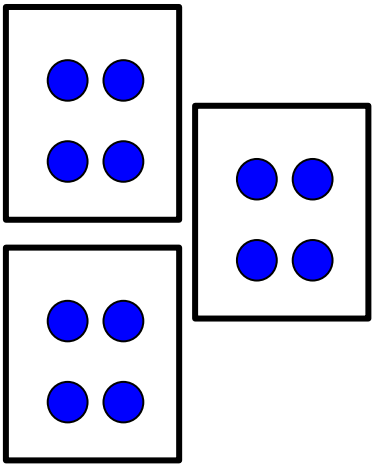
Grade 2 example:
3 rows of 4 in each row!

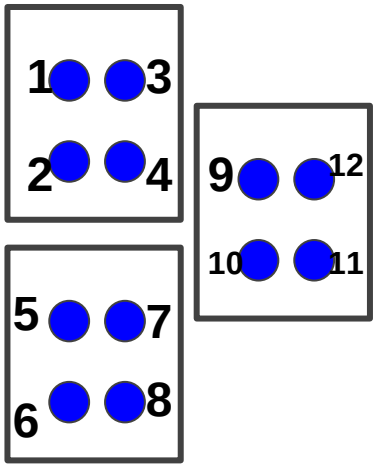


Strategies that students will learn

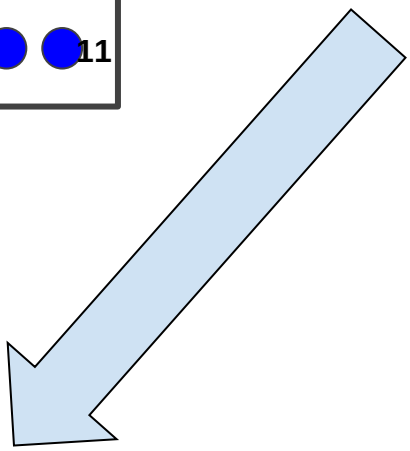
Initial strategies for multiplication involve counting each individual object in a group by one. As students understand and are able to hold on to a group in their minds, they move to skip counting and finally to recognizing multiplication combinations as equal groups represented by numbers, symbols, arrays and stories.

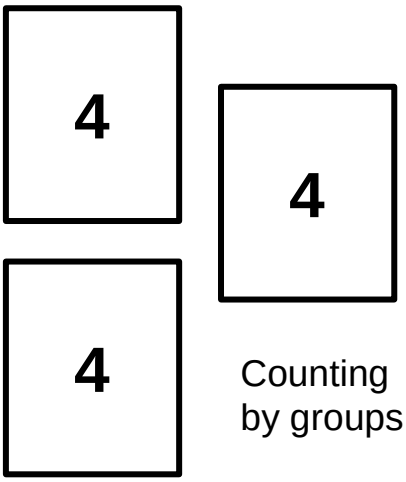
Micah has 3 dot cubes. Each cube has 4 dots. How many dots altogether?





Counting
by ones





Counting
by groups

4(dots) and 4(dots) and 4(dots) is the same as 12(dots)
4(dots) + 4(dots) + 4(dots)= 12(dots) Additive Reasoning

3 groups of 4(dots) is the same as 12(dots)
4, 8, 12(dots) multiplicative reasoning

3 x 4 = 12

Ideas for home support:
One way to support at home is encourage students to show what multiplication and division look like in real life situations. Setting a table, shopping and sharing packages of food with siblings, provide the perfect context for multiplication and division.

Thank you for serving as partners in your child's success as a mathematician!

Grade 3 Math Team