

## 3<sup>rd</sup> Grade

### Mathematics Student Profile

By June, in Mathematics a third grade student should be able to understand that the whole number system describes place value relationships and forms the foundation for efficient algorithms. Students will also be able to model and represent parts of a whole in a variety of ways.

Third graders will also understand that multiplication and division are inverse operations and can be modeled in many different ways. Students will have developed strategies for multiplication and division within 100 by working with problems involving equal-sized groups, arrays, area models, and finding unknown products and unknown factors.

At the end of third grade students will also have developed an understanding of fractions, especially unit fractions (fractions with a numerator). They are able to use fractions along with visual fraction models to represent parts of the whole. They also understand that the size of a fractional part is relative to the size of the whole.

They have also developed an understanding of the structure of rectangular arrays and of area. They are able to measure the area of a shape by finding the total number of same-size units of area required to cover a shape. Students also understand that rectangular arrays can be decomposed into identical rows or into identical columns, and they will connect area to multiplication and use multiplication to determine the area of a rectangle.

Third graders will also be able to describe, analyze, and compare properties of two-dimensional shapes. They will compare and classify shapes by their sides and angles, and connect these with definitions of shapes. They will relate their fractions work to geometry by expressing the area of part of a shape as a unit fraction of the whole.

Students will demonstrate how to make sense of problems and persevere in solving them. They will begin to reason abstractly and quantitatively. They will construct viable arguments and critic the reasoning of other students. They will model their mathematics and use appropriate math tools. They will be aware of the need for precision in their mathematics work and use strategies to look for patterns and repeated reasoning.

