Mathematical Background

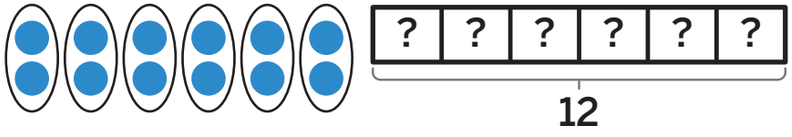
Here is an overview of the content students will learn in this unit.

Relating Multiplication to Division

Interpreting and Representing Division Situations

TEKS 3.4.H, 3.5.B

- **Division** situations can be represented using arrays, strip diagrams, and equations.
- The **dividend**, **divisor**, and **quotient** can be found in different parts of each representation.



$12 \div 6 = 2$

dividend ÷ divisor = quotient

Relating Multiplication to Division

TEKS 3.4.J, 3.4.K, 3.5.B, 3.5.D

- A quotient can be determined using the relationship between multiplication and division.
  - » A division problem can be solved using an unknown-factor problem or fact.

A farmer has 20 apples. He puts them in 4 boxes. Each box has the same number of apples. How many apples are in each box?

factor: number in each group

$4 \times ? = 20$

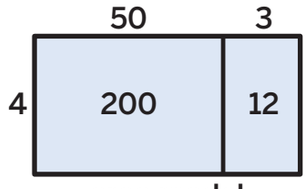
$20 \div 4 = ?$

quotient: size of each group

Multiplying Multi-Digit Numbers

TEKS 3.4.K

- Using the **Distributive Property** and the **Associative Property of Multiplication** can help to multiply numbers greater than 20.
- Multiplying a multi-digit number by a one-digit number can be done using:
  - » **Area models**
  - » The standard algorithm



area model

$$\begin{array}{r} {\scriptstyle 1} \\ 53 \\ \times \quad 4 \\ \hline 212 \end{array}$$

standard algorithm

Unit Investigation

Lesson 1 is the Unit Investigation. Students explore different ways amounts can be separated into equal groups to build curiosity and apply their own knowledge in a variety of ways.Use the **Caregiver Connection** to help students continue to explore the math they will see in the unit.

Caregiver Connection

Students may enjoy separating amounts of other objects into equal groups. Consider using household objects such as spoons, pencils, or paper clips, or collections such as rocks or trading cards. You can ask:

- "How many groups did you make?"
- "How many objects are in each group?"