parts and wholes | description and comparison | computation

9-12

When the linear dimensions of an object change by some factor, its area and volume change disproportionately: area in proportion to the square of the factor and volume in proportion to its cube. Properties of an object that depend on

Use appropriate ratios and proportions, including constant rates, when needed to make calculations for solving real-world problems.

6-8

Some interesting relationships between two variables include the variables always having the same difference or the same ratio.

Use calculators to compare amounts proportionally.

Estimate distances and travel times from maps and the actual size of objects from scale drawings.

A number expressed in the form a/b can mean different things: a parts of size 1/b each, a divided by b, or a compared to b.

Shapes can match exactly or have the same shape in different sizes.

Use, interpret, and compare numbers in several equivalent forms such as integers, fractions, decimals, and percents.

3-5

Use fractions and decimals, translating when necessary between decimals and commonly encountered fractions.

Fractions are numbers we use to stand for a part of something.

Make calculations when necessary to solve real-world problems and decide whether to make the calculation mentally, on paper, or with the help of a calculator or computer.

Use numerical data in describing and comparing objects and events.

K-2

Sometimes in describing things there is a need to use numbers between whole numbers.

Describe and compare real-world objects in terms of number, shape, texture, size, weight, color, and motion.

Give the sums and differences of single-digit numbers.

Use whole numbers in ordering, counting, identifying, measuring, and describing objects and events.

An important kind of relationship between things is when one thing is a part of a whole.