

BASEBALL MATH

Objectives:

Students will . . .

- use the Internet to gather baseball statistics to solve problems.
- use the Internet to convert units.
- use the Internet to gather data regarding the solar system to solve problems.

Materials Needed:

- computer with Internet access
- calculator

Web Sites:

Ken Griffey, Jr.

- <http://espn.sportszone.com/mlb/profiles/profile/4305.html>

Cal Ripkin, Jr.

- <http://espn.sportszone.com/mlb/profiles/profile/2035.html>

Mark McGwire

- <http://espn.sportszone.com/mlb/profiles/profile/3866.html>

Conversion Factor Table

- <http://www.mplik.ru:8081/~sg/transl/index.html>

Nine Planets

- <http://www.seds.org/nineplanets/nineplanets/>

Interactive Conversion Table

- <http://hyperion.advanced.org/10584/data/t/u1/conv.html>

Time: approximately 2–3 hours

Teaching the Lesson:

The players selected are suggestions; if students have favorite players they can find statistics for them at

ESPN Baseball

- <http://espn.sportszone.com/mlb/index.html>
- Students may confuse the idea of distance around the bases with how far a baseball travels when it is hit.



BASEBALL MATH *(cont.)*

- The distance to the moon is given in kilometers; students will need to convert to miles using the conversion table or interactive conversion table.
- The last problem involves several steps; you may need to help some students work through each step.

Selected Answers:

Extra Bases:

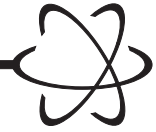
1. 180 feet 2. 180 feet 3. 4 times longer 4. $180 \text{ feet} / 360 \text{ feet} = 1/2$ 5. 720 feet

Going, Going, Gone:

For Questions 1–4: Answers will vary depending on how many home runs each player hit in the previous year.

5. 5,280 feet in one mile. 6. 16,285 home runs





BASEBALL MATH *(cont.)*

Name: _____

Date: _____ Per: _____

If you have ever watched or played in a baseball game, you have probably noticed that there are a lot of numbers involved. Think for a moment about what it would be like to play without using numbers. It would seem pretty strange, wouldn't it? For instance, how would you know how many outs there are, or how many runs were scored, or even who won? Baseball is packed full of numbers. Explore how numbers are used by completing the investigation that follows.

Extra Bases

The distance from home plate to first base and between all the bases on a major league baseball field is equal to 90 feet.

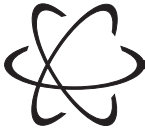
1. When you hit a double, how far do you have to run?

2. How much further is a triple than a single?

3. When you hit a home run, how many times longer is that than a single?

4. Write a number sentence showing that a double is $\frac{1}{2}$ the distance of a home run.

5. Suppose during a game you hit a triple, single, and a home run. How far did those hits require you to run?



BASEBALL MATH *(cont.)*

Going, Going, Gone

For each question, you are given a Web site that contains a player's statistics. Use the information from the Web sites to answer each question.

1. Find out how many home runs Ken Griffey, Jr. hit last year and write it below.

Ken Griffey, Jr.

- <http://espn.sportszone.com/mlb/profiles/profile/4305.html> (select statistics tab)

Number of home runs hit last year: _____

How many total feet did Ken Griffey, Jr. have to run last year from hitting home runs? Show your work below.

2. Find out how many home runs Cal Ripkin, Jr. hit last year and write it below.

Cal Ripkin, Jr.

- <http://espn.sportszone.com/mlb/profiles/profile/2035.html> (select statistics tab)

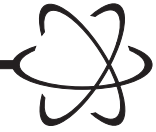
Number of home runs hit last year: _____

How many total feet did Cal Ripkin, Jr. have to run last year from hitting home runs? Show your work below.

3. Using the results from questions one and two, determine which player ran further and write his name below. Then calculate how much further that player traveled than the other.

Player's name: _____

How much further did he travel? _____



BASEBALL MATH *(cont.)*

4. Find out how many home runs Mark McGwire has hit in his career and write it below.

Mark McGwire

- <http://espn.sportszone.com/mlb/profiles/profile/3866.html> (select statistics tab)

Total number of home runs hit: _____

How many total feet has Mark McGwire had to run in his career after hitting home runs? Show your work below.

5. Go to the Web site below and find out how many feet are in a mile. Use that information to calculate how many miles Mark McGwire has had to run in his career from hitting home runs. Show your work below.

Conversion Table

- <http://hyperion.advanced.org/10584/data/t/u1/conv.html>

Number of feet in a mile: _____

Total home-run miles Mark McGwire has run: _____

6. Go to the first Web site below and find out how many kilometers it is from the earth to the moon. Go to the next Web site and convert that figure from kilometers to miles. Use that information to calculate how many home runs a player would have to hit in order to run a distance equal to the distance from the earth to the moon.

Nine Planets

- <http://www.seds.org/nineplanets/nineplanets/>

Interactive Conversion Table

- <http://www.mplik.ru:8081/~sg/transl/index.html>



BASEBALL MATH *(cont.)*

Distance from the earth to the moon in kilometers: _____

Distance from the earth to the moon in miles: _____

Number of feet in one mile:

Number of feet in one home run:

Number of home runs per mile:

Number of home runs needed to equal the distance from the earth to the moon: _____