

# Super Teams –Individual Project

### Background Knowledge:

Sport and the way our favourite players join our favourite clubs has changed forever. Statistics and data now play a major part in recruiting elite players into teams within the NRL. Sport no longer relies on the word of a recruiter to make a judgement call on what they think of a player's ability and talent. The NRL's player recruitment process now includes vast amounts of data analysis where coaching staff and sports scientists review player statistics collected to an astonishing level. The game has changed!



In this investigation, you are required to select 17 players and build your own 'Super' Rugby League team based on player analysis and statistical data. You will need to research and compare players for your Rugby League side and select the best player from the data available. Throughout this

investigation we will be investigating real world data that the NRL and their clubs have collected.

**You are to focus on the statistics and data.** Don't fall into the trap of selecting your favourite player or team. Statistically they may not be the best choice for your dream team.



## Super Teams –Individual Project

### Investigation Question:

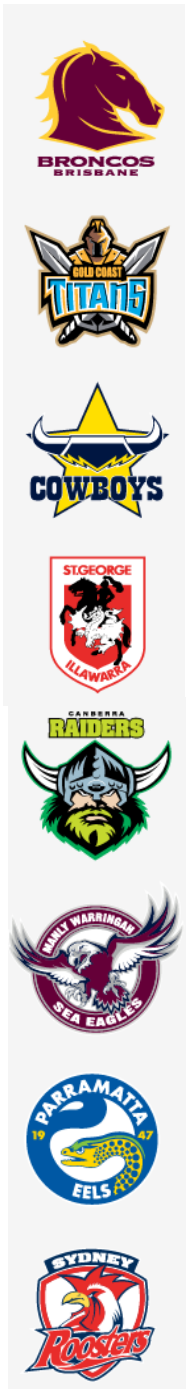
*Can you build a 'Super Team' of Rugby League players whilst only using data and statistics?*

### Task:

- Your major task in this investigation is to create a team of 17 rugby league players from the existing NRL clubs using only data and statistics as the decision-making tool in player selection.
- Players must be selected based on data that is important to the specific position they play in.
- Presentation of the investigation may be delivered via a short video, report, or a PowerPoint. You need to include **comparative graphs from excel, images and text** in your presentation.

### Student Tasks:

- Task 1: Player Comparison Task
- Task 2: Team Selection and Justification task
- Task 3: Presenting Data
- Task 4: Mean, Median, Mode and Range task
- Game explanation Task - Optional
- Positional Explanation Task - Optional
- Student evaluation task



# Task 1:



## Player Comparison

### Task 1:

Compare and rank the top 4 statistically highest athletes for each player position in your 'Dream Team'.

Collect statistical data based on '**Important Statistics**' using websites such as Fox Sports, totalfootystats.com.au as well as NRL's own NRL.com.au.

Using that data, create graphs that show comparison between the two statistically highest players for every position in your team, include physical data as well as player statistical data.

The statistics that you measure as important will change based on the position you are comparing.

Some websites will allow you to select specific statistics, it will then automatically place the players in order. Look for common names between the three important statistics.



### Examples:

When comparing statistics, a **winger's important statistics** would include tries, line breaks, tackle breaks and possibly errors. Scoring tries is a winger's major role in a team so that is a very important statistic.

A **half back's important statistics** would include try assists, line break assists, kick metres and 40/20 kicks. They're role is to help the team score tries so they need high assisting data.



It is very important to understand that every team and player selection depends on what statistic is placed as the most important for each specific position, there is always more than one important measureable statistic.

Does a front rower's total metres statistic rate higher than the tackles made statistic? This is the choice a selector must make!

***This variation in statistical choice is why every team created is likely to be unique.***

*For a complete list of all 'Important position specific statistics' see appendix 2.*

# Task 1: Player Comparison Exemplar



Utilise the NRL's website and all the data collected and the 'important statistics' from task two and compare the top 4 players in each position.

The example below compares Dummy halves and Wingers. Important statistics to a Dummy Half are not the same as those classed as important for a winger.

Dummy Half	Player 1: Cameron Smith	Player 2: Andrew Mccullough	Player 3: Issac Luke	Player 4: Apisai Koroisau
Statistic 1: <b>Tackles</b>	890 – 2nd	874 – 3rd	708 – 4th	952 – 1st
Statistic 2: <b>All Run Metres</b>	1267m – 2nd	823m - 4th	1469m - 1st	1437m – 2nd
Statistic 3: <b>Total kicks</b>	116 – 1st	52 – 2nd	24 – 3rd	7 – 4th
Winger x 2	Player 1:	Player 2:	Player 3:	Player 4:
Statistic 1: <b>Tries</b>	6 – 4th	22 - 2nd	23 - 1st	22 - 2nd
Statistic 2: <b>Line Breaks</b>	10 - 4th	24 - 2nd	20 - 3rd	26 - 1st
Statistic 2: <b>All Runs</b>	348 - 2nd	357 - 1st	334 – 3rd	324 - 4th

Cameron Smith has the strongest statistics amongst all the dummy halves. This is perhaps why he is the Australian side and Captain!

Player two for the wingers stands out as the statistically strongest player, but only just!

Each of the highest rated statistics have been circled in this exemplar. By rating each statistic, the top players become a little easier to spot!

# Task 1:



## Player Comparison

Half Back	Player 1:	Player 2:	Player 3:	Player 4:
Statistic 1:				
Statistic 2:				
Statistic 3:				
5/8	Player 1:	Player 2:	Player 3:	Player 4:
Statistic 1:				
Statistic 2:				
Statistic 2:				

# Task 1:

## Player Comparison



Centres	Player 1:	Player 2:	Player 3:	Player 4:
Statistic 1:				
Statistic 2:				
Statistic 3:				
Fullback	Player 1:	Player 2:	Player 3:	Player 4:
Statistic 1:				
Statistic 2:				
Statistic 2:				

# Task 1:



## Player Comparison

Lock Forward	Player 1:	Player 2:	Player 3:	Player 4:
Statistic 1:				
Statistic 2:				
Statistic 3:				
Front Row Forwards  <i>two required</i>	Player 1:	Player 2:	Player 3:	Player 4:
Statistic 1:				
Statistic 2:				
Statistic 2:				



# Task 1:



## Player Comparison

<b>Second Row Forwards</b> <i>two required</i>	<b>Player 1:</b>	<b>Player 2:</b>	<b>Player 3:</b>	<b>Player 4:</b>
Statistic 1:				
Statistic 2:				
Statistic 3:				

### Selecting a team's reserve:

From the players that were not selected use the data and statistics to consider the selection of 4 more players.

Traditionally the players selected as reserves include 3 players from any of the forwards positions and one player that could fill multiple positions on the field. They are seen as a versatile player.





# Task 2:



## Team Selection

### Task:

Using the statistics from Task 1, select the player that statistically is the best in each position. Ensure your 'Statistical justification' discusses the strengths in data and any possible weaknesses.

The Dummy Half position has already been completed for you.

Position	Player	Statistical Justification
Dummy Half	Cameron Smith	Cameron Smith's statistics are the strongest in the Dummy Half position. He has the best kicking game in the competition at 116 kicks, 64 more than Andrew McCollough. Cameron also features second in the 'All Run metres' at 1267m along with the second highest stats in tackles at 890.
Fullback		
Winger		
Winger		
Centre		

## Task 2:



## Player Selection

Using the statistics from Task 3, select the player that statistically is the best in each position. Ensure your 'Statistical justification' discusses the strengths in data and any possible weaknesses.

Position	Player	Statistical Justification
Centre		
5/8		
Half Back		
Front Row Forward		
Front Row Forward		
Second Row Forward		

## Task 2:



# Player Selection

Using the statistics from Task 3, select the player that statistically is the best in each position. Ensure your 'Statistical justification' discusses the strengths in data and any possible weaknesses.

Position	Player	Statistical Justification
Second Row Forward		
Lock Forward		
Reserve 1:		
Reserve 2:		
Reserve 3:		
Reserve 4:		

# Task 3:



## Presenting Data

### Student Task:

#### Part A: Bar Graph:

Create a bar graph utilising one of the three statistics that you have collated for your four Wingers from 'Task 1'. Present the data representation in a digital form using a graph maker program or excel.

#### Part B: Line Graph:

Create a Line graph utilising the tackle count statistics of your 5/8 from rounds 1 – 15 in the last season. Utilise data on websites such as Fox Sports, FootyStats.com. as well as the NRL's own website. Present the statistics in a digital form using a graph maker program or excel.

#### Part C: Dot Plot:

Create a Dot Plot utilising the tackle count statistics of your Half Back from rounds 1 – 15 in the last season. Utilise data on websites such as Fox Sports, FootyStats.com. as well as the NRL's own website. Present the statistics in a digital form using a graph maker program or excel.

#### Part D: Stem and Leaf Plot:

Create a Stem and Leaf Plot utilising the tackle count statistics of one of your Second Row Forwards from rounds 1 – 15 in the last season. Utilise data on websites such as Fox Sports, FootyStats.com. as well as the NRL's own website. Present the statistics in a digital form using a graph maker program or excel.



## Task 4:



# Player Mean, Median and Mode

### Task:

Using statistical data provided or suggested websites, select a single statistical data field to **calculate mean, median, mode and range** for **5 of your Super Team players** using data from **rounds 1 - 18** of the last season.

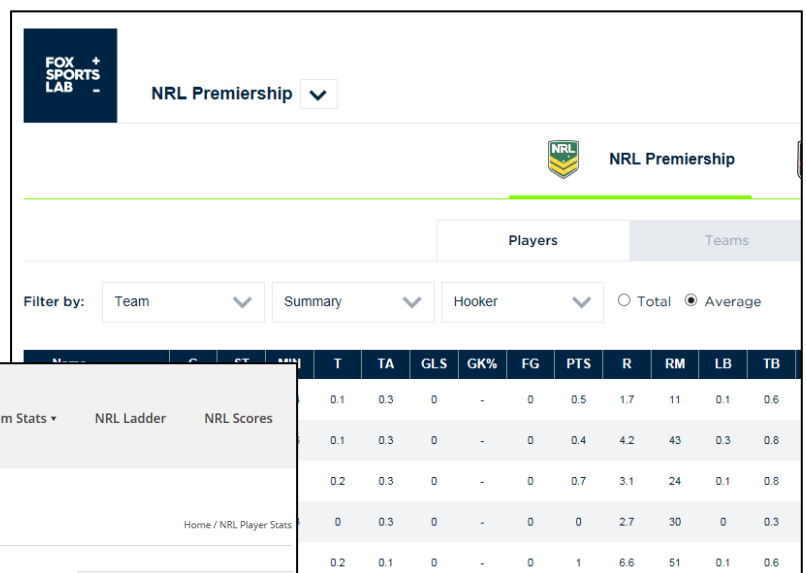
### Background Information:

The NRL and its teams rely on the collection of accurate player data for their training, performance indicators and recruitment decisions. Data is collated by all NRL teams over entire seasons of playing and training.

There are many choices when it comes selecting the statistical field that can be measured. If tackles were chosen, there is a wide range of numbers and plenty of scope for calculations. If total kicks were chosen many players would likely have very few kicks in each game, this may lead to insignificant data. In selecting players for your dream team mean, median and mode can provide invaluable insights into differences in player performance.

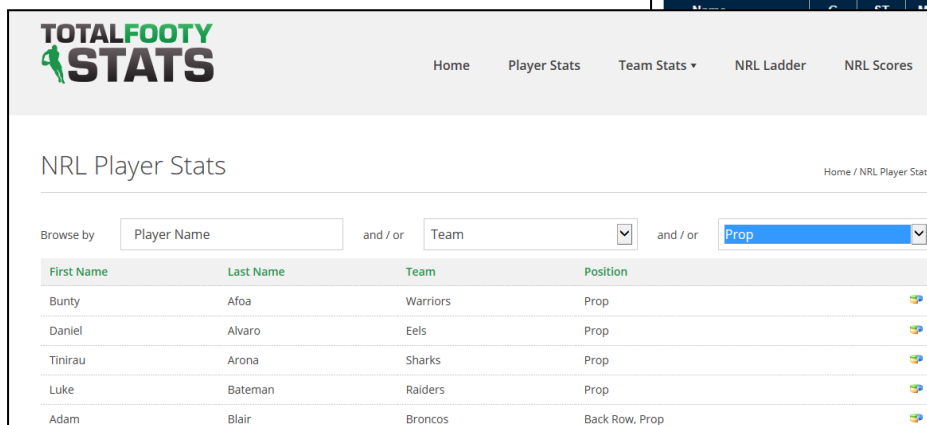
The list below provides some appropriate **statistical data fields** that can be selected from:

- Tackles
- All run metres
- All runs
- Missed Tackles



The screenshot shows the Fox Sports Lab NRL Premiership website. It features a navigation bar with 'FOX SPORTS LAB' and 'NRL Premiership'. Below the navigation bar, there are tabs for 'Players' and 'Teams'. A 'Filter by' section includes dropdown menus for 'Team', 'Summary', and 'Hooker', along with radio buttons for 'Total' and 'Average'. A table of player statistics is displayed, with columns for various metrics including T, TA, GLS, GK%, FG, PTS, R, RM, LB, and TB. The table contains five rows of data.

T	TA	GLS	GK%	FG	PTS	R	RM	LB	TB
0.1	0.3	0	-	0	0.5	1.7	11	0.1	0.6
0.1	0.3	0	-	0	0.4	4.2	43	0.3	0.8
0.2	0.3	0	-	0	0.7	3.1	24	0.1	0.8
0	0.3	0	-	0	0	2.7	30	0	0.3
0.2	0.1	0	-	0	1	6.6	51	0.1	0.6



The screenshot shows the TotalFooty Stats website. It features a navigation bar with 'TOTALFOOTY STATS' and links for 'Home', 'Player Stats', 'Team Stats', 'NRL Ladder', and 'NRL Scores'. Below the navigation bar, there is a section for 'NRL Player Stats'. A 'Browse by' section includes input fields for 'Player Name', 'Team', and 'Prop'. A table of player statistics is displayed, with columns for 'First Name', 'Last Name', 'Team', and 'Position'. The table contains five rows of data.

First Name	Last Name	Team	Position
Bunty	Afoa	Warriors	Prop
Daniel	Alvaro	Eels	Prop
Tinirau	Arora	Sharks	Prop
Luke	Bateman	Raiders	Prop
Adam	Blair	Broncos	Back Row, Prop

# Appendix 1: Rugby League

## Game Description

Rugby League is an international game played by women and men in more than 70 nations.

It is a full contact sport played by two teams of thirteen players on a rectangular grass field. The objective in rugby league is to carry or kick the ball towards the opposing team's goal line where 4 points are scored by grounding the ball; this is called a try. After scoring a try, the team is allowed the chance to try at goal with a conversion – a kick for a further 2 points. The opposing team will attempt to stop the attacking side gaining points by preventing their progress up the field by tackling the player carrying the ball.

Each team will attempt to score more points through tries, goals and field goals (also known as drop goals) than the opposition within the 80 minutes of play.

Tackling is a key component of rugby league play. Only the player holding the football may be tackled. A tackle is completed when that player's progress is halted, or he or she is put to ground. An attacking team gets a maximum of six tackles to progress up the field before possession is changed over.

Ball control is also important in rugby league, as a fumble of the ball on the ground forces a handover, unless the ball is fumbled backwards. The ball can also be turned over by going over the sideline.

Field position is crucial in rugby league, achieved by running with or kicking the ball. Passing in rugby league may only be in a backward or sideways direction.





# Appendix 2:



## Positional Explanations

The positions and characteristics below are only a guide and the game of rugby league is filled with exceptions to these generalised statements. The information below is the widely accepted general physical characteristics and role in a professional Rugby League side.

Position	Positional Numbers	Physical characteristics	Role in Rugby League side	Important Statistics
Fullback	1	These players are usually among the tallest on the field. Most players are under 95kg as they do a lot of running	Defensively they are the last line of defence. Utilised for returning oppositions kicks in general play. In attack, displays a good passing ability and speed. Covers all areas of the field as support player.	<ul style="list-style-type: none"><li>• Tries</li><li>• Tackle Breaks</li><li>• Kick Return Metres</li></ul>
Wingers	2,5	These players are usually among the tallest on the field. Weights vary in this position.	On the field, the wingers are the players closest to either sideline. They assist the fullback with kick return, possess speed and an ability to finish attacking plays with speed and agility.	<ul style="list-style-type: none"><li>• Tries</li><li>• Tackle Breaks</li><li>• Errors</li></ul>
Centres	3,4	These players are very strong and are solid in build. Players in this position are tall or average in height.	Centres have good footwork, are relatively quick and as they are positioned inside the wingers can offload passes to finish off attacking plays.	<ul style="list-style-type: none"><li>• Tries</li><li>• Dummy Half Runs</li><li>• All Run Metres</li></ul>
Half back	7	These players are a solid in build. Players in this position are amongst the shortest on the field.	Half backs are responsible for the overall organisation and creativity element of the team. They have good ball skills, passing ability and footwork.	<ul style="list-style-type: none"><li>• Try Assists</li><li>• Line break Assists</li><li>• Kick Metres</li></ul>
5/8	6	These players are athletic in build. Players in this position are varied in height but are usually taller than the half back.	They complement the half backs organisation and creativity but offer another option with a slightly higher expectation to run the ball as opposed to passing.	<ul style="list-style-type: none"><li>• Try Assists</li><li>• Line Break Assists</li><li>• Line Breaks</li></ul>

# Appendix 2:



## Positional Explanations

Position	Positional Numbers	Physical characteristics	Role in Rugby League side	Important Statistics
Dummy Half	9	These players are strong and solid in build. Players in this position are amongst the shortest on the field.	Another organiser in the team, predominantly instructs the forward pack. Plays large minutes. Defensively required to make many tackles within the middle of the field.	<ul style="list-style-type: none"> <li>Tackles</li> <li>Missed Tackles</li> <li>Dummy Half Runs</li> </ul>
Lock Forward	13	These players are mobile and solid. They are varied in height. Most athletic forward.	Locks are solid defenders and partner the hooker and props in defending the middle third of the field. They usually possess the skill to offload, bust tackles and make metres for the team. Usually more mobile than most forwards.	<ul style="list-style-type: none"> <li>Tackles</li> <li>Offloads</li> <li>All Run Metres</li> </ul>
2 <sup>nd</sup> Row Forward	11,12	These players are tall. Heavier than most players.	Second rows are positioned four in from either sideline. They are good at running lines and isolating the smaller edge defenders. They get through many tackles in a game. Play many minutes each game.	<ul style="list-style-type: none"> <li>Tackles</li> <li>Tackle Breaks</li> <li>All Run Metres</li> </ul>
Front Row Forward (Prop)	8,10	Heights can vary but generally tall. Are the heaviest on field.	Situated in the middle third of the field, props are required to carry the ball on several occasions with a lot of them being from their own end of the field. Defending in the middle, they need to make many tackles throughout the match.	<ul style="list-style-type: none"> <li>Hit Ups</li> <li>All Run Metres</li> <li>Tackles</li> </ul>
Utility Reserve	17	Athletic build	Required to be versatile and potentially replace any position if injuries occur.	
Forward Reserves	14,15,16	Heights can vary but generally tall. Are the amongst the heaviest on field.	Most frequently used to replace props and second rowers.	

# Optional Task 5:



## Rugby League Description

### Task:

- Write a brief explanation and summary of how the game is played under the headings below:
- When writing this, consider that your audience may have no experience with the game of Rugby League

**Who plays Rugby League?**

**What is the objective of teams when playing Rugby League?**

**How does point scoring work?**

**Why is tackling a key component of the game?**

**Why is ball control important?**

**How does field position benefit teams?**

# Optional Task 6:



## Positional Explanation

### Task:

Create an explanation of each player's responsibilities when playing in their specific position as part of the Rugby League team.

**Example:** Rugby League – Front row forward:

*Forwards are generally chosen for their size and strength. They are expected to run with the ball and attack, and to make many tackles. Forwards are often required to do a lot of hard work such as making space in defensive lines for the backs and gaining meters in field position. There are two prop forwards, numbered 8 and 10 who pack in to the front row of the scrum on either side of the dummy half. The props are often the two heaviest players on a team.*

- Positions required:
  - *Wingers – two required*
  - *Centres – two required*
  - *Halfback*
  - *5/8 – one of each required*
  - *Dummy Half – one required*
  - *Full back – one required*
  - *Lock Forward – one required*
  - *Second Row Forward – forward – two required*
  - *Front Row Forward – two required*
  - *Reserves bench should include 3 extra forwards and one player who can play in many positions including the backs – four required in total*



## Optional Task 6:

### Positional Explanation

The positions and characteristics below are only a guide and the game of rugby league is filled with exceptions to these generalised statements. The information below is the widely accepted general physical characteristics and role in a professional Rugby League side.

Position	Positional Numbers	Physical characteristics	Role in Rugby League side	Important Statistics
Fullback	1	These players are usually among the tallest on the field. Most players are under 95kg as they do a lot of running		
Wingers	2,5	These players are usually among the tallest on the field. Weights vary in this position.		
Centres	3,4	These players are very strong and are solid in build. Players in this position are tall or average in height.		
Half back	7	These players are a solid in build. Players in this position are amongst the shortest on the field.		

# Optional Task 6:



## Positional Explanation

Position	Positional Numbers	Physical characteristics	Role in Rugby League side	Important Statistics
5/8	6	These players are athletic in build. Players in this position are varied in height but are usually taller than the half back.		
Dummy Half	9	These players are strong and solid in build. Players in this position are amongst the shortest on the field.		
Lock Forward	13	These players are mobile and solid. They are varied in height. Most athletic forward.		
Second Row Forward	11,12	These players are tall. Heavier than most players.		
Front Row Forward	8,10	Heights can vary but generally tall. Are the heaviest on field.		
Utility Reserve	17	Athletic build		
Forward Reserves	14,15,16	Heights can vary but generally tall. Are the amongst the heaviest on field.		





## Student Evaluation Form

Name \_\_\_\_\_

My successes during this investigation were ...

Things that I need to improve on next time include....

The most important things that I learned during the project were...

I feel that investigating data using sport **was/was not** beneficial to my learning because...

Using real world data and statistics helped my learning by....