Foundations of Multiplication and Division
In this module, students learn to make equal groups, moving from concrete work with objects to more abstract pictorial representations. Finally, they learn about even and odd numbers.

Grade Level Standards
2.G.2, 2.OA.3, 2.OA.4

Student Report Card
Adds and subtracts in word problems and uses grouping strategies.
Reasons with shapes and their characteristics.

Key Vocabulary
- **Array**: Arrangement of objects in rows and columns
- **Columns**: The vertical groups in a rectangular array
- **Even Number**: A whole number whose last digit is 0, 2, 4, 6 or 8
- **Odd Number**: A number that is not even
- **Repeated Addition**: e.g., 2 + 2 + 2
- **Rows**: The horizontal groups in a rectangular array
- **Tessellation**: Tiling of a plane using one or more geometric shapes with no overlaps and no gaps
- **Whole Number**: e.g., 0, 1, 2, 3,…

Familiar Terms
- Addend
- Double
- Equation
- Pair
- Rectangle
- Skip Counting
- Square
- Sum
- Tape Diagram
- Total

How you can help at home:
- Using any number of small objects, challenge your student to sort them into equal groups.
- Practice skip counting by 2s. This will help as students work with odd an even numbers in this module.
Students begin making equal groups using concrete materials

Students further develop their understanding as they build arrays. An array is made of horizontal rows and vertical columns. Students can then use them to write equations showing repeated addition.

Students will explore multiple methods to show repeated addition.

Example: Three Groups of Five

Array

\[
\begin{array}{c}
\text{Column} \\
\text{Row}
\end{array}
\]

\[
\begin{array}{c}
\text{ Array }
\end{array}
\]

\[
\begin{array}{c}
\text{ Drawing }
\end{array}
\]

\[
\begin{array}{c}
5 + 5 + 5 = 15
\end{array}
\]

The module ends with students using arrays to investigate even and odd numbers.