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Mathematics Instruction with Technology
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Assignment 6- Lesson Plan

Lesson Title: What does that stat mean?

Target Audience: High School Math Class

Topic: Communicating Statistics in Real World Situations

NCTM Standards:

- communicate their mathematical thinking coherently and clearly to peers, teachers, and others;
- analyze and evaluate the mathematical thinking and strategies of others;
- use the language of mathematics to express mathematical ideas precisely.

MA Frameworks:

Standard for Mathematical Practice 6: Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful

about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a

problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions

Lesson Objectives:

After the completion of this lesson students should be able to:

1. Identify how to determine what a statistic is conveying
2. Explain in plain English what a statistic means
3. Calculate statistics from a plain English description
4. Identify key words and their mathematical equivalents such as per, of, equals, etc.

Lesson Plan:

1. Teach students about basic statistics found in sports
2. Explain how to use of, per, equals and other mathematical words to determine what the statistic is calculating
3. Have students complete the "Statistics in Baseball: What are they talking about?" worksheet
4. Show PowerPoint about statistical trends, and how to identify them
5. Ask students to explore www.mlb.com, www.nfl.com, www.nba.com, or any other official sport site, including individual teams and report on a statistical trend found on that site.

Web Site Evaluation Criteria:

1. Site Design
2. URL
3. Content

4. Publisher/Author
5. Common Sense

MLB.com

Criterion	Description	Good?
Site Design	Well constructed, and with official logos, and professional feel.	YES
URL	.com address, but the URL is owned by the company being represented	YES
Content	Accurate, and unbiased, with information pertaining specifically to the topic of the web site.	YES
Publisher/Author	Major League Baseball is the publishing organization, so they are very likely to produce accurate content about baseball.	YES
Common Sense	No red flags, everything appears to be accurate and reliable	YES

LA Dodgers

Criterion	Description	Good?
Site Design	Slightly cluttered but similar in structure to MLB.com	YES
URL	The URL is part of the MLB.com domain, and indicates that it is specific to the Dodgers.	YES
Content	Accurate, and unbiased, with information pertaining specifically to the topic of the web site, and linking to other information about other teams.	YES
Publisher/Author	The content is managed and produced by the Dodgers, so it is accurate.	YES
Common Sense	No red flags, everything appears to be accurate and reliable	YES

Statistics in Baseball: What are they talking about?

Practice Communicating Statistics in Plain English

Given the data provided, fill in the blank column. Use www.mlb.com to research what various statistics mean, and how they are calculated. Also, pay attention to how statistics are written. For example, percentages are often written in decimal form.

<u>Statistic</u>	<u>Description</u>
<u>Baseball</u>	
.214 batting average	
.995 fielding percentage	
.425 slugging percentage	
2.35 ERA	
	The team has won 54.7% of their games
	The player has hit 54 ground outs, and 36 air outs.
	The player has played in all but 10 games (there are 162 games in a season)