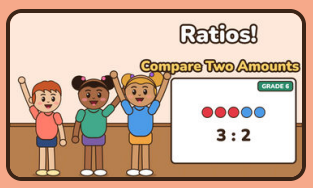
HAKILLO KIDS · TEACHER GUIDE · VIRGINIA SOL EDITION · GRADE 6 · LESSON 1

Ratios



VIRGINIA SOL (2023)
6.PFA.1

VIDEO LENGTH
4:15 · Common Core edition also available

WATCH THE LESSON FREE
hakillokids.org/math/grade-6#G6-01

PRACTICE ONLINE
learn.hakillokids.org · videos stop for each question, scored automatically

6.PFA.1 The student will use ratios to represent relationships between quantities, including those in context.

Materials: Two-color counters, ratio tables, grid paper.

Students will

- Write a ratio three ways: 3 to 2, 3:2 and 3/2.
- Write part-to-part and part-to-whole ratios.
- Keep the order of a ratio the same as the words.
- Make equivalent ratios by multiplying or dividing both numbers by the same amount.

Key words

ratio	a comparison of two quantities
part-to-part	compares one part with another part (red to blue)
part-to-whole	compares one part with the total (red to all)
equivalent ratios	ratios that compare in the same way (3:2 and 6:4)

Before the video 2 minutes

Show 3 red and 2 blue counters. Ask: “How many different ways can you compare these groups?”

What happens in the video

0:00	Welcome to sixth grade and today's goal: ratios
0:20	Three red to two blue: 3 to 2, 3:2, 3/2
0:39	Part to whole: red to all is 3 to 5
0:55	Equivalent ratios: 6 to 4 is the same as 3 to 2
1:12	Spot the mistake: blue to red is 2 to 3
1:34	Your turn! Students answer during each pause (see below)
3:56	Recap and goodbye

Spot the mistake at 1:12

> **Sam:** Three red and two blue. The ratio of blue to red is three to two!
> **Ivy:** Hmm... which color comes first?
> **Mia:** Blue to red means blue comes first. Two blue to three red. That's two to three!
> **Sam:** Oops! Say it in order. Two to three!

- Ask: “Which word comes first in 'blue to red'?” (Blue.)
- Point to the blue counters first, then the red.
- Write both ratios, 2:3 and 3:2, and say what each one compares.

Your-turn pauses students answer out loud, then the characters give the answer

TIME	QUESTION	ANSWER IN THE VIDEO
1:35	Four red and one blue. What is the ratio of red to blue?	Four to one!
1:49	Two red and five blue. What is the ratio of blue to red?	Five to two! Blue comes first.
2:04	Three red and three blue. What is the ratio of red to all the counters?	Three to six!
2:19	Two to three. Double both numbers.	Four to six!
2:32	Six to eight. Divide both numbers by two.	Three to four!
2:46	One red and four blue. What is the ratio of red to blue?	One to four!
3:01	Five to one. Double both numbers.	Ten to two!
3:14	Four red and three blue. What is the ratio of blue to all the counters?	Three to seven!
3:28	Write three to five as a fraction.	Three fifths! Three over five.
3:42	Nine to twelve. Divide both numbers by three.	Three to four!

Tip: pause the video a little longer on any question your class finds hard, and ask a student to explain how they know.

After the video: talk about it

1. Why does the order matter in a ratio?
2. How is a part-to-whole ratio like a fraction?
3. Give three ratios equivalent to 2:5.

Go further

Recipe scaling: students use a ratio table to double and triple a simple recipe and explain why the taste stays the same.

Answer key for the practice page

1. 5:2
2. 2:7
3. 4/9
4. 6:14
5. 3:4
6. 9 cups of milk (2:3 = 4:6 = 6:9)

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HAKILLO KIDS · GRADE 6 · LESSON 1 · PRACTICE

Ratios

Name: _____ **Date:** _____

1. **5 red and 2 blue counters. Write the ratio of red to blue.**

   Answer: _____

2. **Same counters. Write the ratio of blue to all the counters.**

   Answer: _____

3. **Write 4 to 9 as a fraction.**

   Answer: _____

4. **Double both numbers in 3:7.**

   Answer: _____

5. **Simplify 12:16 by dividing both numbers by 4.**

   Answer: _____

6. **A recipe uses 2 cups of flour for every 3 cups of milk. How much milk for 6 cups of flour? Make a ratio table.**

   Answer: _____

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