Mathematical Background

Mathematical Relationships and Financial Literacy

Understand and represent numerical relationships with models and equations.

TEKS 4.5.A, 4.5.B

- Numerical relationships can be described using language related to addition or multiplication.
  - » Phrases such as "times as many" and "more than" can be used to describe relationships.
- Numerical relationships can be represented using expressions, strip-diagrams, equations, and input-output tables.

The crab group has 4 times as many kids as the starfish group.

starfish group | 3 |

crab group | 3 | 3 | 3 | 3 |

$3 \times 4 = c$

Input	Rule	Output
1	× 4	4
2	× 4	8
3	× 4	12

1 x 4 = 4

2 x 4 = 8

3 x 4 = 12

Convert measurements to solve real-world problems.

TEKS 4.8.B, 4.8.C

- Units of measurement can be converted from small units to large units and large units to small units, using the relationship between units in a given system.
  - » Multiplication or division can be used to convert measurements based on the relationship between units.
- Problems involving measurement can be solved using addition, subtraction, multiplication or division.

Lucas used 15 liters of water to water the vegetable garden. How many milliliters of water did Lucas use?

2 x 1,000 = 2,000

So, 15 x 1,000 = 15,000 milliliters

Liters-to-Milliliters Conversions

Number of liters (L)	Number of milliliters (mL)
2	2,000
4	4,000
6	6,000

🔍 Unit Investigation

Lesson 1 is the Unit Investigation. Students will create 3 invented units to measure length. They will use their invented measurement system to measure different objects in the room. They will also explain how their invented units are related to each other. Use the **Caregiver Connection** to help students continue to explore the math they will see in the unit.

Caregiver Connection

Students may enjoy using the units from their invented systems of measurement to describe the lengths of objects around their home. You can ask:

- "What is the best unit of length to use to measure the width of the door?"

- "Can you determine the length of the window using all of your units?"