



## Lesson: Introduction

### Lesson Objective

- Students will discuss how ratios and rates are used in the real world.

### Instructional Materials

Material	Quantity	Description
Computer with Internet access, Apple's QuickTime, and speakers	1	For highest quality, download the video and use Apple's QuickTime: <a href="http://www.apple.com/quicktime/download/">http://www.apple.com/quicktime/download/</a>
Projector	1	
Chart paper	1 sheet	
Display Master	1 (optional)	Questions for Discussion
Handout	1 per student	Questions About the Video
Answer Key	1	Questions About the Video

### Preview

This lesson introduces ratios by presenting an example of how equivalent ratios are used in an everyday situation like cooking. Students will discuss the example presented, incorporating previous knowledge as well as new information. Students will use the mathematical ideas from this lesson throughout the Ratios and Rates course and revisit the video at the end of the course.

## Introducing the Hook

Introduce students to ratios in everyday life by using the following video, found at TV 411:

<http://www.tv411.org/qt/>

In this video, students learn how equivalent ratios are used to adjust recipes for the expected number of dinner guests. The video explains that maintaining the appropriate ratios of ingredients is important because it ensures the meal will taste right. Students also learn that it is easy to adjust the ingredients for a recipe when you know how to find equivalent ratios.

Distribute the Questions About the Video handout. Have students complete the questions while watching the video. Then go over the answers.

## Key Idea

- Equivalent ratios and rates are used in a variety of real-world situations.

## Discussion

After showing the video, ask students questions such as the following. Use the Questions for Discussion display master as needed.

- What is a way ratios are used in the real world?
- The narrator in the video said, "Math is as important to his recipes as fresh ingredients." Do you agree? Explain.
- What might happen to a recipe if a chef did not understand the ratio of 1 ingredient to another? Would the meal taste the same? Why?
- The chef showed what happens when you use the wrong ratio of water to rice. Why do you think the rice turned out bad?
- Why is an understanding of ratios important for chefs?

- The chef in the video had to increase the amount of ingredients for the recipe. Would a chef ever have to decrease the amount of ingredients? Explain.
- If the chef multiplied to find the correct amount of ingredients for more guests, what operation would the chef have to use to find the right amount of ingredients for fewer guests?

Display the answers to the next 2 questions on the chart paper. Save the paper for the Closure lesson at the end of the course.

- After seeing the video, can you think of any other times when you use ratios in the real world? (making any mixture (e.g., paint, drinks, cement); shopping; calculating mileage; etc.)
- What other professions require an understanding of ratios? (chemist, doctor, pharmacist, driver, etc.)

Ask whether any of the students enjoy cooking. If students do, have them share their experience and the importance of ratios in cooking.

## Closure

Review examples of how ratios are used in the real world. Summarize the concepts presented in the video.