



RANKING BATTING AVERAGES

In this workbook, you will need to know how to rank decimals. Here's how:

. 3 1 8
↑ ↑ ↑ ↑

- **First arrow: Decimal point**
- **Second arrow (pointing to 3): Tenths place**
- **Third arrow: Hundreds Place**
- **Fourth arrow: Thousands Place**

Which decimal is larger: .318 or .313? The first two digits are the same, so we can move on to the third. Since 8 is higher than 3, .318 is higher than .313.

Practice ranking the averages for the Ocean City Crabs using the table below. Rewrite the batting averages for the players in order from highest to lowest in the blank table on the right.

PLAYER	AVERAGE
Leo	.290
Israel	.234
Floyd	.301
Russell	.282
Jeremy	.217
Dennis	.345
Elijah	.254
Abel	.287
Santos	.293
Gregg	.314
Tom	.235
Alex	.256
Jay	.308

PLAYER	AVERAGE





CALCULATING BATTING AVERAGE

Batting average is a number that shows how many of a player's at-bats result in a base hit.

Calculating batting average is easy! Divide a player's **base hits** by his number of **at-bats**.

Example:

Jimmy had **20** at-bats and **6** base hits:

$$6 \div 20 = 0.3$$

That means Jimmy got a hit **30 percent** of the time, but batting average is expressed in decimals. To write Jimmy's batting average, convert the percentage to a decimal to the thousandth place.

Remember: don't write a 0 before the decimal point!

$$30\% = .300$$

Talking about averages is a different story! To say it out loud, say "three hundred". An average of .275 is "two seventy-five", and a .238 is "two thirty-eight", and so on.

Express the percentages below as written and spoken batting averages!

50 percent

Written: _____

Spoken: _____

29 percent

Written: _____

Spoken: _____

35 percent

Written: _____

Spoken: _____

45 percent

Written: _____

Spoken: _____





CALCULATING BATTING AVERAGE

Sometimes the decimal you calculate will go far beyond the thousandths place! Make sure to round it up or down.

0.256146 0.256 .256 or "Two fifty-six"



Calculate the batting averages of these players.

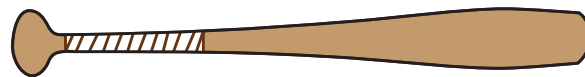
1. Carlos had 7 base hits in 19 at-bats.
2. Jeff had 8 base hits in 24 at-bats.
3. Michael had 5 base hits in 20 at-bats.
4. Andrew had 10 base hits in 23 at-bats.
5. Rafael had 9 base hits in 21 at-bats.
6. Paul had 13 base hits in 30 at-bats.





FIND THE MISSING NUMBERS

The Poughkeepsie Pilots played a three-game series against the Bowie Badgers, and this is a table of their hits, at-bats and batting averages. But the Badgers must have taken a bite of this scorecard, because some of the numbers are missing! Fill in the missing numbers.



PLAYER	HITS	AT-BATS	BATTING AVERAGE
Desmond		9	.333
Chris	6		.500
Omar	2	8	
Quan		15	.400
Matthew		12	.167
Leonard	3		.300
Oliver	3	12	
William		10	.200
Darrell	4		.308
TOTALS			





MEAN, MEDIAN, AND MODE

Now that you've calculated batting average, you know how to find the mean. "Mean" is another word for "average". Add up the numbers, then divide by how many numbers there are.

Median is the "middle" value in a group of numbers. To find the median, you need to write the list of numbers in order. Then locate the number in the middle. That is your median.

Example:

7, 3, 1, 4, 6, 2, 3, 1, 4

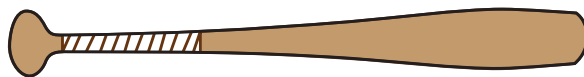
In order from least to greatest:

1, 2, 3, 3, 3, 4, 4, 6, 7

Find the median by locating the number (or, if it's an even amount, the two numbers) in the middle of the group.

The median is 3.

Mode is the number that appears the most times in the list. In the list of numbers above, **3** appears more than any other number. If no number occurs more than once, there is no mode.





MEAN, MEDIAN, AND MODE

The Danbury Dragons played the Springfield Serpents every day this week. Here is a list of the scores of their games.

DAY	DRAGONS	SERPENTS
Sunday	4	1
Monday	2	11
Tuesday	3	2
Wednesday	8	2
Thursday	4	5
Friday	5	0
Saturday	1	7

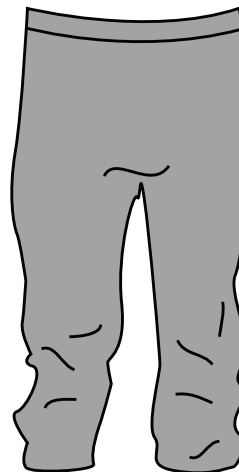
1. What is the mean of the Dragons' runs?
2. What is the mode?
3. What is the median?
4. What is the mean number of runs for both teams (what is the average number of runs either team scored in a game? (Hint: you will need to divide by 14.)
5. What is the mode of all the scores?
6. Which team scored more runs during the week?





DRESS FOR SUCCESS

Check out the Coyotes new uniforms!



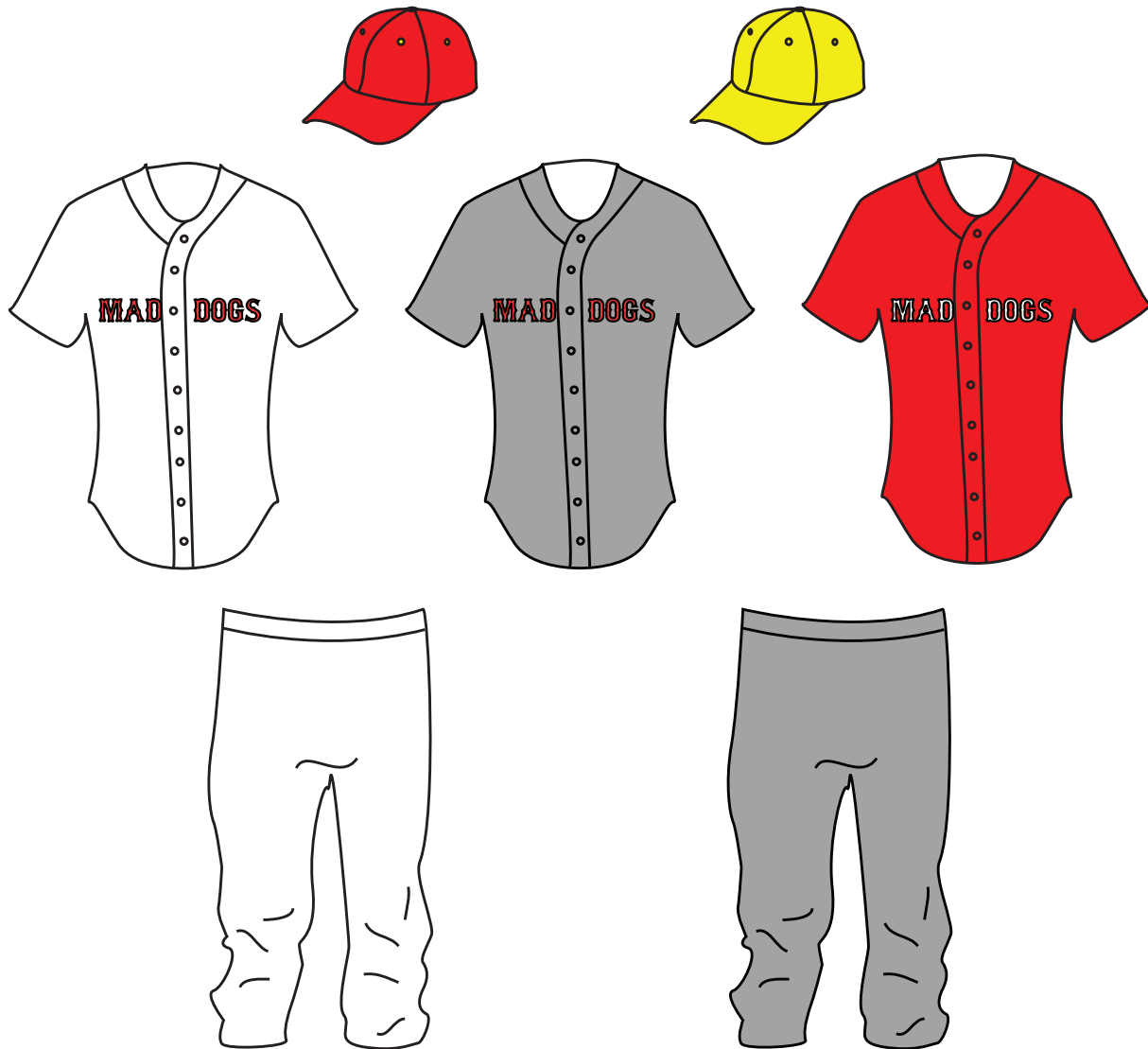
How many different combinations of hats, jerseys and pants can the Coyotes wear?





DRESS FOR SUCCESS

The Mad Dogs also got new uniforms, but they have rules about what to wear. First, they can only wear white jerseys with white pants, and they can only wear gray jerseys with gray pants. Second, they can't wear red jerseys with yellow hats.



How many different combinations of hats, jerseys and pants can the Mad Dogs wear?





ERA: EARNED RUN AVERAGE

ERA stands for “earned run average,” and it shows how many earned runs a pitcher gave up per nine innings pitched.

Here’s the formula:

$$\text{(Earned Runs} \div \text{Innings Pitched)} \times 9$$

Example:

Example: Roger pitched six innings today. He allowed 3 runs.

$$(3 \div 6) \times 9 = 4.50$$

Your turn! Find out the ERA for these pitchers:

1. Myles allowed 2 runs in six innings.
2. Reid allowed 5 runs in eight innings.
3. Byron allowed 1 runs in seven innings.
4. Johnnie allowed 18 runs in 51 innings.
5. Leo allowed 28 runs in 62 innings.
6. Dave allowed 25 runs in 72 innings.
7. Tyler allowed 26 runs in 59 innings.
8. Ramon allowed 66 runs in 189 innings.





HOW MANY GAMES BACK?

“Games back” is number that shows how far a team is from first place. To find games back, use this formula:

$$(\text{Difference in wins} + \text{difference in losses}) \div 2$$

Here’s a basic example:

TEAM	WINS	LOSSES
Wildcats	37	24
Knights	34	29
Rebels	33	31

The Wildcats are in first place. They have 3 more wins and 5 fewer losses than the Knights. How many games back are the Knights?

$$(3 + 5) \div 2 = 4 \text{ games back}$$

The Wildcats have 4 more wins and 7 fewer losses than the Rebels. How many games back are the Rebels?

$$(4 + 7) \div 2 = 5.5 \text{ games back}$$



Complete this table to find the games back for all teams who aren’t in first place.

TEAM	WINS	LOSSES	GAMES BACK
Racers	38	23	---
Alligators	36	25	
Owls	30	29	
Wolves	24	38	
Nomads	22	39	

