

Educational Outreach Program
Activity Guide
2012-2013



Mathematics

Pro Football Hall of Fame

2012-2013 Educational Outreach Program

Mathematics Table of Contents

Lesson	Indicator	Page(s)
Driving the Field with Data	Measurement; Data Analysis	MA 2
Same Data Different Graph	Data Analysis and Probability	MA 3-4
Surveying the Field	Data Analysis and Probability	MA 5-6
Finding Your Teams Bearing	Geometry; Measurement	MA 7-8
Hall of Fame Shapes	Geometry	MA 9
Buying and Selling at the Concession Stand	Number and Operations; Problem Solving	MA 10
Be an NFL Statistician	Data Analysis and Probability	MA 11
Math Football	Number and Operations	MA 12
Running to the Hall	Number and Operations; Data Analysis and Probability; Representation	MA 13
Punt, Pass, and Snap	Number and Operations; Data Analysis and Probability; Representation	MA 14
How Far is 300 Yards	Measurement; Communication; Connections	MA 15-16
Stadium Design	Geometry	MA 17
Using Variables with NFL Scorers	Algebra; Problem Solving	MA 18-20
Attendance in Booming	Data Analysis and Probability; Representation	MA 21-23
What's in a Number?	Number and Operations; Algebra	MA 24-25
Tackling Football Math	Number and Operations; Algebra; Data Analysis; Problem Solving	MA 26
A Day at the Game	Number and Operations; Problem Solving	MA 27-29
How Old are They?	Number and Operations; Problem Solving	MA 30
Number Patterns	Number and Operations; Data Analysis and Probability	MA 31-33
Conversions in Football	Measurement	MA 34
Super Bowl Numbers	Numbers and Operations	MA 35
Top Active Rushers	Data Analysis and Probability; Numbers and Operations	MA 36-37
Super Bowl Thunder	Numbers and Operations; Data Analysis	MA 38-39
Miscellaneous Math Activities		MA 40
Answer Key		MA 41

Subject: Mathematics

Lesson Title: Driving The Field With Data



Goals/Objectives:

Students will:

- Practice with units of measurements: yards, feet, inches.
- Keep statistics for an individual player of their choice.

National Standards met: Mathematics: 4-Measurement; 5-Data Analysis & Probability

Methods/Procedures:

- Students will use a replica of a football field (drawn to scale, unless a trip to the high school stadium can be arranged) and practice measuring.
- Students will practice measuring 'downs.'
- Students will use the statistics of a player to see how the yardage is compiled.

Materials:

- Rulers
- Measuring tape
- Pencils

Assessment:

- Students will be able to explain what a football field looks like and draw a replica of a field (yard markers, etc.)



Subject: Mathematics

Lesson Title: Same Data Different Graph

Goals/Objectives:

Students will:

- Take data provided by the teacher and as a class, group or individual, compare differing representations of it to determine which representation best imparts the intended message or meaning.

National Standards met: Mathematics: 5-Data Analysis and Probability

Methods/Procedures:

- This lesson can be undertaken prior to or after visiting the Pro Football Hall of Fame or the Hall of Fame website at Profootballhof.com. Students will have held at least one discussion on professional football and various aspects of the sport to make certain all students are somewhat familiar with the game.
- The teacher will then provide the students with data from this activity guide or from the website (Profootballhof.com.) A good source in this activity guide is the page listing the current Super Bowl Champs, the New Orleans Saints (page 96). This page has a column that lists which college each player attended. Students can use this data in their data representations (bar, pie etc.).
- At this point the instructor should decide whether to do this data representation as a class, group or individual. Doing one graphic representation (i.e. bar graph) of colleges attended by the winning Super Bowl team as a class is a great starting point for discussion and reference point.
- Students can be assigned to do another graph (i.e. pie) by filling in the proper 'slice' with college name as a transition to doing a representation without any assistance.
- If the teacher chooses individual or group work instead of class as a whole work, time should be set aside to present graphs and findings to class.
- The class should come to a consensus or at the least discuss which graphic representation best imparts the information. The strong and weak points of each representation should be addressed.



Materials:

- Access to the Internet
- Access to HOF website at Profootballhof.com
- Statistics to graph....i.e. Current Super Bowl Team Members' Roster in Activity Book

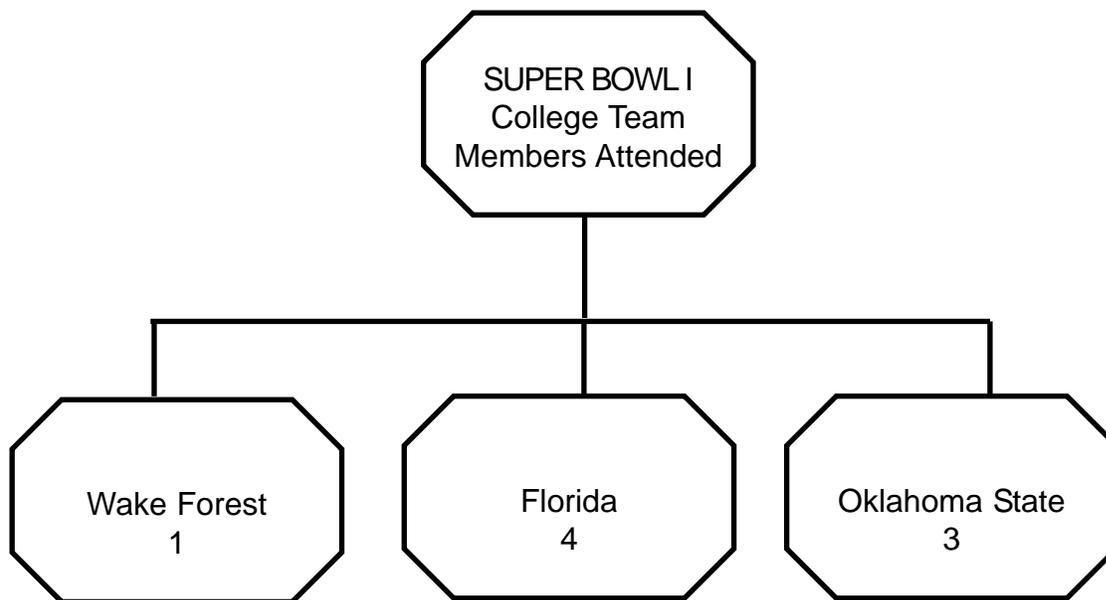
Assessment:

- Students will present to the class graphical representations and analysis of the data.

EXAMPLE 1

Ohio State	Illinois	Alabama	Pitt
2	1	3	1

EXAMPLE 2





Subject: Mathematics

Lesson Title: Surveying The Field

Goals/Objectives:

Students will:

- Design a survey, collect data and interpret data collected related to an 'issue' in professional football.

National Standards met: Mathematics: 5-Data Analysis and Probability

Methods/Procedures:

- Prior to visiting to the Pro Football Hall of Fame or the Hall of Fame website (Profootballhof.com), students will have held one (or more if necessary) discussion on professional football and the role it plays in the lives of individuals today.
- The teacher will guide the discussion to include 'issues' or concerns that students have thought of themselves or have read or seen in the media. An example might be the age that an individual should be before he can be drafted by an NFL team. Another could be the role that women play in the NFL. The possibilities are endless and students will have no problem compiling a significant list of 'issues.'
- At this point the instructor should decide whether this is an individual OR a group project.
- Once the make-up of the study's members is decided, students need to write the survey question or issue in a coherent and statistically measurable format.
- After the instructor approves the format of the issue to be surveyed, students must collect data from an adequate audience population and a representative audience. Because this is part of the standard's requirements and will be part of the instructor's evaluation criteria, the audience and population of the audience is something the student(s) must determine.
- Once the survey has been completed, the student(s) must interpret the data with graphical displays. At this point, the instructor can determine in what form(s) and in what quantity of diverse graphic representations are necessary.
- The student(s) must include in their presentation variability as a factor, correlation and standard deviation.
- The presentation can be in the form of a class lecture by each student or group or in the form of a turn-in project. The use of the tri-fold science fair board is a great method of display for data and explanation of 'issue.'



Materials:

- Access to the Internet
- Access to HOF website at Profootballhof.com
- Optional science fair tri-folds

Assessment:

- Students will present to the class or in report form to the instructor the results and analysis of the data collected.





Subject: Mathematics

Lesson Title: Finding Your Team's Bearings

Goals/Objectives:

Students will:

- Understand the concept of bearings.
- Comprehend the two types of information given on a compass:
 - 1) Direction – North, East, South, West
 - 2) Bearings – degree measurements (North = 0 or 360 degrees, East = 90 degrees, South = 180 degrees, and West = 270 degrees)

National Standards met: Mathematics: 3-Geometry; 4-Measurement

Methods/Procedures:

- Students need a protractor and a United States map showing major cities (All NFL Cities should be shown)
- The teacher would give a lecture on the concept of bearings:
 - The directions on a compass – North, South, East and West also can be described by degree measurements
 - North = 0 degrees and 360 degrees; East = 90 degrees; South = 180 degrees; West = 270 degrees
- The teacher shows the students how to use the protractor to find bearings.
- Each student is assigned an NFL Team in which the students need to find the bearings their team will take to each game.

For example: Cleveland Browns

- A. Play at home against the Pittsburgh Steelers their second game – skip
- B. In their third game the Browns must travel to Baltimore – what is the bearing they must travel?
- C. In their fourth game the Browns must travel to Cincinnati – so for purposes of this exercise what is the bearing the team must travel from Baltimore to Cincinnati?
- D. In their fifth game, the Browns must travel back home to play the New York Giants – so for purposes of this exercise what is the bearing the team must travel from Cincinnati to Cleveland?
- E. Etc.



Materials:

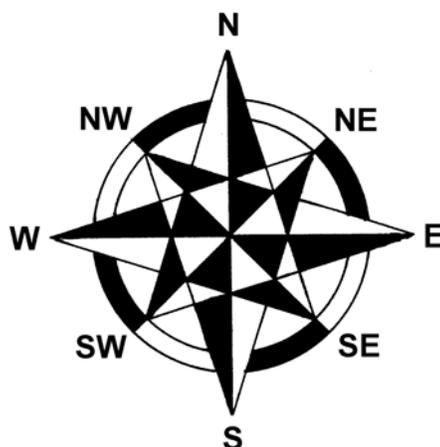
- Access to the Internet
- Access to Browns' website at <http://www.clevelandbrowns.com>
- Atlas
- Protractor, paper and writing tool

Assessment:

- Students will keep track of the bearings for their team and be graded on this assignment.

Adaptation for primary grades

- Have students locate two cities on a large map
- For example, Baltimore to Cleveland and then instead of using bearings have the students estimate the approximate direction between the cardinal compass points.





Subject: Mathematics

Lesson Title: Hall of Fame Shapes

Goals/Objectives:

Students will:

- Locate and name planes and solid shapes: circle, square, triangle, diamond, oval, sphere, pyramid, cone, cylinder, cube
- Find planes and solid shapes in the environment
- Sort objects by shape
- Graph everyday objects
- Write or dictate a sentence related to each shape that was located

National Standards met: Mathematics: 3-Geometry

Methods/Procedures:

- Students will review plane and solid shape names and the characteristics of each.
- Students will locate real objects to match these shapes in their classroom, school building or home and match them to class models of these shapes. Pictures of familiar objects will be sorted, classified and graphed by shape name.
- Teacher prepares name tags for groups, each depicting one plane and one solid shape.
- Students will tour the Pro Football Hall of Fame to get an overview. During a shape scavenger hunt through the building, groups of students (those wearing the same shape name tags) will find real objects that are the same as the plane and solid shape depicted on their tag.
- The chaperone accompanying each group of students will allow a group member to take a photo of each shape that was found on the shape scavenger hunt and will record the name of the object.
- Photos will be developed or printed. Chaperone will give teacher a list of what their group photographed. Each group of students will write or dictate a sentence about the shape, such as, "The ring is a circle."
- If a field trip to the Hall of Fame cannot be made, students should use the Hall of Fame's website at Profootballhof.com to view its exhibits

Materials:

- Models of shapes
- Name tags depicting one plane and one solid shape
- Disposable or digital camera for each group of 3-4 students
- Paper/pencil for chaperone to record shape names

Assessment:

Assessment will be informal

- Teacher observation during the trip
- The photo product from the shape scavenger hunt
- The sentences written or dictated by the students

Subject: Mathematics

Lesson Title: Buying and Selling at the Concession Stand



Goals/Objectives:

Students will:

- Develop their money skills
- Practice addition, subtraction, and multiplication
- Make change for purchases at a football concession stand
- Write monetary units using the dollar sign and the decimal point

National Standards met: Mathematics: 1-Number and Operations; 6-Problem Solving

Methods/Procedures

- As a whole class or small group activity, have students create a menu board for a concession stand. The menu should include foods typically served at a football game such as hot dogs, popcorn, soda, Cracker Jacks, etc., and should include competitive pricing.
- Students should work in pairs so each student has a turn as the buyer and the seller. Make sure each pair of students has a copy of the menu board for the concession stand with the items for sale and prices on it. Pass out envelopes with varying amounts of play money in them. Give each student one envelope.
- Have each student complete a *tally ticket*, which asks questions about the possibilities afforded them with their available money. Questions posed on the *tally ticket* could include the following:
 1. How much money do you have to spend at the game?
 2. If your family of four wants to buy hot dogs and drinks, how much will it cost for all of you? How much change will you receive?
 3. Do you have enough money to buy one of each item on the menu board? How much will it cost? How much change will you receive?
- *Partners should check one another's *tally ticket* responses for accuracy.
- Have students role play the purchasing of food at the concession stand. The buyer should order items from the menu board. The seller should create a receipt for the buyer. Then, the buyer should pay the bill and the seller makes change if necessary. Each partner should check the monetary transactions performed for accuracy.

Materials:

- Envelopes
- Play money (assortment of bills and coins)
- Materials for constructing a menu board
- *tally ticket*

Assessment:

- Student participation
- Accuracy of answers on *tally ticket*
- Accuracy of monetary transactions



Subject: Mathematics

Lesson Title: Be an NFL Statistician

Goals/Objectives

Students will:

- Create a graph of information obtained from a data set.
- Analyze data recorded on a graph.
- Calculate the mean, median, and mode of Super Bowl MVP's by starting position.

National Standards met: Mathematics: 5-Data Analysis and Probability

Methods/Procedures

- Using Superbowl.com, have students record the starting position of each MVP from all Super Bowl games. Students should record this information in a graph (bar, pie, line). Have students analyze the data as follows:
- Find the position that is the mode of the data set.
- Find the median of the data set.
- Find the mean of the data set.
- Find the mean of each position relative to the number of Superbowls.

Materials:

- Super Bowl MVP's information
- Paper
- Pen or pencil
- Calculator (optional)
- Colored pencil (optional)

Assessment:

- Students will be assessed on accuracy of responses.

Subject: Mathematics

Lesson Title: Math Football



Goals/Objectives:

Students will:

- Practice math facts for review.
- Create a fun way to practice math facts.

National Standards Met: Mathematics: 1-Numbers and Operations

Methods/Procedures:

- The class will be divided into two equal groups (teams).
- Students will need pencil and paper.
- Students from each team will be given a number that matches one other student from the opposing team.
- The teacher will choose a captain and quarterback from each team. There will be a coin toss at the beginning to see which team will kickoff or receive.
- The team that kicks will choose a card from the kickoff cards, which represents different lengths of kicks. The ball will be marked on the overhead.
- The teams will compete by working the problems given by the teacher.
- Once the problem is given, the teacher will wait 5-10 seconds and pull a number chip. The players from each team that represents the number drawn will get to answer the problem. The person who answers first gets a first down or a block for their respective team.
- If the offensive team gets blocked 3 times, they must go to the 4th down cards or try for a field goal (if they are inside the opposing team's 40 yard line). Passing cards are allowed after every third play, as long as the offensive team has at least one first down.
- Play continues until time runs out.
- The team with the most points wins. If tied, the team with the most first downs wins. If first downs are tied, then the winner is determined by most blocks.
- Chalkboard is used to record points, first downs and blocks.

Materials:

- Paper, pencil, chalk & chalkboard
- Overhead projector & football field overhead
- Math sheets & number chips
- Cards for kickoff, 4th down pile and passing

Assessment:

- Teacher observation
- Teacher visually checks problems worked on paper.



Subject: Mathematics

Lesson Title: Running to the Hall of Fame

Goals/Objectives:

Students will:

- Create a scatter plot with information on attempts and yards gained.
- Create a best fit line which would show the slope of the line as the average yards per carry.

National Standards met: Mathematics: 1-Number and Operations; 5-Data Analysis and Probability

Methods/Procedures:

- Find information on attempts and yards gained for Hall of Fame running backs like Jim Brown, Jim Taylor and Walter Payton.
- Create a scatter plot using the x-axis for number of attempts and the y-axis for yards gained.
- Plot the (x,y) points of at least seven Hall of Fame running backs.
- Create a best fit line (straight line that represents these x,y data points).
- Find a good slope $\frac{Y_2-Y_1}{X_2-X_1}$ of this best fit line.
- This should be the approximate yards per carry of these great running backs.

Materials:

- Computers (Hall of Famer information on ProFootballHOF.com)
- Graph paper
- Rulers
- Colored pencils
- Calculators.
- Sports books for reference like 2012 NFL Record and Fact Book.

Assessment:

- Students will be able to show a best fit line on a scatter plot graph. The average yards per carry should be reasonable (slope of line calculated).

Subject: Mathematics and Physical Education

Lesson Title: Punt, Pass and Snap



Goals/Objectives:

Students will:

- Learn the proper techniques of punting, passing and snapping a football.
- Calculate the mean, median and mode of the class's data for these three football skills.
- Compare/contrast the three different sets of data.

National Standards met: Mathematics: 1-Number and Operations, 5-Data Analysis and Probability

Methods/Procedures:

- Introduce and define the three measures of central tendency: mean=average, median=exact middle, mode=number occurring most often
- Set up a chart for the class listing all students' names, leaving blank sections to record the distance each student throws, kicks and long-snaps the ball.
- Teach students to execute all three skills, allow time for practice.
- Have students take turns throwing the football as far as they can, recording the distance each student throws in yards. Repeat this procedure with the kick and long snap.
- Have students arrange the data on a visual chart, graph or number line in ascending order, displaying individual statistics.
- Instruct students to calculate the mean, median and mode for each of the 3 sets of data.
- Guide students through a comparison of each set of data and discuss why they differ.

Materials:

- Footballs, paper, pencils, clipboards, chart paper, whistle, field marked off in yards.

Assessment:

- Participation in activity (observation)
- Completion of mean, median and mode calculations
- Quiz on defining each measure of central tendency and calculating each using a set of data.



Subject: Mathematics

Lesson Title: How Far Is 300 Yards?

Goals/Objectives:

Students will:

- Convert measurements between yards, feet, and inches.
- Measure objects to the nearest inch, foot, and yard.

National Standards Met: Mathematics: 4-Measurement; 6-Process

Methods/Procedures:

- Students will use a ruler to determine how many inches there are in a foot.
- Students will measure three items to the nearest inch i.e., their pencil, book, crayon, desk, etc. Share with the class and explain how they obtained their results.
- Students will then measure some objects to the nearest foot i.e., the chalkboard, door, height, etc. Then students will compute how many inches that would be. Students will share their conversions and procedures with the class so the teacher can assess understanding.
- Students will then use a yardstick to measure several objects i.e., a counter, a carpet, or a table. Then students will convert the number of yards to the amount of feet and inches. Students will share answers with the class so the teacher can assess understanding. These results can be made into a table on the chalkboard.
- Students will then complete the worksheet provided on the following page with the table to convert the number of yards gained during the football game to inches and feet.
- After the students complete the worksheet, they may go outside to the playground or football field and see how far the measurements they converted are.
- Older students can then compare their answers and discuss why there are different results. Was everyone precise with their measuring? Which measurements are accurate? Discuss how most measurements contain some error in them.

Materials:

- Ruler with inches
- Yard stick
- Materials in the classroom to measure
- Worksheet (easy or harder version)
- Pencils

Assessment:

- Class participation
- Worksheet



How Far is 300 Yards?

Directions: Below is a list of some of the players who earned 300 combined net yards in a single game. Complete the chart by converting the amount of net yards in a game to feet and inches.

Player	Team	Yards	Feet	Inches
Jason Tucker	Dallas Cowboys	331		
Jermaine Lewis	Baltimore Ravens	308		
Jacoby Ford	Oakland Raiders	329		
Glyn Milburn	Denver Broncos	404		
Tyrone Hughes	New Orleans Saints	347		
John Taylor	San Francisco 49ers	321		
Willie Anderson	L.A. Rams	336		
Joshua Cribbs	Cleveland Browns	316		
Stephone Paige	Kansas City Chiefs	309		
Lionel James	San Diego Chargers	345		
Adrian Peterson	Minnesota Vikings	361		
Walter Payton	Chicago Bears	300		
Darren Sproles	San Diego Chargers	317		
Steve Smith	Carolina Panthers	313		
Gale Sayers	Chicago Bears	339		

Compiled from 2012 NFL Record and Fact Book



Subject: Mathematics

Lesson Title: Stadium Design

Goals/Objectives:

Students will:

- Follow Directions and Create a New Football Stadium using knowledge of shapes and numbers.

National Standards Met: Mathematics: 3-Geometry

Methods/Procedures:

- Students will work in pairs or small groups. (Building Teams)
- Each team will review a list of requirements that the stadiums must have to be considered complete.
- Each team will plan and draw their stadium.
- Each team will check to make sure they meet each requirement.

Materials:

- Drawing paper for each pair or group
- Pencils
- Rulers
- Checklists

Assessment:

- Observation of team discussions
- Completed stadium drawings

Object: Mathematics

Lesson Title: Using Variables With NFL Scorers



Goals/Objectives:

Students will:

- Make up number sentences with variables and then solve the variables using story problems.

National Standards Met: Mathematics: 2-Algebra; 6-Process

Methods/Procedures:

- The class will begin discussing how many points are usually scored in a football game.
- The class will use the worksheets provided on the following pages to make number sentences with variables and then solve the variables.

Materials:

- Pencil
- Worksheet

Assessment:

- Classroom participation
- Completion of worksheet

MATHEMATICS





Name _____

Using Variables With NFL Scorers

Directions: For each problem write a number sentence to solve the problem and see how many points the top 10 NFL scorers made. Then find out the variable by using another sheet of paper. Use the table to help you. The first one has been done for you.

TYPE OF PLAY	POINTS
Touchdown	6
Field Goal	3
Extra Point	1

- Gary Anderson has 2,434 points. He earned 820 extra points and no touchdowns. How many field goals did he get? **538**

Number sentence: $(3 \times F) + 820 = 2,434$
- Morten Andersen scored 2,544 points. He made 565 field goals and no touchdowns. How many extra points did he score? _____

Number sentence: _____
- George Blanda scored 2,002 points. He scored 9 touchdowns and 335 field goals. How many extra points did he score? _____

Number sentence: _____
- Norm Johnson didn't score any touchdowns in his 18 year career. He did score a total of 1,736 points. If he made 638 extra points, how many field goals did he score? _____

Number sentence: _____
- Adam Vinatieri scored 1,752 points. He didn't make any touchdowns, but he did score 387 field goals. How many extra points did he score? _____

Number sentence: _____
- Jason Hanson has played football for 20 years. He didn't have any touchdowns but he did score 2,016 points. If he had 627 extra points, how many field goals did he score? _____

Number sentence: _____



7. John Kasay played football for 20 years. He did not score any touchdowns but he did score 461 field goals and a total of 1,970 points. How many extra points did he get? _____

Number sentence: _____

8. Jason Elam is the 7th top scorer in NFL history. He scored 1,983 points and didn't score any touchdowns. If he made 675 extra points, how many field goals did he score? _____

Number sentence: _____

9. John Carney has played football for 23 years. During that time he scored 628 extra points and 478 field goals. How many total points did he score? _____

Number sentence: _____

10. Matt Stover has played in the NFL for 19 years. During that time he has scored 471 field goals, 0 touchdowns, and a total of 2,004 points. Determine how many extra points he scored. _____

Number sentence: _____

Compiled from 2012 NFL Record and Fact Book



Subject: Mathematics

Lesson Title: Attendance is Booming

Goals/Objectives:

Students will:

- Learn to use front end estimation and rounding.
- Learn how to make a line graph.

National Standards Met: Mathematics: 5-Data Analysis and Probability

Methods/Procedures:

- The teacher can begin a discussion asking the students if they have ever been to an NFL game or if they know anyone who has gone to one.
- As a class the teacher will use the chalkboard or overhead projector to show samples of how to round. Depending on the students' abilities, the students can round to the nearest thousand, hundred, tenth, hundredth, etc.
- Once the teacher feels secure that the students can round numbers, the teacher will introduce front-end estimation. Remind the students that when doing front-end estimation they should take the first number and turn everything else into a 0. Examples: $17,000 = 10,000$; $22,000 = 20,000$; $45.16 = 40$
- Depending upon ability students will do the worksheet independently, with a partner, or as a whole class. It can also be revised for older students to estimate the number of tickets sold, for example, in 1990 and 1989. It can also be adjusted to do subtraction problems, such as to compute how many more tickets were sold in one year than in another. Once they have their answers they need to decide whether or not it makes sense.
- Students can also find the landmarks of the data: median, mode, maximum, range, and median.
- Once done the students will take this information and turn it into a line graph. If students are unfamiliar with line graphs, it can be done as a class on the overhead. If you choose, you can assign different groups a type of graph to complete and the students can judge which one best shows the data. Some examples could be a bar graph or scatter plot.



Materials:

- Estimation worksheet
- Line graph worksheet
- Overhead or chalkboard
- Pencils

Assessment:

- Student participation
- Worksheets

How Many People Attended NFL Games?

Directions: Use the following numbers that tell the average number of people who purchased tickets to NFL games during the regular season. Round the number and then use front-end estimation.

Year	Average Attendance	Rounding	Front End Estimation
2011	64,698		
2010	64,978		
2009	65,043		
2008	66,625		
2007	66,836		
2006	66,666		
2005	66,455		
2004	66,409		
2003	66,328		
2002	66,755		
2001	65,187		
2000	66,078		
1999	65,349		
1998	64,020		
1997	62,364		



How Many People Attended NFL Games? Line Graph

Directions: Use the rounded number to make a line graph.

Title of the Graph: _____

MATHEMATICS

Amount
Who
Attended

Year

Subject: Mathematics

Lesson Title: What's In a Number?



Goals/Objectives:

Students will:

- Find factors and multiples of players' numbers
- Identify numbers as prime and composite

National Standards Met: Mathematics: 1-Number and Operations; 2-Algebra

Methods/Procedures:

- The students should have familiarity with finding factors. The class should begin with a review of how to find factors of a number. For example, the factors of 50 would be: 1, 2, 5, 10, 25, 50. You may prefer for the students to list the factors like this: $1 * 50$, $2 * 25$, $5 * 10$.
- Students will learn how to classify numbers whether they are prime or composite. A prime number has only two factors: 1 and itself. An example would be 5 because the only two numbers that multiply together to equal 5 would be 1 and 5. Composite numbers have 3 or more factors. For example 50 would be composite because it has 6 factors.
- Students will do some practice determining if a number is prime or composite. The teacher can hand each student a different number on an index card and the students can find the factors and then place the card on the chalkboard either in the prime or composite category. Students can also count the letters in their first or last name and determine if that number is prime or composite.
- The class should also talk about finding multiples of a number. So given the number 4, the multiples would be 4, 8, 12, 16, 20, etc.
- Once the class has practiced, they can work on the worksheet.

Materials:

- Pencil
- Worksheet
- Index cards
- Tape to place the index cards on the chalkboard

Assessment:

- Class participation
- Worksheet



What's In a Number?

Directions: Use the number of each Hall of Famer to complete the worksheet.

Troy Aikman
#8

The factors of 8 are:

Is the number 8 prime or composite?

Five multiples of 8 are:

Bill George
#61

The factors of 61 are:

Is the number 61 prime or composite?

Five multiples of 61 are:

Harry Carson
#53

The factors of 53 are:

Is the number 53 prime or composite?

Five multiples of 53 are:

David (Deacon) Jones
#75

The factors of 75 are:

Is the number 75 prime or composite?

Five multiples of 75 are:

Dick Lane
#81

The factors of 81 are:

Is the number 81 prime or composite?

Five multiples of 81 are:

Doak Walker
#37

The factors of 37 are:

Is the number 37 prime or composite?

Five multiples of 37 are:

Lee Roy Selmon
#63

The factors of 63 are:

Is the number 63 prime or composite?

Five multiples of 63 are:

Otto Graham
#60

The factors of 60 are:

Is the number 60 prime or composite?

Five multiples of 60 are:

Subject: Mathematics

Lesson Title: Tackling Football Math



Goals/Objectives:

Students will:

- Improve math skills by applying basic functions to the game of football.
- Learn basic football facts and game terms.
- Utilize statistics of NFL football players and teams for computing math problems.
- Research statistics of selected NFL football players and teams for use as alternative information in certain math problems.

National Standards met: Mathematics: 1-Number and Operations; 2-Algebra; 5-Data Analysis and Probability; 6-Process

Methods/Procedures:

Have students complete the math worksheets provided on the following pages related to the game of football. They may work independently or with others. Feel free to make adaptations in players and teams to suit your students. Answers to the following worksheets are found in the back of this publication.

- A Day at the Game
- How Old are They?
- NFL Air Travel
- Conversions in Football
- Super Bowl Numbers
- Top Active Rushers
- Super Bowl Thunder - New York Giants, Super Bowl XLVI Champions
- Miscellaneous Math Activities

Materials:

- Pencil
- Scrap paper for working problems
- Calculators if permitted

Assessment:

Students will be assessed on accuracy of responses.



A Day at the Game

Solve questions 1-30.

Please show your work for each question on the back.

1. Tickets for the game are \$62.00 each. A family of six attended the game on Sunday. What was the total cost of the tickets?
2. There are four quarters in a game, each lasting 15 minutes. What is the total number of minutes in a game? Convert the total minutes to seconds.
3. There are 53 members on one NFL team, but only 11 players are on the field at one time. How many are still on the sideline?
4. The seating capacity for Cleveland Browns Stadium is 73,300. There were 66,528 in attendance for the game. How many empty seats were there?
5. Twenty-four game balls are used in every indoor NFL game. If one ball weighs 14 ounces, how many ounces do 24 balls weigh? Convert to pounds.
Clue: 16 ounces = 1 lb.
6. Vendors were selling programs for \$5.00 each throughout the stadium. If 20 vendors each sold 32 programs in one hour for five hours, how many total programs did the vendors sell?
7. A family of three decided to buy some souvenirs while at the game. They purchased two pennants at \$4.99 each, two hats at \$24.99 each, one football at \$19.99 and two programs at \$5.00 a piece. How much did they spend?
8. Throughout the game they purchased snacks to eat. They bought 5 hot dogs at \$3.00 each, 2 bags of peanuts and 2 bags of popcorn at \$3.25 a piece, 4 soft drinks at 2.75 each and 2 ice cream cones at \$3.25 each. What was the total?
9. The game kicked off at 1:05 p.m. and ended at 4:44 p.m.. How many hours and minutes did the game last?
10. If 90% of the seats in Ford Field, which holds 64,500, are filled for an NFL game, how many fans are there?
11. Your football team scored 18 points more than the previous high score of 56 points. What is their new high score?



12. On a series of downs, the football was spotted on your own 48-yard line. The quarterback passed for 15 yards, lost 9 yards when the quarterback was sacked, and then gained 17 yards on a halfback run. Where was the ball placed for the next down?
13. Your football team had a field goal in the first quarter, a touchdown plus an extra point in the second quarter, a touchdown but missed the extra point in the third quarter, and a safety in the fourth quarter. In the fourth quarter, the opposing team had 2 touchdowns followed by 2-point conversions for each touchdown. What was the final score of the game?
14. Your football team had penalties of 15 yards, 5 yards, 15 yards, and 15 yards. The opposing team had 5 yards fewer than half that in penalties. What were the total yards lost for the game?
15. At the concession stand, the Booster Club makes a nickel profit on each candy bar, a quarter on each box of popcorn, and \$.40 for each beverage. If they sold 70 boxes of popcorn, 45 candy bars, and 107 beverages, what was their total profit?
16. What is the area of a high school football field from goal line to goal line (a football field is $53\frac{1}{3}$ yards wide)?
17. Ticket sales were up this season by 17%. If last year's totaled \$12,000, what were this year's sales?
18. The price of a student ticket was raised from \$3.00 to \$3.50 and the price of an adult ticket was raised from \$5.00 to \$5.50. If ticket sales for the first game of the season were 210 student tickets and 748 adult tickets, what was the total additional revenue?
19. Football ticket sales bring in a profit of \$10,000 annually. New stadium lights and bleachers will cost \$24,000, annual maintenance is \$2,000 and \$1,000 is needed for the replacement of equipment each year. Given the figures, how many years will it take to break even and begin making a profit?
20. It is second down and 9-yards to go for the first down. The quarterback is sacked for an 8-yard loss. On third down, how many yards are necessary to achieve a first down?
21. The football game is scheduled to begin at 7:30 p.m. The pre-game show lasts 8 minutes. The band must report 10 minutes prior to the start of the pre-game show. What time must the band be present?



- 22. In the fourth quarter the clock says 1:59.04. The next 4 plays take 39.2 seconds, 15.85, 20.08, and 9.79 seconds off the clock. How much time is left?
- 23. The stadium lights are turned on at 6:40 p.m. and turned off 30 minutes after the game is over. If the game is over at 9:28 p.m., how many minutes of electricity will be charged by the utility company?
- 24. Given the following attendance statistics for your school's 7 home games, find the median for the attendance at the home games.

Home Games	Attendance
#1	958
#2	15,002
#3	500
#4	12,980
#5	11,040
#6	935
#7	10,091

- 25. The kickoff return player fielded 5 punts during the game. The first, he caught at his own 8-yard line and returned it to his own 26-yard line. The second, he caught at the opponent's 48-yard line and returned it to their 34-yard line. The third, he made a "fair catch" at his own 26-yard line. The fourth he fielded at his own 12-yard line and scored a touchdown. The fifth, he caught on his 28-yard line and was immediately tackled for no gain. What was his average punt return for this game?
- 26. What percentage of the field has your team covered if they move the ball from their 20-yard line to their 40-yard line?
- 27. The defensive back intercepts the football at his own 5-yard line and runs to the opposing team's 5-yard line before being tackled. How many yards did he gain on the interception?
- 28. The kicker made successful field goals of 37 yards, 29 yards, 42 yards, 18 yards, 19 yards, 40 yards, 31 yards, and 20 yards. He missed field goals of 50 yards and 46 yards. What was his percent of success?
- 29. In the first game of the season, the fullback ran for 17 yards, 5 yards, 12 yards, 21 yards, -6 yards, 34 yards, 3 yards, -2 yards, 10 yards, 7 yards, 4 yards, 18 yards, 66 yards, and 2 yards. What was his average yards per carry for the game?
- 30. What is the difference between the tallest player on the team at 7' 5/8" and the shortest player on the team at 5'6 3/4"?



How Old Are They?

Read the following paragraphs about two NFL stars.

See if you can figure out each one's age.

During his 17-year, 242-game career with the Miami Dolphins, Hall of Fame quarterback Dan Marino has earned the right to be called the most prolific passer in NFL history. Marino holds four of the NFL's major career passing records with 61,361 passing yards, 4,967 completions, 8,358 passing attempts, and 420 passing touchdowns. Marino was selected to nine Pro Bowls during his illustrious career with the Dolphins. Thirteen times Marino passed for 3,000 yards or more in a single season, including six seasons in which he threw for 4,000 yards or more, and one season where he became the first player in NFL history to throw for 5,000 yards in one season. Marino passed for 300 yards in a single game 63 times, and threw for 400 yards or more in a single game 13 times – both are NFL records. Use the steps below to figure out his age.

<p>Step 1</p> <p>_____ # of career completions</p> <p>x _____ # of Pro Bowls</p> <p>= _____ total for step 1</p>	<p>Step 4</p> <p>_____ # of career games</p> <p>+ _____ total for step 3</p> <p>= _____ total step 4</p>	<p>Step 7</p> <p>_____ total step 6</p> <p>+ _____ # of 400-yard games</p> <p>= _____ total step 7</p>
<p>Step 2</p> <p>_____ # of career passing yards</p> <p>- _____ total Step 1</p> <p>= _____ total for step 2</p>	<p>Step 5</p> <p>_____ total step 4</p> <p>- _____ # of career touchdown passes</p> <p>= _____ total step 5</p>	<p>Step 8</p> <p>_____ total of step 7</p> <p>+ <u> 7 </u></p> <p>= _____ Dan's Age</p>
<p>Step 3</p> <p>16,854</p> <p>- _____ total step 2</p> <p>= _____ total step 3</p>	<p>Step 6</p> <p>_____ total step 5</p> <p>+ _____ # of 3,000-yd seasons</p> <p>= _____ total step 6</p>	

Hall of Fame quarterback John Elway became known as "Mr. Comeback" due to his 47 career fourth quarter comeback victories or ties. Elway was selected to nine Pro Bowls during his 16-year career with the Denver Broncos. Considered as one of the most versatile quarterbacks in NFL history Elway scrambled to a career rushing mark of 3,407 yards. His 51,475 career passing yards, along with 4,123 completions, place him second on the NFL's all-time passing list. His 7,250 passing attempts are third all time in that category. Elway's versatility is displayed by his 334 total career touchdowns (300 passing, 33 rushing, and 1 receiving). Elway led his team into five Super Bowl appearances that included two NFL championships. Elway took home the Super Bowl MVP Award in the final game of his career. Use the steps below to figure out his age.

<p>Step 1</p> <p>_____ # career passing yards</p> <p>/ _____ # Super Bowl starts</p> <p>= _____ total for step 1</p>	<p>Step 4</p> <p>_____ total career touchdowns (passing, rushing, receiving)</p> <p>- _____ fourth quarter comebacks</p> <p>+ _____ Pro Bowls</p> <p>= _____ total for step 4</p>	<p>Step 6</p> <p>_____ total for step 3</p> <p>- _____ total for step 5</p> <p>- <u> 13 </u></p> <p>= _____ John's age</p>
<p>Step 2</p> <p>_____ # of career attempts</p> <p>+ _____ # of career rushing yards</p> <p>= _____ total for step 2</p>	<p>Step 5</p> <p>_____ total for step 4</p> <p>+ _____ # of Super Bowl MVP</p> <p>= _____ total of step 5</p>	
<p>Step 3</p> <p>_____ total for step 2</p> <p>- _____ total for step 1</p> <p>= _____ total for step 3</p>		



Subject: Mathematics

Lesson Title: Number Patterns

Goals/Objectives:

Students will:

- Students will determine number patterns from a given set of numbers

National Standards met: 1- Numbers and operations
5- Data Analysis and Probability

Methods/Procedures:

- Students will be given a chart with the yardage gained from running backs in each quarter of a game.
- Students will look at the number in each quarter to determine the number pattern.
- Students will then determine either how to continue the pattern or what number in the pattern is missing.
- Students will share the number operations they used to determine the pattern.

Materials:

- Charts
- Pencils

Assessment:

- Completion of chart
- Observation of process

MATHEMATICS

<u>Running Back</u>	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
A	3 yards	6 yards	9 yards	_____
B	15 yards	_____	25 yards	30 yards
C	_____	16 yards	20 yards	24 yards
D	28 yards	40 yards	_____	64 yards

What is running back A's number pattern? _____

What is running back B's number pattern? _____

What is running back C's number pattern? _____

What is running back D's number pattern? _____

You may use the space on the following page to show your work.



<u>Running Back</u>	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
A	4.5 yards	8 yards	10.5 yards	_____
B	12.2 yards	_____	26.8 yards	34.1 yards
C	_____	15.4 yards	17.1 yards	18.8 yards
D	28.6 yards	39 yards	_____	59.8 yards

What is running back A's number pattern? _____

What is running back B's number pattern? _____

What is running back C's number pattern? _____

What is running back D's number pattern? _____

You may use the space below to show your work.



Key - Number Patterns

<u>Running Back</u>	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
A	3 yards	6 yards	9 yards	12 yards
B	15 yards	20 yards	25 yards	30 yards
C	12 yards	16 yards	20 yards	24 yards
D	28 yards	40 yards	52 yards	64 yards

What is running back A's number pattern? +3

What is running back B's number pattern? +5

What is running back C's number pattern? +4

What is running back D's number pattern? +12

Key - Number Patterns

<u>Running Back</u>	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
A	4.5 yards	8 yards	11.5 yards	15 yards
B	12.2 yards	19.5 yards	26.8 yards	34.1 yards
C	13.7 yards	15.4 yards	17.1 yards	18.8 yards
D	28.6 yards	39 yards	49.4 yards	59.8 yards

What is running back A's number pattern? +3.5

What is running back B's number pattern? +7.3

What is running back C's number pattern? +1.7

What is running back D's number pattern? +10.4

Conversions in Football



Complete problems 1-10. Please show your work.

1. During his career, Barry Sanders rushed for 15,269 yards.
How many feet is that? _____
2. Ed Reed of the Baltimore Ravens returned an interception for an NFL record 107 yards in 2008. How many inches is that? _____
3. Drew Brees passed for 5,476 yards in 2011. How many miles is that? _____
*Hint: 1 mile = 1,760 yards
Round to the nearest tenth.
4. Maurice Jones-Drew of the Jacksonville Jaguars rushed for 1,606 yards in 2011.
How many feet is that? _____
5. The Giants have the ball on their own 25-yard line and they complete a 45-yard pass. They then lose 4 yards on the next play. What yard line are they on now? _____
6. Aaron Rodgers throws a 54-yard pass. How many inches did he throw? _____
How many centimeters? _____
Hint: 1 inch = 2.54 centimeters
7. A football field measures 100 yards from goal line to goal line. A field is $53 \frac{1}{3}$ yards wide. Convert these measurements to feet. _____
8. Shaun Rogers of the New York Giants weighs 350 pounds.
How much does he weigh in ounces? _____
9. A game normally lasts 60 minutes. During a 16-game season, how many total minutes does one team play? _____
10. There are seven officials on the field for every NFL game. If 16 games are played each week, what is the total number of officials officiating throughout the NFL each week?



Super Bowl Numbers

Super Bowl games are written with Roman numerals. The use of Roman numerals actually began with Super Bowl V. Use the chart to calculate past and future games.

Roman Numeral Chart

1	2	3	4	5	6	7	8	9	10	50
I	II	III	IV	V	VI	VII	VIII	IX	X	L

Example:

$$\begin{array}{r} X = 10 \\ + IX = 9 \\ \hline \text{Super Bowl } 19 \end{array}$$

$$\begin{array}{r} X = \\ + V = \\ \hline \text{Super Bowl} \end{array}$$

$$\begin{array}{r} X = \\ + IV = \\ \hline \text{Super Bowl} \end{array}$$

$$\begin{array}{r} V = \\ + IV = \\ \hline \text{Super Bowl} \end{array}$$

$$\begin{array}{r} X = \\ X = \\ + III = \\ \hline \text{Super Bowl} \end{array}$$

$$\begin{array}{r} X = \\ X = \\ + VI = \\ \hline \text{Super Bowl} \end{array}$$

$$\begin{array}{r} X = \\ V = \\ + III = \\ \hline \text{Super Bowl} \end{array}$$

$$\begin{array}{r} X = \\ X = \\ X = \\ + V = \\ \hline \text{Super Bowl} \end{array}$$

$$\begin{array}{r} X = \\ X = \\ X = \\ + II = \\ \hline \text{Super Bowl} \end{array}$$

$$\begin{array}{r} X = \\ X = \\ X = \\ + VII = \\ \hline \text{Super Bowl} \end{array}$$

- Write the Roman numeral for Super Bowl 47 which will be played in New Orleans, LA.

MATHEMATICS

Top Active Rushers Heading into the 2012 Season

(1,000 or more attempts)



Player	Attempts	Yards	Average Yards/Attempt
1. Steven Jackson, Rams	2,138	9,093	_____
2. Frank Gore, 49ers	1,653	7,625	_____
3. Willis McGahee, Broncos	1,790	7,366	_____
4. Maurice Jones-Drew, Jaguars	1,484	6,854	_____
5. Adrian Peterson, Vikings	1,406	6,752	_____
6. Michael Turner, Falcons	1,417	6,538	_____
7. Cedric Benson, Packers	1,529	5,769	_____
8. Chris Johnson, Titans	1,187	5,645	_____
9. Ronnie Brown, Chargers	1,170	4,951	_____
10. Brandon Jacobs, 49ers	1,078	4,849	_____

(Questions on following page)

**Source: National Football League*

MATHEMATICS



Answer the following questions

MATHEMATICS

1. Who had the best average yards/carry?
2. Who had the lowest average yards/carry?
3. What is the total yards rushed by all ten running backs?
4. What is the total of attempts of all ten running backs?
5. What is the average yards/attempt of all ten running backs combined?

Super Bowl Thunder



Answer the following questions using the New York Giants' roster on the following page.

1. Who was the oldest player on the team?
2. What number was Victor Cruz?
3. How many wide receivers (WR) were there?
4. How many players had 10 or more years of NFL experience?
5. How many quarterbacks (QB) were listed?
6. Who was the only player to attend the University of Mississippi?
7. Who was the heaviest player on the team?
8. Who was the lightest player on the team?
9. What position did number 90 play?
10. Add up the total weight of all the running backs (RB/FB).



New Your Giants 2011 Roster

Super Bowl XLVI Champions

MATHEMATICS

Giants Alphabetical Roster							
No	Player	Pos	Ht	Wt	Birth Date	NFL Exp	College
20	Amukamara, Prince	CB	6-0	207	6/6/89	R	Nebraska
64	Baas, David	C	6-4	312	9/28/81	7	Michigan
85	Ballard, Jake	TE	6-6	275	12/21/87	2	Ohio State
13	Barden, Ramses	WR	6-6	224	1/1/86	3	Cal Poly
47	Beckum, Travis	TE	6-3	234	1/24/87	3	Wisconsin
95	Bernard, Rocky	DT	6-3	301	4/19/79	10	Texas A&M
93	Blackburn, Chase	LB	6-4	242	6/10/83	7	Akron
36	Blackmon, Will	CB	6-0	206	10/27/84	6	Boston College
59	Boley, Michael	LB	6-3	230	8/24/82	7	Southern Mississippi
77	Boothe, Kevin	G	6-5	320	7/5/83	6	Cornell
44	Bradshaw, Ahmad	RB	5-10	214	3/19/86	5	Marshall
79	Brewer, James	T	6-6	330	12/23/87	R	Indiana
99	Canty, Chris	DT	6-7	317	11/10/82	7	Virginia
8	Carr, David	QB	6-3	212	7/21/79	10	Fresno State
63	Cordle, Jim	C	6-3	320	8/22/87	1	Ohio State
80	Cruz, Victor	WR	6-0	204	11/11/86	2	Massachusetts
51	DeOssie, Zak	LS	6-4	249	5/24/84	5	Brown
66	Diehl, David	G	6-5	304	9/15/80	9	Illinois
34	Grant, Deon	S	6-2	215	3/14/79	12	Tennessee
58	Herzlich, Mark	LB	6-4	246	9/1/87	R	Boston College
45	Hynoski, Henry	FB	6-1	266	12/30/88	R	Pittsburgh
27	Jacobs, Brandon	RB	6-4	264	7/6/82	7	Southern Illinois
12	Jernigan, Jerrel	WR	5-8	189	6/14/89	R	Troy
53	Jones, Greg	LB	6-0	248	10/5/88	R	Michigan State
97	Joseph, Linval	DT	6-4	323	10/10/88	2	East Carolina
73	Kennedy, Jimmy	DT	6-4	302	11/15/79	9	Penn State
94	Kiwanuka, Mathias	LB	6-5	267	3/8/83	6	Boston College
10	Manning, Eli	QB	6-4	218	1/3/81	8	Mississippi
82	Manningham, Mario	WR	6-0	185	5/25/86	4	Michigan
22	Martin, Derrick	DB	5-10	198	5/16/85	5	Wyoming
67	McKenzie, Kareem	T	6-6	330	5/24/79	11	Penn State
88	Nicks, Hakeem	WR	6-1	208	1/14/88	3	North Carolina
86	Pascoe, Bear	TE	6-5	283	2/23/86	3	Fresno State
55	Paysinger, Spencer	LB	6-2	236	6/28/88	R	Oregon
62	Petrus, Mitch	G	6-3	315	5/11/87	2	Arkansas
21	Phillips, Kenny	S	6-2	217	11/24/86	4	Miami (FL)
90	Pierre-Paul, Jason	DE	6-5	278	1/1/89	2	South Florida
26	Rolle, Antrel	S	6-0	206	12/16/82	6	Miami (FL)
31	Ross, Aaron	CB	6-0	190	9/15/82	5	Texas
39	Sash, Tyler	S	6-0	215	5/27/88	R	Iowa
33	Scott, Da'Rel	RB	5-11	210	5/26/88	R	Maryland
76	Snee, Chris	G	6-3	305	1/18/82	8	Boston College
15	Thomas, Devin	WR	6-2	221	11/15/86	4	Michigan State
71	Tollefson, Dave	DE	6-4	266	7/10/82	5	NW Missouri State
69	Trattou, Justin	DE	6-4	255	3/28/88	R	Florida
91	Tuck, Justin	DE	6-5	268	3/29/83	7	Notre Dame
9	Tynes, Lawrence	K	6-1	194	5/3/78	8	Troy
70	Ugoh, Tony	T	6-5	301	11/17/83	5	Arkansas
72	Umenyiora, Osi	DE	6-3	255	11/16/81	9	Troy
28	Ware, D.J.	RB	6-0	225	2/18/85	5	Georgia
5	Weatherford, Steve	P	6-2	211	12/17/82	7	Illinois
23	Webster, Corey	CB	6-0	200	3/2/82	7	LSU
57	Williams, Jacquian	LB	6-3	224	7/20/88	R	South Florida

SUPER BOWL XLVI 91

Source: Super Bowl
XLVI Game Program



Miscellaneous Math Activities

Teachers: The following are classroom mathematics activities for you and your students to enjoy. Feel free to adapt and make copies of these ideas to suit your classroom.

NERF FOOTBALL: Use a Nerf football to provide math practice. With a permanent marker draw puzzle pieces all over the ball and number each piece. When the student catches the football, they either add or multiply the numbers found under their fingers. You can be “all thumbs” and still enjoy!

WEEKLY ANALYZING: Assign each student a team or a player and have them keep track of their weekly statistics. Give weekly math problems to the students in order to practice various mathematics skills. Students can keep a journal of their findings to compare with their classmates’ findings.

FIELD FACTS: Take a trip to a football field. Have the students practice using rulers, measuring tapes, and compasses by giving assignments related to the field. How far is the end zone from the goal post? How many inches is the entire field? How many yards across is a field? You could even have the students play a game of catch – how far can they throw? Who can catch the farthest throw?

FOOTBALL FOLDER GAME: Using the inside of a file folder, draw the outlines of 10 footballs and then write a different number inside each one. Laminate the folder. Draw matching football shapes on poster board, add corresponding number of dots, laminate and cut out. To play, the student counts the number of dots on the football and places it on top of the matching numbered footballs on the file folder. You could also use this for multiplication and subtraction by adapting the numbers.

ROMAN NUMERAL FUN: Super Bowls are numbered by Roman numerals. Make a list of Roman numerals from one to fifty. Multiply each number on your list by ten and write the products in Roman numerals.

**The Hall of Fame welcomes any suggestions for classroom activities.
Please share your thoughts and ideas by contacting the
Educational Programs Staff at (330) 456-8207 or e-mail at
educationalprograms@profootballhof.com.**



Answer Key

How Far is 300 Yards?

- Jason Tucker - 993 feet, 11,916 inches
- Jermaine Lewis - 924 feet, 11,088 inches
- Jacoby Ford - 987 feet, 11,844 inches
- Glyn Milburn - 1,212 feet, 14,544 inches
- Tyrone Hughes - 1,041 feet, 12,492 inches
- John Taylor - 963 feet, 11,556 inches
- Willie Anderson - 1,008 feet, 12,096 inches
- Joshua Cribbs - 948 feet, 11,376 inches
- Stephone Paige - 927 feet, 11,124 inches
- Lionel James - 1,035 feet, 12,420 inches
- Adrian Peterson - 1,083 feet, 12,996 inches
- Walter Payton - 900 feet, 10,800 inches
- Darren Sproles - 951 feet, 11,412 inches
- Steve Smith - 939 feet, 11,268 inches
- Gale Sayers - 1,017 feet, 12,204 inches

Using Variables With NFL Scorers

1. Completed on worksheet.
2. $(565 \cdot 3) + x = 2,544$ $x = 849$
3. $(9 \cdot 6) + (335 \cdot 3) + x = 2,002$ $x = 943$
4. $(3 \cdot x) + 638 = 1,736$ $x = 366$
5. $(387 \cdot 3) + x = 1,752$ $x = 591$
6. $(3 \cdot x) + 627 = 2,016$ $x = 463$
7. $(461 \cdot 3) + x = 1,970$ $x = 587$
8. $(3 \cdot x) + 675 = 1,983$ $x = 436$
9. $(478 \cdot 3) + 628 = x$ $x = 2,062$
10. $(471 \cdot 3) + x = 2,004$ $x = 591$

How Many People Attended NFL Games

- 2011 - 65,000 - 60,000
- 2010 - 65,000 - 60,000
- 2009 - 65,000 - 60,000
- 2008 - 67,000 - 60,000
- 2007 - 67,000 - 60,000
- 2006 - 67,000 - 60,000
- 2005 - 66,000 - 60,000
- 2004 - 66,000 - 60,000
- 2003 - 66,000 - 60,000
- 2002 - 66,000 - 60,000
- 2001 - 65,000 - 60,000
- 2000 - 66,000 - 60,000
- 1999 - 65,000 - 60,000
- 1998 - 64,000 - 60,000
- 1997 - 62,000 - 60,000

What's in a Number?

- #8: Factors: 1, 2, 4, 8
Composite
Multiples: 8, 16, 24, 32, 40, etc.
- #61: Factors: 1 & 61
Prime
Multiples: 61, 122, 183, 244, 305, etc.
- #53: Factors: 1 & 53
Prime
Multiples: 53, 106, 159, 212, 265, etc.
- #75: Factors: 1, 3, 5, 15, 25, 75,
Composite
Multiples: 75, 150, 225, 300, 375, etc.
- #81: Factors: 1, 3, 9, 27, 81
Composite
Multiples: 81, 162, 243, 324, 405, etc.
- #37: Factors: 1 & 37
Prime
Multiples: 37, 74, 111, 148, 185, etc.

Answer Key



#63: Factors: 1, 3, 7, 9, 21, 63

Composite

Multiples: 63, 126, 189, 252, 315, etc.

#60: Factors: 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60

Composite

Multiples: 60, 120, 180, 240, 300, etc.

A Day At The Game

1. \$372.00
2. 60 minutes, 3,600 seconds
3. 42 players
4. 6,772 empty seats
5. 336 ounces, 21 pounds
6. 3,200 programs
7. \$ 89.95
8. \$ 45.50
9. 3 hours, 39 minutes
10. 58,050 fans
11. 74 points
12. Opposing team's 29-yard line
13. 18 to 16
14. 70 yards
15. \$62.55
16. 5,333 $\frac{1}{3}$ square yards or 48,000 square feet
17. \$14,040
18. \$479
19. Four years
20. 17
21. 7:12 PM
22. 0:34.12 or 34.12 seconds
23. 198 minutes
24. 10,091
25. 30 yards (the fair catch does not count against him, thus, total yards is divided by 4 instead of 5)
26. 20%
27. 90 yards
28. 80%
29. 13.64 yards per carry
30. $1'5 \frac{7}{8}''$

How Old are They?

Dan Marino:

- Step 1 – 44,703
- Step 2 – 16,658
- Step 3 – 196
- Step 4 – 438
- Step 5 – 18
- Step 6 – 31
- Step 7 – 44
- Step 8 – 51

John Elway:

- Step 1 – 10,295
- Step 2 – 10,657
- Step 3 – 362
- Step 4 – 296
- Step 5 – 297
- Step 6 – 52

Conversions in Football

1. 45,807 feet
2. 3,852 inches
3. 3.11 miles
4. 4,818 feet
5. 34 yard line of opposing team
6. 1,944 inches, 4,937.76 centimeters
7. 300 feet long, 160 feet wide
8. 5,600 ounces
9. 960 minutes
10. 112 officials

Super Bowl Numbers

- 15, 14, 9
23, 26, 18
35, 32, 37
XLVI

Top Rushers

1. Adrian Peterson 4.80
2. Cedric Benson 3.77
3. 65,442 yards
4. 14,852 attempts
5. 4.41



Answer Key

Super Bowl Thunder

1. Lawrence Tynes, 5-3-78
2. 80
3. 6
4. 4
5. 2
6. Eli Manning
7. James Brewer/Kareem McKenzie - 330 lbs.
8. Mario Manningham - 185 lbs.
9. Defensive End
10. 1,179 lbs.