**(2)** **Module 12**

Core Focus

- Division: Developing language and identifying common fractions
- Measurement: Area, mass, and capacity

Division

- Two division models are introduced through stories. In the *sharing* model, students know the total and they know the number of groups. Students find the number in each group while fairly sharing the total among the groups.

- The *grouping* model also starts with a known total and quantity per group. Students figure out how many equal groups of that size can be made from the total. This model may also be called *repeated subtraction*.

12.2 **Division: Developing language (grouping)**

Step In These 12 dinosaurs like to dance in equal groups.
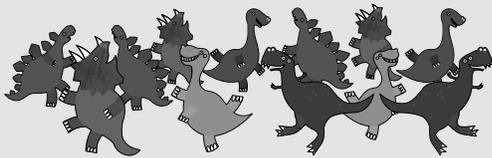
Imagine the dinosaurs danced in groups of 3.
How many groups would there be? How do you know?

Imagine the dinosaurs danced in groups of 2.
How many groups would there be? How do you know?

What other numbers could be in each equal group?
How many groups would there be?

In this lesson, students develop language used in division, such as sharing and groups.

- Students visualize three simple fractions (one-half, one-third, and one-fourth) through folding paper, working with sets of objects, and dividing geometric shapes.

- Students see that fractions are proportional to the size of the whole (for example, one-half of a pizza is much larger than one-half of a cookie).

- Students also understand that the same fraction of identical wholes does not need to look the same.

12.6 **Common fractions: Representing the same fraction in different ways**

Step In Look at these pictures.
What amount of each shape is shaded?

What do you notice about each fraction?
What is the same? What is different?

Each shape shows the same fraction.

The shape of the parts is different.

In this lesson, students represent the same fraction in different ways.

Ideas for Home

- Ask your child to find one-fourth, one-half, or one-third of a set of small items. Try 20 shared by 4, 18 shared by 3, and 14 shared by 2. Encourage your child to use fraction language to describe the shares (e.g. "one-fourth of 20 is 5").

- Fold a rectangular piece of paper into eight equal parts. Challenge your child to color in one-half or one-fourth of the rectangle in as many ways as possible. You can also divide a rectangle into six equal parts to show one-half or one-third.

2 | # Module 12

Area

- In informal activities, students estimate and count the number of squares in rectangular-shaped outlines using both customary and metric units of measure.
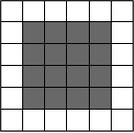
In this lesson, students count the number of squares needed to cover the area of a rectangle.

Mass

- Students develop a sense of how much objects weigh in pounds or in kilograms. They compare the mass of objects to determine which are lighter or heavier than one pound, or one kilogram.

In this lesson, students are introduced to the pound.

Capacity

- In Grade 1, students explored capacity. Now students learn about standard units to measure capacity: cups, pints, quarts, and liters.

In this lesson, students use various units to measure the capacity of containers.

Ideas for Home

- Find an item in your home that weighs one pound (for example, a bag of flour). Ask your child to find other items that weigh more, weigh less, and weigh about the same as one pound, comparing their items to the one pound item to decide. Confirm with a bathroom or kitchen scale.

- Encourage your child to help you in the kitchen, including measuring food or drink using cups, pints, or quarts. Simple tasks like preparing lemonade or measuring rice (and water for cooking it) can be excellent activities to work with measuring.

- At the grocery store, ask your child to find items that are labeled with pints, quarts, or liters to help them become familiar with the different units of measurement.