Lesson Plan

Scholarships, Salaries, Stipends, and Statistics

Book: *The Debate about Paying College Athletes*
Series: Pros and Cons
Level: Voyager

Objective
To help students practice doing word problems related to averages and percentages.

Supplies
- *The Debate about Paying College Athletes*
- Whiteboard
- Scholarships, Salaries, Stipends, and Statistics worksheet (attached)

Before the Activity
Have students read *The Debate about Paying College Athletes*. Print a Scholarships, Salaries, Stipends, and Statistics worksheet for each student.

Activity
In the *Debate about Paying College Athletes*, the author mentions the various ways college athletes are compensated for playing sports. Ask students the following questions:
- What is a salary? (Answer: An amount of money that a person is paid regularly for doing a job.)
- What is a scholarship? (Answer: Money given to students to pay for educational expenses.)
- What is a stipend? (Answer: A periodic payment.)
- What is tuition? (Answer: A sum of money students pay to attend college.)

The book's author compares how much college athletes are given in stipends and scholarships to how much professional athletes make in salaries. She also compares the money college athletes are given to the cost of college tuition. Today, students will take a closer look at how these amounts compare. Give each student a Scholarships, Salaries, Stipends, and Statistics worksheet. Students should use information from the book to fill in the blanks. Then they should solve the math problems to answer the questions about averages and percentages.

Do a quick review of calculating math problems with percentages. First, remind students that percentages are really like fractions of 100. For example, saying "20 percent" of something is that same as saying "20/100" of that thing.

For this reason, percentages can be converted to decimals, too. To convert a percentage to a decimal, you move the decimal point two places to the left. For example, "20 percent" is the same as "0.2." Write the following examples on the whiteboard:

- 75 percent
- 15 percent
- 36.2 percent
- 8 percent
- 9.3 percent

Call on students to come up to the whiteboard and convert each percentage to a decimal. Answers:

- 0.75
- 0.15
- 0.362
- 0.08
- 0.093

Second, remind students that to find a percentage of a number, they must convert the percentage to a decimal. Then they multiply the number by that decimal. For example, to find 7.2 percent of 200, you convert 7.2 to 0.072. Then you multiply 200 by 0.072, which gives you 14.4. Write out this example on the whiteboard:

7.2 percent = 0.072

200 x 0.072 = 14.4

Students can use this process to calculate the percentages on their worksheets. For problem 5, they can flip the worksheet over and write their answers on the back.

Evaluation
Using the attached answer key, give students one point for filling in each blank correctly and one point for calculating the correct answer to each problem, for a total of 28 points.

Standards
This lesson may be used to address the Common Core State Standards' math standards, grade 7 (CCSS.MATH.CONTENT.7.EE.B.3).

Scholarships, Salaries, Stipends, and Statistics

1. The average sports scholarships is between $_____ and $_____. What is the average amount a college athlete receives for a sports scholarship?

2. Players of major pro sports earn an average of $_____. How many times more money does a pro sports player earn compared with a college athlete? Use the answer from problem 1 to calculate your answer.

3. Stipends for college athletes are typically $_____ to $_____ per year. What is the average amount per year that a college athlete receives for a stipend?

4. The average debt for a college student in 2017 was $_____. What percentage of this debt would a one-year stipend cover? Use the answer from problem 3 to calculate your answer, rounding to the nearest percent.

5. Fill in the blanks below. Then calculate how many students went on to play each sport for professional teams, rounding to the nearest whole number.

Only _____% of the _____ students who played men's baseball went professional.

Only _____% of the _____ students who played men's basketball went professional.

Only _____% of the _____ students who played women's basketball went professional.

Only _____% of the _____ students who played men's football went professional.

Only _____% of the _____ students who played men's hockey went professional.

Only _____% of the _____ students who played men's soccer went professional.

Scholarships, Salaries, Stipends, and Statistics ANSWER KEY

1. The average sports scholarships is between **$10,000** and **$30,000**. What is the average amount a college athlete receives for a sports scholarship?
$20,000

To find the average:
10,000 + 30,000 = 40,000
40,000 / 2 = 20,000

2. Players of major pro sports earn an average of **$2,000,000** yearly. How many times more money does a pro sports player earn compared with a college athlete? Use the number from problem 1 to calculate your answer.
100 times

To find how much more pro athletes make:
2,000,000 / 20,000 = 100

3. Stipends for college athletes are typically **$3,000** to **$7,000** per year. What is the average amount a college athlete receives for a stipend?
$5,000

To find the average:
3,000 + 7,000 = 10,000
10,000 / 2 = 5,000

4. The average debt for a college student in 2017 was **$27,000.** What percentage of this debt would a one-year stipend cover? Use the answer from problem 3 to calculate your answer, rounding to the nearest percent.
19 percent

To find the percentage:
5,000 / 27,000 = 0.185…
0.185… rounds to 0.19
0.19 is equal to 19 percent

5. Fill in the blanks below. Then calculate how many students went on to play each sport for professional teams, rounding to the nearest whole number.

Only **9.1%** of the **34,554** students who played men's baseball in 2017 went professional.

Only **1.1%** of the **18,684** students who played men's basketball in 2017 went professional.

Only **0.9%** of the **16,593** students who played women's basketball in 2017 went professional.

Only **1.5%** of the **73,660** students who played men's football in 2017 went professional.

Only **5.6%** of the **4,102** students who played men's hockey in 2017 went professional.

Only **1.4%** of the **24,803** students who played men's soccer in 2017 went professional.

- **men's baseball: 3144 students**
  34,554 x 0.091 = 3144.414, which rounds to 3144
- **men's basketball: 206 students**
  18,684 x 0.011 = 205.524, which rounds to 206
- **women's basketball: 149 students**
  16,593 x 0.009 = 149.337, which rounds to 149
- **men's football: 1105 students**
  73,660 x 0.009 = 1104.9, which rounds to 1105
- **men's hockey: 230 students**
  4,102 x 0.056 = 229.712, which rounds to 230
- **men's soccer: 347 students**
  24,803 x 0.014 = 347.242, which rounds to 347