Name _____

CRITICAL AREA Connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems

Project

Meet Me in St. Louis

1 Plan

- You are asked to write each batting result as a fraction, a decimal to the thousandths place, and as a percent.
- You must also determine the batting order you would use for the three players.
- Use the Important Facts to help you plan.

2 Put It Together

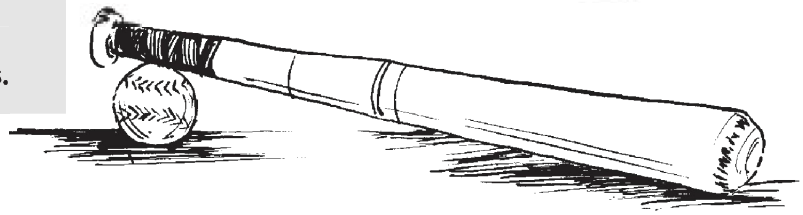
- Read the data that is provided in the Important Facts.
- Write each batting result as a fraction and use an appropriate operation to write each fraction as a decimal and as a percent.
- Talk to a partner to decide what batting order you would use for the three players.

To write each batting result as a fraction, a decimal, and a percent, I need to:

Write the ratios as fractions and use division to write each fraction as a decimal. Then move the decimal point two places to the right to write the number as a percent.

To determine the batting order I would use for the three players, I need to:

Compare and order the decimals or percents.



The players' batting averages are:

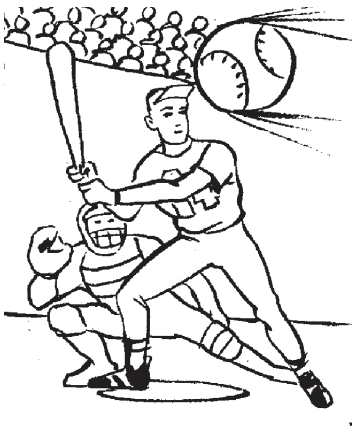
Pujols (2008): $\frac{187}{524}$; 0.357; 35.7%

Musial (1948): $\frac{230}{611}$; 0.376; 37.6%

Hornsby (1925): $\frac{203}{504}$; 0.403; 40.3%

The batting order I would use for the players is:

Pujols, Musial, Hornsby. I would have the players hit from lowest batting average to highest batting average so the best batter bats last.



3

Reflect

- Describe your method for deciding the batting order you would use for the three players.
- Compare your method to that of other students. Did other students use different methods? If so, explain.

Possible answer: I decided to have the players hit in order from lowest batting average to highest batting average. So I compared the decimal forms of the batting averages for the three players. Other students might have compared the percents.

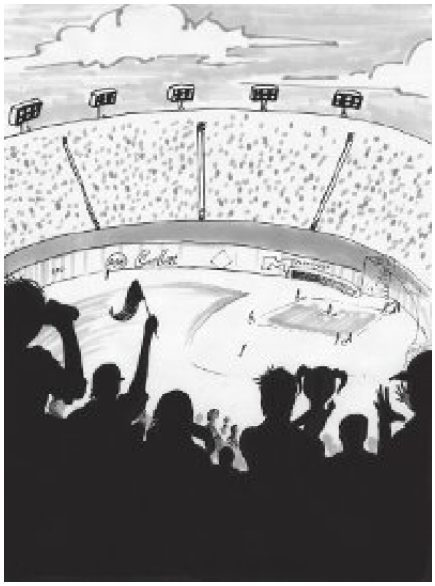
4

Go Beyond

- A player's batting average is calculated as shown below.

$$\text{Batting average} = \frac{\text{Hits}}{\text{At Bats}}$$

- During a baseball season, Tyrell had 100 at bats. His batting average for the season was higher than that of Stan Musial in 1948 but lower than that of Rogers Hornsby in 1925.
- How many hits did Tyrell have during the season? Is there more than one possibility? Explain your answer.



Tyrell had 38, 39, or 40 hits. Possible explanation: His batting average was between 0.376 and 0.403. If Tyrell had 37 hits, his batting average would be $\frac{37}{100} = .037$, which is too low. If he had 41 hits, his batting average would be $\frac{41}{100} = .041$, which is too high. He must have had 38, 39, or 40 hits for his average to fall into the correct range.