

Dear parent or guardian: This is a summary of the key ideas your child is learning in mathematics. You can use this summary as background as you support your child's work.

1 Introducing Ratio

What Is a Ratio?

A ratio describes a comparison between two or more numbers.

For example, suppose there is 1 adult for every 10 children on a class trip. You can write two ratios that compare the number of adults to the number of children.

The ratio of adults to students is 1:10.

The ratio of students to adults is 10:1.



Each number in a ratio is called a term. The terms in both ratios above are 1 and 10.

Part-to-Part Ratios and Part-to-Whole Ratios

In any ratio, there are two or more parts and a whole.

For example, suppose 1 student in every 5 students rides a bike to school.



One part is the 1 bike rider.
 The other part is the 4 students who don't ride bikes.
 The whole is all 5 students in the group.

- The part-to-part ratio 1:4 compares bike riders to non-bike riders.
 The part-to-part ratio 4:1 compares non-bike riders to bike riders.
- The part-to-whole ratio 1:5 compares bike riders to all the students.
 The part-to-whole ratio 4:5 compares non-bike riders to all the students.

Relating Fractions and Ratios

A ratio can be written as a fraction.

For example, in one week there are 5 weekdays and 2 weekend days.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

The following part-to-whole ratios can be written as fractions:

- The ratio 5:7 compares weekdays to all days in the week.
You can also say that $\frac{5}{7}$ of the days of the week are weekdays.
- The ratio 2:7 compares weekend days to all days in the week.
You can also say that $\frac{2}{7}$ of the days of the week are weekend days.

It is also possible to write part-to-part ratios as fractions, but students will not work with these types of relationships until a later grade. For example:

- The ratio 5:2 compares weekdays to weekend days.
So, there are $\frac{5}{2}$ or $2\frac{1}{2}$ times as many weekdays as weekend days.
- The ratio 2:5 compares weekend days to weekdays.
So, there are $\frac{2}{5}$ as many weekend days as weekdays.

Definitions

part-to-part ratio: a ratio that represents a relationship between one part of a whole and another part of the same whole; for example, if there are 5 adults and 3 children in a group of 8, the part-to-part ratio of adults to children is 5 to 3, or 5:3

part-to-whole ratio: a ratio that represents a relationship between one part of a whole to the whole; for example, if there are 5 adults and 3 children in a group of 8, the part-to-whole ratio of children to the group is 3 to 8, or 3:8

ratio: a comparison of two or more quantities; for example, if there are 5 adults and 3 children in a group of 8, the ratio of adults to children is 5 to 3, or 5:3

term: each part of a ratio; for example, in the ratio 5:3, 5 and 3 are the terms