Continue to find percent and decimal equivalents for:

- $\frac{3}{4}$ (25% + 25% + 25% = 75%)
  0.25 + 0.25 + 0.25 + = 0.75
- $\frac{4}{5}$ (20% + 20% + 20% + 20% = 80%)
  0.2 + 0.2 + 0.2 + 0.2 = 0.8
- $\frac{5}{12}$ ($8.\overline{3}\% + 8.\overline{3}\% + 8.\overline{3}\% + 8.\overline{3}\% + 8.\overline{3}\% = 41.5\%$)
  $0.08\overline{3} + 0.08\overline{3} + 0.08\overline{3} + 0.08\overline{3} + 0.08\overline{3} = 0.415$

Also available from Learning Resources®:

LER 2510	Fraction Tower® Cubes
LER 2511	Decimal Tower® Cubes
LER 2512	Percent Tower® Cubes
LER 2075	Deluxe Fraction Tower® Activity Set

LEARNING RESOURCES®

For a dealer near you, call:
(847) 573-8400 (U.S. & Int'l)
(800) 222-3909 (U.S. & Canada)
+44 (0)1553 762276 (U.K. & Europe)

⚠ WARNING:
CHOKING HAZARD - Small parts.
Not for children under 3 years.

LEARNING RESOURCES®

LER 2509

FRACTION TOWER®

Equivalency Cubes Activity Guide

Snap together the *Fraction Tower® Equivalency Cubes* for fraction, decimal, and percent concepts right before your eyes! *Fraction Tower® Equivalency Cubes* will help your students understand basic equivalency concepts between fractions, percents and decimals. They also enable students to relate abstract ideas to concrete activities as they can see, touch, and move various Fraction Tower® pieces!

Your fifty-one piece set includes:

- one red whole (1, 100%, 1.0)
- two pink halves ($\frac{1}{2}$, 50%, 0.50)
- three orange thirds ($\frac{1}{3}$, 33.3%, 0.33)
- four yellow fourths ($\frac{1}{4}$, 25%, 0.25)
- five green fifths ($\frac{1}{5}$, 20%, 0.20)
- six teal sixths ($\frac{1}{6}$, 16.%, 0.16)
- eight blue eighths ($\frac{1}{8}$,12.5%, 0.125)
- ten purple tenths ($\frac{1}{10}$, 10%, 0.10)
- twelve black twelfths ($\frac{1}{12}$, 8.3%, 0.083)
- activity guide

Free Exploration

Encourage students to become familiar with the *Equivalency Cubes* before initiating any formal instruction or reinforcement activities. Observe your students' explorations and note skill levels.

Manipulative Connections

Equivalency Cubes have a two centimeter base width. Use them to make transitions between manipulatives such as wooden and plastic color cubes, interlocking *MathLink® Cubes* (LER 0951), or other math manipulatives.

Parts of a Whole

Show the red cube to your students. It is equal to one whole unit (1, 100%, 1.0). The remaining cubes are parts of a whole. Compare the pink cube to the red cube. It takes two pink cubes to match the height of one red cube. The pink cubes have a value of 0.5, $\frac{1}{2}$ or 50%, as designated. Demonstrate that same-color cubes are equal in value. Continue comparing cubes to the unit. Incorporate vocabulary terms such as *part*, *whole*, and *equal-sized parts* in your discussion.

Equivalents

Make two equivalent *decimals* such as one pink cube and three teal cubes. Ask students to observe and compare the height of each *decimal*. Make another set of equivalent *percents* such as two orange cubes and four teal cubes. Observe the heights. Challenge students to make another pair of *equivalent cubes* where the heights do not equal one another. (It's

impossible! The cubes are equivalent only if they have the same height.)

Adding and Subtracting

Use your decimal cubes to formulate problems such as 0.25 + 0.50 = 0.75. Encourage students to estimate answers before completing problems. Remember to show all three equivalents to formulate adding and subtracting problems. Challenge students to complete addition and subtraction problems with all three sides of the cubes.

Simplify Fractions

Use your fraction cubes to simplify fractions to lowest terms by finding equivalent fractions. The equivalent fraction that uses the fewest number of same-color cubes is in lowest terms. Build a fraction with four blue cubes ($\frac{1}{8}$). Ask students to name the fraction($\frac{4}{8}$). Then, challenge them to make equivalent fractions using as few cubes as possible. Students should discover that although four blue cubes ($\frac{1}{8}$) can be rebuilt using two yellow cubes ($\frac{1}{4}$), the fewest number of cubes is one pink cube ($\frac{1}{2}$). Therefore, $\frac{4}{8}$ expressed in lowest terms is $\frac{1}{2}$.

More Equivalents

Use multiple sets of *Equivalency Cubes* to find pairs of unit cubes that show relationships such as:

- $\frac{1}{2} = 50\% = 0.5$
- $\frac{1}{4} = 25\% = 0.25$
- $\frac{1}{3} = 33.\overline{3}\% = 0.3\overline{3}$
- $\frac{1}{8} = 12.5\% = 0.125$
- $\frac{1}{12} = 8.\overline{3}\% = 0.08\overline{3}$