

Name: _____

Measuring and Comparing Throws

GRADES 3-5

Measure Length of Throws (in feet)

	Throw 1	Throw 2	Throw 3	Throw 4	Range
Youth					
Foam					

Measure Length of Throws (Circle one: meters, centimeters, inches, millimeters or yards)

	Throw 1	Throw 2	Throw 3	Throw 4	Range
Youth					
Foam					

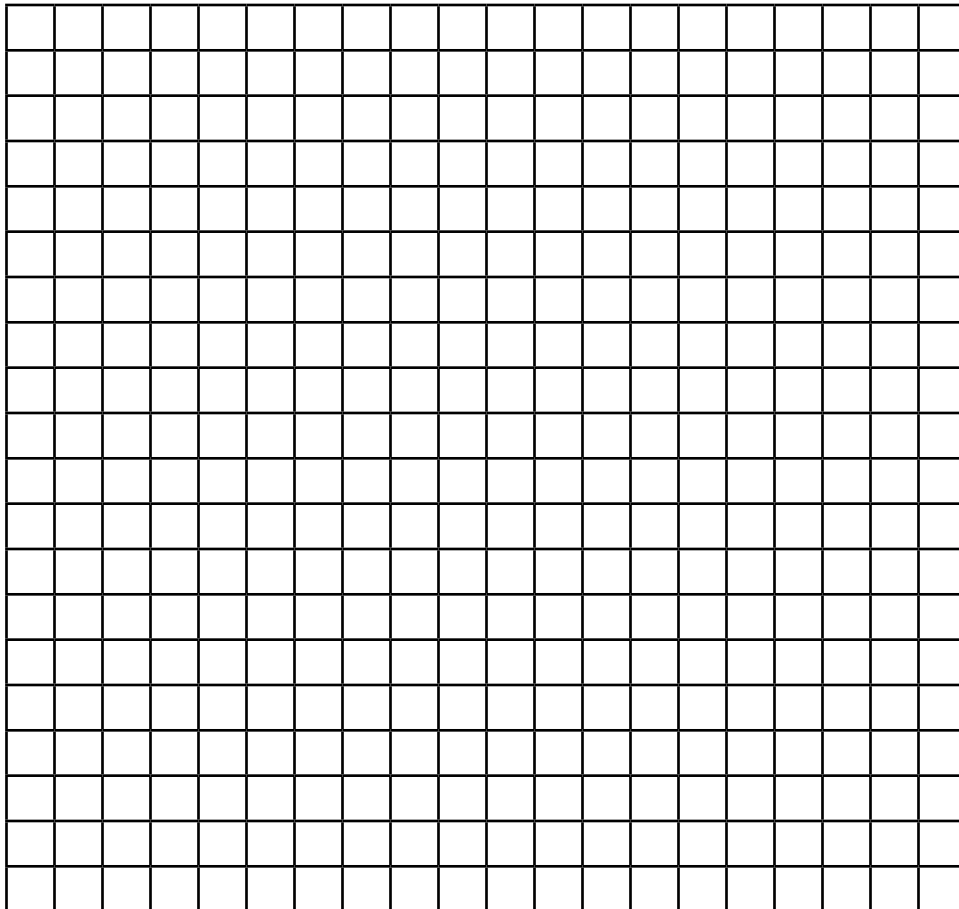
What is the best way to measure distance of a throw? Why?

Name: _____

Measuring and Comparing Throws

GRADES 3-5

Make a bar graph that shows the distance between the youth and foam football in the best measurement.



Write a statement using the greater than or less than symbols (< >) that explain which ball can be thrown the furthest.

Name: _____

Technological Advancements and Improved Quarterback Play

GRADES 3-5

Picking up the football: Put a check-mark if you were successful at picking up the ball with one hand.

	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	P
No Gloves											
Gloves											

Pass completion: Put a check-mark if you and your partner completed a successful pass.

	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	P
No Gloves											
Gloves											



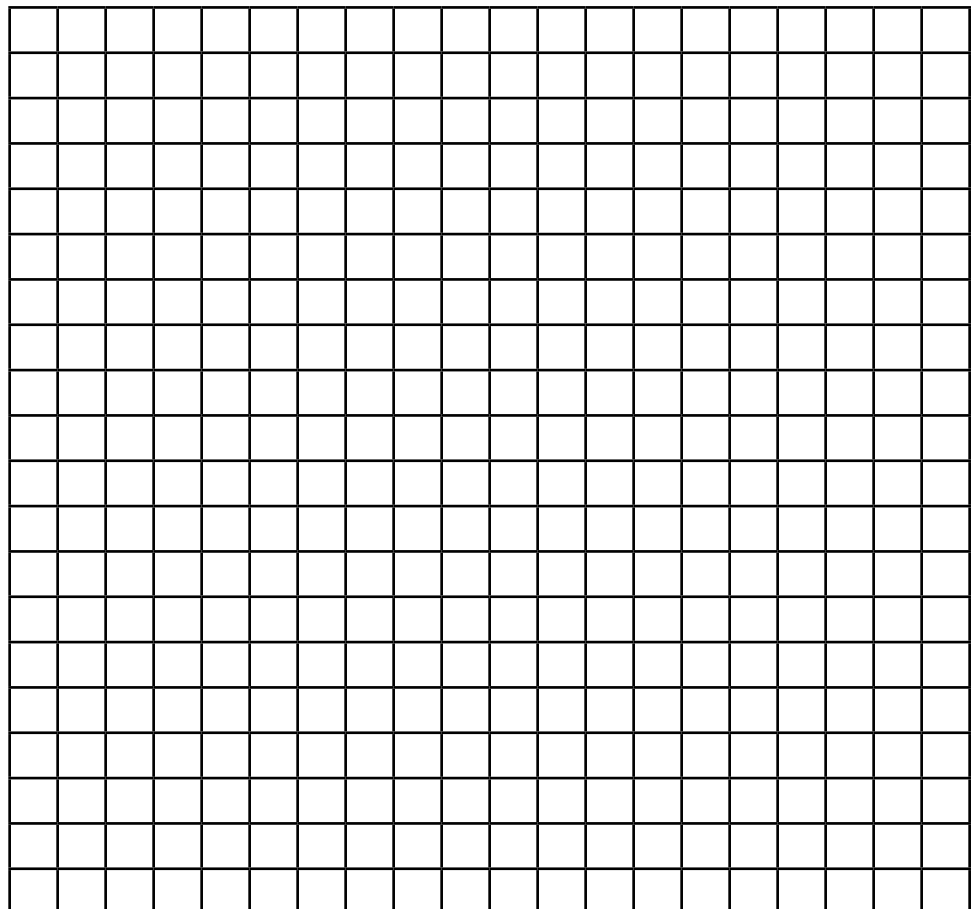
Name: _____

Technological Advancements and Improved Quarterback Play

GRADES 3-5

Graph the following data:

YEAR	COMPLETION %
1975	51
1980	57
1985	55
1990	56
1995	58
2000	58
2005	60
2010	61



Based on your data and the NFL data, do gloves help pass completion? Explain your answer.

Name: _____

The Advancement of In-Game Communication

GRADES 3-5

Communication Test: Put a check-mark next to the successful test.

	Trial 1	Trial 2	Trial 3
No Technology			
Walkie Talkie			

Design better communication technology.

Criteria	Constraints

Name: _____

The Advancement of In-Game Communication

GRADES 3-5

Brainstorm ways to increase the success rate of communication:

--	--	--

Select a single design (draw in detail, label materials and provide measurements):

Name: _____

The Evolution of the Football Helmet

GRADES 3-5

<p>No Helmet</p>	<p>HELMET 1</p> 
<p>HELMET 2</p> 	<p>HELMET 3</p> 
<p>HELMET 4</p> 	<p>HELMET 5</p> 
<p>HELMET 6</p> 	<p>HELMET 7</p> 

Name: _____

The Evolution of the Football Helmet

GRADES 3-5

Helmet	Observations	Rating
NO HELMET		
H1		
H2		
H3		
H4		
H5		
H6		
H7		

Name: _____

Measuring Football Distances

GRADES 3-5

	Equation	# of Feet	# of Inches	Extend: # of cm	Extend: # of mm
One Yard					
Five Yards					
Ten Yards					
Sixty-Three Yards					

Name: _____

Measuring Football Distances

GRADES 3-5

1. The line of scrimmage of Team A is at their own 25-yard line. The team runs a play that gets six (6) yards. Use an equation to calculate the number of feet the ball was moved.

2. Team A punts from their own 47-yard line. The punt travels 46 yards. Then Team B fields the punt and returns the ball eight (8) yards. How many centimeters did the ball move in total?

3. A football field is about 100 meters long. There are 100 centimeters in a meter, and 100 millimeters in a centimeter. How many millimeters are in a football field?

Name: _____

Extra Point vs Two-Point Conversion Success

GRADES 3-5

Paper Football data collection: Put a check mark when you make a shot.

	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10
Field Goal										

Total number of Extra Point kicks made: _____/10

	T1	T2	T3	T4
Field Goal				

Total number of Extra Point kicks made: _____/4

	T1	T2	T3	T4	T5	T6	T7	T8
Field Goal								

Total number of Extra Point kicks made: _____/8

	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
Field Goal												

Total number of Extra Point kicks made: _____/12

Name: _____

Extra Point vs Two-Point Conversion Success

GRADES 3-5

Based on your data collection, write a mathematical expression using greater than or less than symbols.

In 2016, the chances of making any kick attempted at the 15 yard line is $\frac{9}{10}$. There is a second option for PATs, a two-point conversion. The NFL states that the chances of making a two-point conversion is $\frac{5}{10}$. Write a mathematical expression using a greater than or less than symbol that states which is the better option.



Name: _____

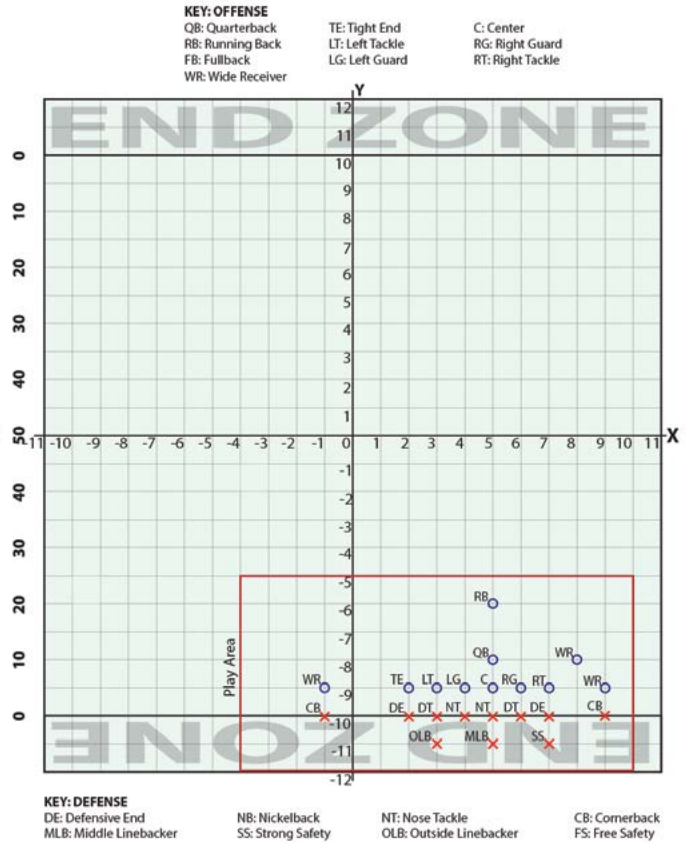
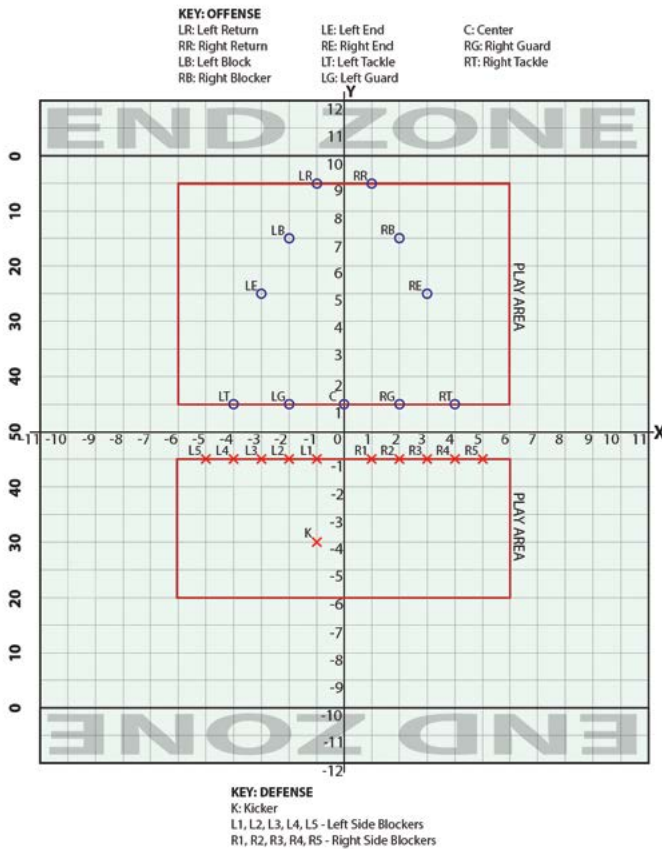
Intricacies of a Football Field

GRADES 3-5

Find the area for the following play areas:

Offense: I-Formation
Defense: 3-4

Offense: Shotgun
Defense: 4-3



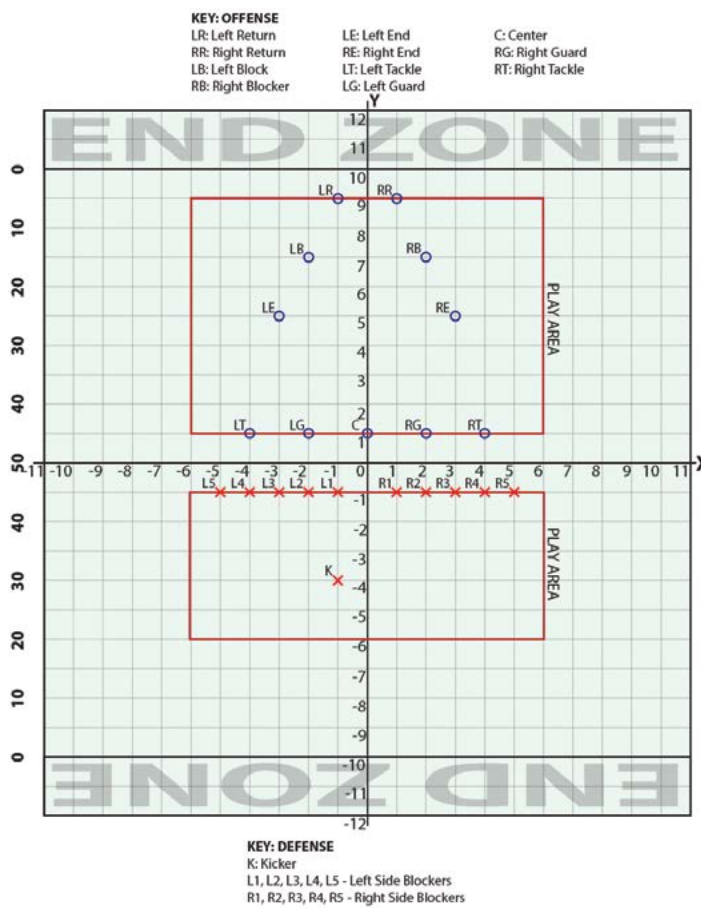
Name: _____

Intricacies of a Football Field

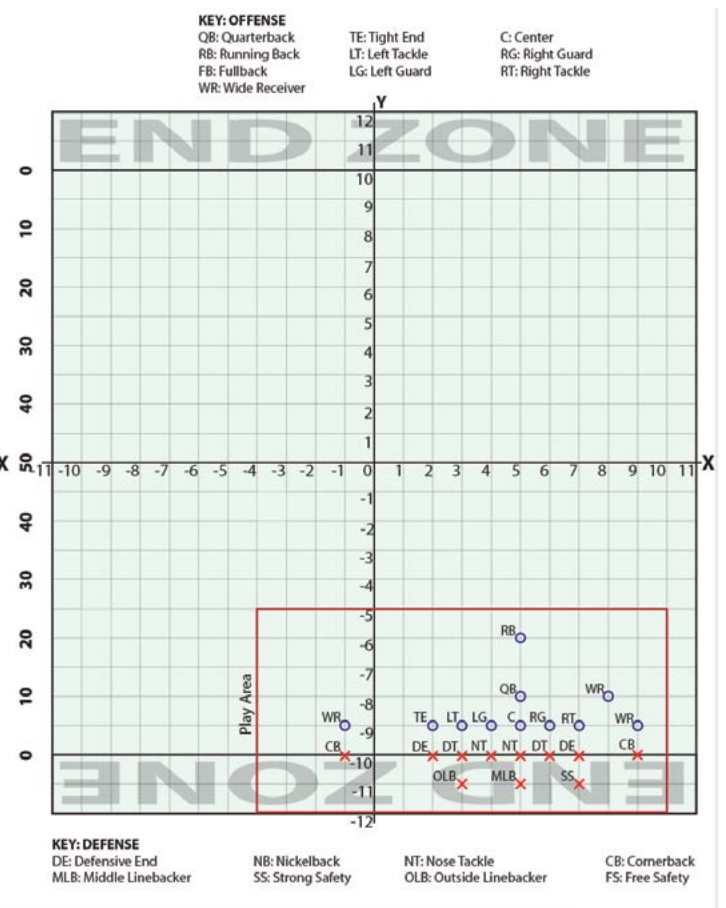
GRADES 3-5

Find the area for the following play areas:

Offense: Kick Return
Defense: Kick-Off



Offense: Singleback
Defense: Goaline



Name: _____

Properties of a Football and Foam Football

GRADES 3-5

Behaviors

	How does it bounce?	How far can you throw it?	How far can you kick it?	Is it easy to catch?	Is it easy to squish?
Foam Football					
Youth Football					

Properties

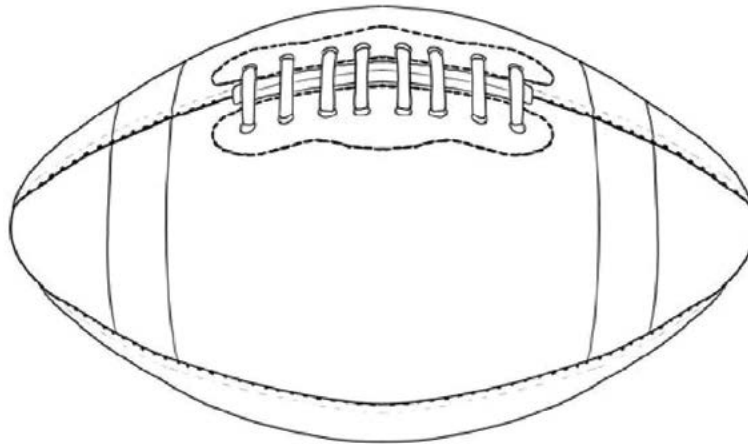
	Color	Shape	Texture	Length, Height and Circumference	Mass	Materials
Foam Football				L-		
				H-		
				C-		
Youth Football				L-		
				H-		
				C-		

Name: _____

Properties of a Football and Foam Football

GRADES 3-5

Draw dotted lines that divide the football into four equal parts. Bounce the ball 10 times. Put an 'X' on the diagram where the ball hits the ground for the regular football and an 'O' on the diagram where the ball hits the ground for the foam football.



Why do the balls behave differently? Use your data tables to give examples.

Where does the ball bounce the most? Explain why?
