

## Grade 3, Module 5: Fractions as Numbers on the Number Line



**What is this module about?** In this 35-lesson module, students extend and deepen Grade 2 practice with “equal shares” to understanding fractions as equal parts of a whole. They formalize their knowledge as they work with area models and the number line.



**What came before this module?** Students explored area as an attribute of two-dimensional figures and related it to their prior work with multiplication.



**What comes after this module?** In Module 6, students will begin work on data collection and representation. Specifically, students will generate and analyze categorical and measurement data.

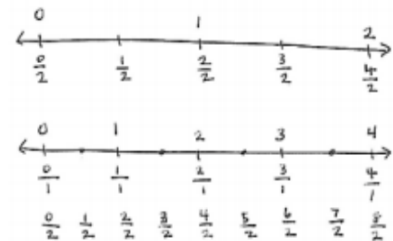
## How can you help at home?

- Continue to review multiplication and division math facts with your student.
- Help students practice partitioning household items (pieces of paper, portions of food, a pack of crayons, etc.) into equal parts.

In this activity, students specify and partition a whole into equal parts, identifying and counting unit fractions by folding fraction strips.



Students will learn to partition number lines into fractional parts, renaming whole numbers as fractions.



## Key Words and Ideas in this Module

- **Unit fraction:** fractions with a numerator of one
- **Non-unit fraction:** fractions with numerators other than 1
- **Fractional unit:** half, third, fourth, etc.
- **Unit interval:** the interval from 0 to 1, measured by length
- **Equivalent fraction:** fractions that are the same size, or the same point on a number line
- **Copies:** refers to the number of unit fractions in one whole
- **Terms to review:** number line, arrays, equal shares, whole, fraction, partition, =, <, >

## Key Standards in this Module

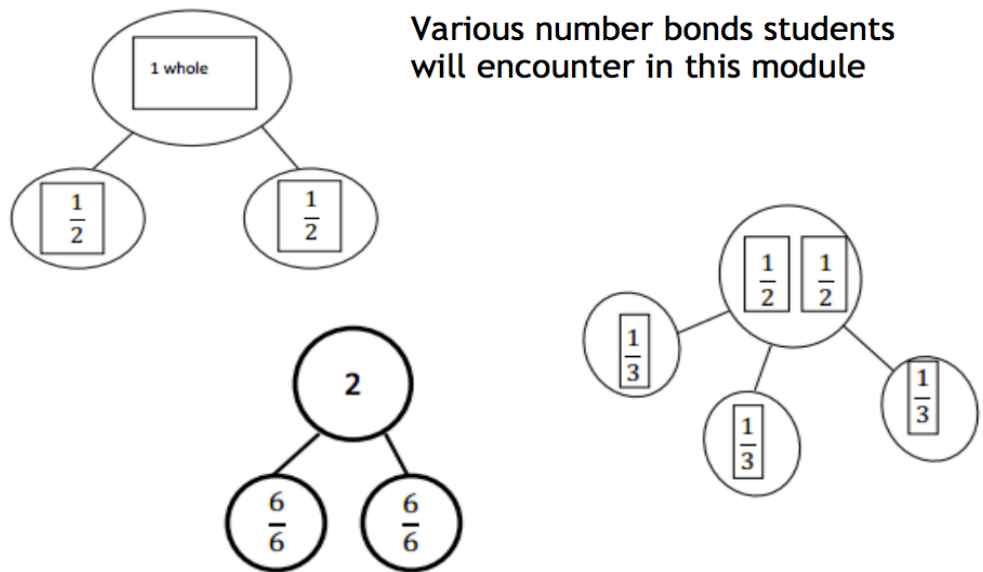
- Develop understanding of fractions as numbers
- Reason with shapes and their attributes



## Spotlight on Math Models

### Number Bonds

The number bond is a pictorial representation of part/part/whole relationships showing that smaller numbers (the parts) make up larger numbers (the whole). The number bond is a key model for showing students how to both take apart (decompose) and put together (compose) numbers. Students become familiar with number bonds in Kindergarten, and they are used repeatedly throughout the grades in various situations. In Grade 3, students compose fractional numbers using number bonds as a tool to see the unit fractions that make up a whole number. They will also use number bonds to decompose whole numbers greater than one into fractional parts.



Various number bonds students will encounter in this module

### Sample problem from Module 5 (Lesson 22)

Mr. Ramos wants to nail the TV cord against the wall so no one trips. He puts 7 nails equally spaced along the cord. Draw a number line representing the cord. Label it from 0 at the start to 1 at the end. Put a mark where Mr. Ramos puts each nail with a fraction.

- Build a number bond with unit fractions to 1 whole.
- Write the fraction of the nail that is equivalent to  $\frac{1}{2}$  the cord.

