Year 9 Maths Investigation

Creating your own Fantasy League Team–Individual Project

Background Knowledge:

NRL Fantasy Rugby League is a game in which the participants serve as the manager, selector and coach of virtual professional Rugby League teams. The competitors choose their team rosters before the season starts and stick to a strict 9.4-million-dollar salary cap.

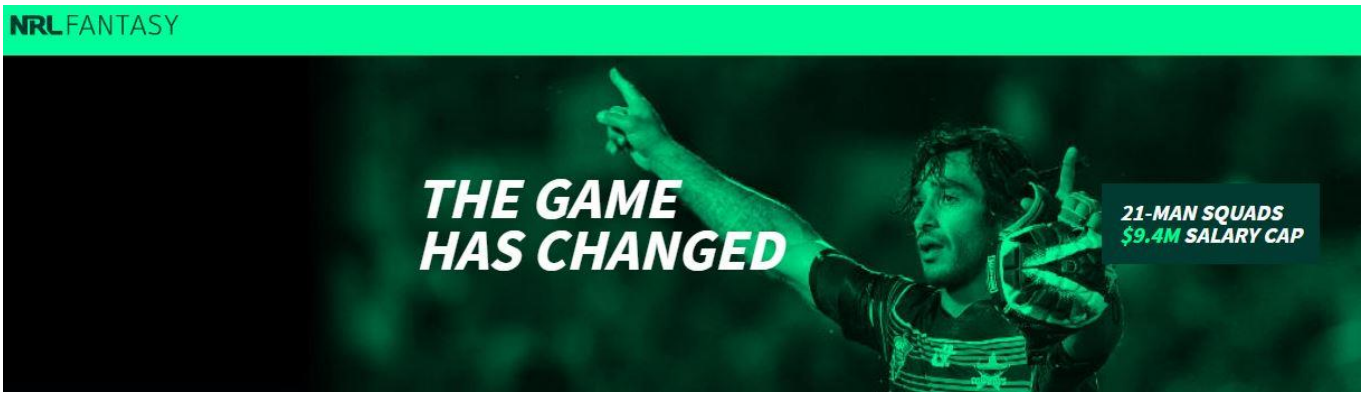
If you're new to Fantasy, the concept is simple: pick a squad of real NRL players, staying under the $9.4 million salary cap, and score points each round of the NRL season based on how your players perform in real life. One of your wingers scores a try? That's eight points. A forward makes 30 tackles? That's 30 points.

Data and statistics drive Fantasy League teams, worldwide this is known as the study of analytics. Analysis of analytics is key to creating a successful team.

Your knowledge of data and statistics will provide you with an advantage over other Fantasy League managers. This is where you get to test the theory of analytics verses personal choice within a specified budget called a salary cap.

Recruitment would be easier if we could select all the superstars of the NRL and disregard salary caps payments but this is not the case in professional sports. Teams only have a certain amount of money they can spend each season and must be strategic with player selections. *Can you select a team that will increase in value more than your peers?*

Teams throughout the world of professional sports are becoming increasingly reliant on analytics to shape decisions within the teams. Professional sports employ sports scientists, mathematicians, and computer analysts in attempts to gain an edge over their opposition. Analytics in sports is amongst the biggest growth trends across the world of professional sports. Clubs are battling to recruit the best analysists of games and player performances.



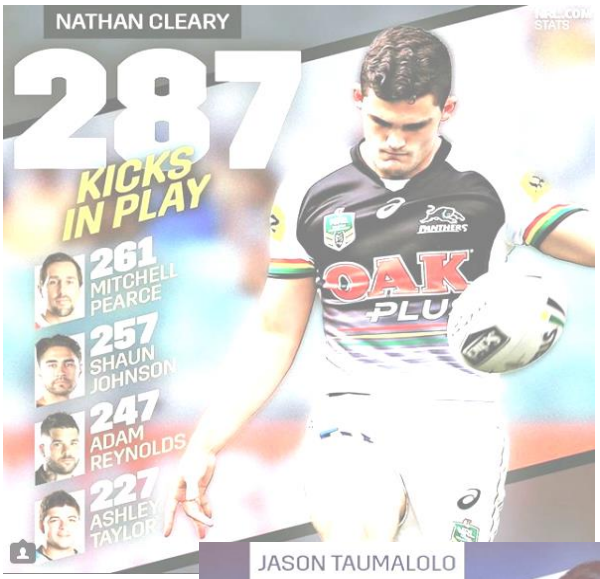
Year 9 Maths Investigation

Creating your own Fantasy League Team

Investigation:

Create a squad of 21 Rugby League Players ensuring you stay within a 9.4-million-dollar salary cap. Data and statistics must be your only decision-making tool in player selection.

- Players must be selected based on data that is important to the specific position they play in.
- Your task is to evaluate each player's important statistics and value to the team.
- You need to manage a budget called the player Salary Cap. Selecting the statistically strongest player in each position will exceed the budget, balancing the team is key.



Tasks include:

- ☐ Task 1: Player Box and Whisker plot
- ☐ Task 2: Player Comparison task; Part A and B
- ☐ Task 3: Team Selection and Justification task
- ☐ Task 4: Mean verses Yearly Totals
- ☐ Task 5: Back-To-Back Stem and Leaf Plots
- ☐ Student evaluation task

Task 1:

Player Comparison

Task 1:

Sort all NRL players according to their player position and place them within the Box and Whisker plot using their individual player salary as the measure.

Instructional Guide:

This 'Box and Whisker plot' will sort all player salaries into four quartiles as well as identifying possible outliers according to their position they play on their team. Players will then be matched to their salary and placed into the four quartile or outlier groups.

Steps:

1. Arrange all NRL players into player position lists
2. Create a 'Box and Whisker plot' for each position according to the salaries of players
3. Arrange all players into sub-set lists according to quartiles and outliers

Some players might feature on more than one positional 'Box and Whisker plot' as they have the ability to play several different positions in a Rugby League side. *Michael Morgan is such as player with his ability to play both Half Back and 5/8.*

For each of the 13 positions in a Rugby League side a 'Box and Whisker plot' is required to be completed. However, there are, a few positions in a Rugby League side where there two players sharing the same position. When completing the data 'Box and Whisker plot' for the two wingers, centres, second-row forwards and front-row forwards (props), the one plot will provide all the player information you require for all 13 spots in a team.

The double up of players positions results in the need for only 9 Box and Whisker plots to be completed.

1. Full backs
2. Wingers
3. Centres
4. 5/8s
5. Half Backs
6. Dummy Halves (Hookers)
7. Lock Forwards
8. Second-Row Forwards
9. Front-Row Forwards

How Is Player Value Calculated?

A player's initial price is based upon their scores from the previous year along with numerous other factors. Exact details regarding how player prices change from there on, other than to say that player prices are based on past performances with most recent games having the largest influence on the value. Player's prices will change once a week every week after the completion of the Round 1 of the regular season. The better their score each round, the more their player value increases. Equally, if they do not score well, a player's value can go down.

Task 2:

Player Comparison

Task 2; Part A:

Using the lists from Task One, select the statistically strongest player from each quartile for each of the 13 on-field positions and place into the 'player comparison table'. Compile the 4 player's important statistics from each position for comparison.

Unlike Task One, a separate 'player comparison table' needs to be completed for each and every position. That includes the positions where there are two in the team. This will require two tables for the same positions and the use of 8 players in the two tables. Different players will need to be selected for each table resulting in two players from each quartile being compared in separate tables.

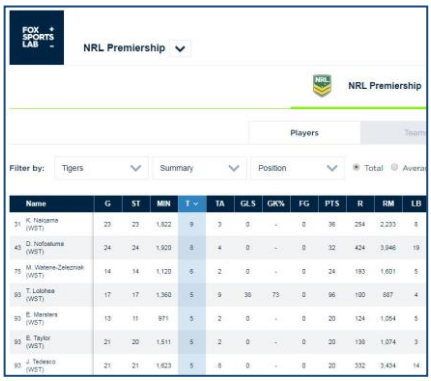
Each player needs to have a price assigned to them for later reference.

Collect numerical data using a variety of secondary sources such as websites or excel documents.

The statistics that you measure players against will change based on the position you are comparing. Remember, if you ***focus on the four key statistics –tackles, run metres, kick metres and tackle breaks*** – you should have a strong idea of which players tend to excel in Fantasy.

Example:

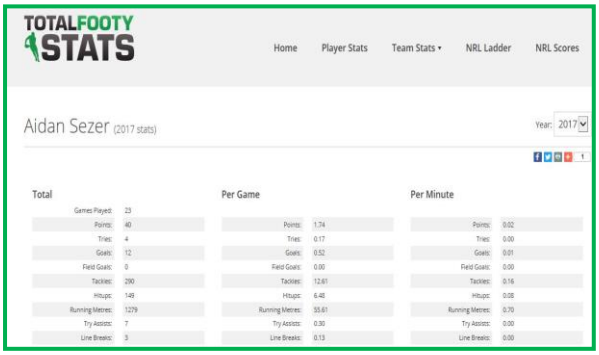
When comparing statistics, a winger's **'important statistics'** would include run metres, line breaks, tackle breaks and possibly errors. Long runs returning the ball from kicks are one of a winger's role in a team, therefore, run metres remain crucial to this position.



A half back's **'important statistics'** would include kick metres, run metres and tackles. They're role is to help the team gain field position and kicking is an easy way to do that. Some half backs have very high running metres as well.

Each player selection will depend on what statistic is placed as the most important for each specific position, there is always more than one measureable statistic.

Does a front Rower Forward's total metres statistic, rate higher than their tackles 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 2: Player Comparison Instructional Guide:

Task 2; Part B:

Using the statistics of each player in the 'Player Comparison table' calculate the 'Fantasy League' points they averaged for last season based on the three statistics selected.

The calculation of the 'Fantasy League' points will be a very good point of comparison when looking at players from different quartiles of player salary. The calculation process utilises the points scale from 'Appendix 2; NRL Fantasy Cheat Sheet'. Some calculations are easy such as one point per tackle, other such as run metres reward one point per 10m run, requiring more in depth calculation.

Being able to work out each player's average 'Fantasy League Points' from last season on the three specific statistics you chose make justification of selection easier in later tasks. It also gives a good comparison when looking at spending verses performance.

The example below compares averages of Dummy halves (hooker) from a previous season.

Dummy Half	**Player 1 Name:**	**Player 2 Name:**	**Player 3 Name:**	**Player 4 Name:**
Price	$850 000	$720 000	$460 000	$460 000
Statistic 1: **Tackles**	35.6 – 2nd	39.12 –1st	19.3- 4th	33.16 – 3rd
Statistic 2: **Run Metres**	50.68m – 2nd	32.92m - 4th	52.48m - 1st	43.92m – 3rd
Statistic 3: **Kick Metres**	207m - 1st	131m – 3rd	47m - 4th	108m – 2nd
Fantasy League Points:	36 + (51 ÷10) +(207 ÷20) = 36 + 5.1 + 10 = 51.1 Player 1 earnt at least 51.1 mean points per game	39 + (33÷10) + (131÷20) = 39 + 3.3 + 6 = 48.3 Player 2 earnt at least 48.3 mean points per game	19 + (52÷10) + (47÷20) = 19 + 5.2 + 2= 38.2 Player 3 earnt at least 26.2 mean points per game	33 + (44÷10) + (108÷20) = 33 + 4.4 + 5= 45.4 Player 3 earnt at least 42.4 mean points per game

Player 2 averages 39.12 tackles per game providing 39 points to his total as each tackle is worth one point.

On Player Two's second statistic, he averages 39.12 metres per game. Run metres are calculated by awarding one point per 10 m they run. Once calculated, this player is awarded 3 points as scores are always rounded down to 30 ÷10 = 3.

On the kick metres, 1 point is awarded for every 20 metres kicked. With 131m of kicking distance, player two would be awarded a score of 6 points as it rounds down to 120 ÷ 20.

Task 2:

Player Comparison

Student Task: Using the lists from Task One, select the statistically strongest player from each quartile for each of the 13 on-field positions and place into the 'player comparison table'. Compile the 4 player's important statistics from each position for comparison.

The last row is to be utilised to calculate the Fantasy League points for the year.

Half Back	**Player 1:**	**Player 2:**	**Player 3:**	**Player 4:**
Price:				
Statistic 1:				
Statistic 2:				
Statistic 3:				
Fantasy League Points:				
5/8	**Player 1:**	**Player 2:**	**Player 3:**	**Player 4:**
Price:				
Statistic 1:				
Statistic 2:				
Statistic 2:				
Fantasy League Points:				

Task 2:

Player Comparison

Utilise the NRL's excel document and own website, Total Footy Stats, Fox Sports and any other useful website to locate data collected and the 'important statistics' to compare 4 players in each position.

Winger 1:	**Player 1:**	**Player 2:**	**Player 3:**	**Player 4:**
Price:				
Statistic 1:				
Statistic 2:				
Statistic 3:				
Fantasy League Points:				
Wingers 2:	**Player 1:**	**Player 2:**	**Player 3:**	**Player 4:**
Price:				
Statistic 1:				
Statistic 2:				
Statistic 2:				
Fantasy League Points:				

Task 2:

Player Comparison

Utilise the NRL's excel document and own website, Total Footy Stats, Fox Sports and any other useful website to locate data collected and the 'important statistics' to compare 4 players in each position

Centre 1:	**Player 1:**	**Player 2:**	**Player 3:**	**Player 4:**
Price:				
Statistic 1:				
Statistic 2:				
Statistic 3:				
Fantasy League Points:				
Centre 2:	**Player 1:**	**Player 2:**	**Player 3:**	**Player 4:**
Price:				
Statistic 1:				
Statistic 2:				
Statistic 2:				
Fantasy League Points:				

Task 2:

Player Comparison

Utilise the NRL's excel document and own website, Total Footy Stats, Fox Sports and any other useful website to locate data collected and the 'important statistics' to compare 4 players in each position.

Fullback	**Player 1:**	**Player 2:**	**Player 3:**	**Player 4:**
Price:				
Statistic 1:				
Statistic 2:				
Statistic 3:				
Fantasy League Points:				
Lock Forward	**Player 1:**	**Player 2:**	**Player 3:**	**Player 4:**
Price:				
Statistic 1:				
Statistic 2:				
Statistic 2:				
Fantasy League Points:				

Task 2:

Player Comparison

Utilise the NRL's excel document and own website, Total Footy Stats, Fox Sports and any other useful website to locate data collected and the 'important statistics' to compare 4 players in each position.

Second Row Forward 1:	**Player 1:**	**Player 2:**	**Player 3:**	**Player 4:**
Price:				
Statistic 1:				
Statistic 2:				
Statistic 3:				
Fantasy League Points:				
Second Row Forward 2:	**Player 1:**	**Player 2:**	**Player 3:**	**Player 4:**
Price:				
Statistic 1:				
Statistic 2:				
Statistic 3:				
Fantasy League Points:				

Task 2:

Player Comparison

Utilise the NRL's excel document and own website, Total Footy Stats, Fox Sports and any other useful website to locate data collected and the 'important statistics' to compare 4 players in each position.

Front Row Forward 1:	**Player 1:**	**Player 2:**	**Player 3:**	**Player 4:**
Price:				
Statistic 1:				
Statistic 2:				
Statistic 3:				
Fantasy League Points:				
Front Row Forward 2:	**Player 1:**	**Player 2:**	**Player 3:**	**Player 4:**
Price:				
Statistic 1:				
Statistic 2:				
Statistic 3:				
Fantasy League Points:				

Task 2:

Player Comparison

Utilise the NRL's excel document and own website, Total Footy Stats, Fox Sports and any other useful website to locate data collected and the 'important statistics' to compare 4 players in each position.

Dummy Half	**Player 1:**	**Player 2:**	**Player 3:**	**Player 4:**
Price:				
Statistic 1:				
Statistic 2:				
Statistic 3:				
Fantasy League Points:				

What statistics were not considered as important? When it comes time to select your team, it could be beneficial to check some other statistics like goal kicking, tries or even errors? Do they give away a heap of penalties?

This becomes especially important when two players are very close in their statistics. The other reason for looking into alternate statistics is when a player's price is low and you want to ensure they will score points for your 'Fantasy Team'.

Task 3:

Team Selection

Student Task: Utilise statistics from Task 1 and 2 to select your Fantasy League team based on statistical information and player price. You cannot spend more than the 9.4-million-dollar salary cap.

When you start to look at which players to select in your 'Fantasy League team' statistics make selections simple. It becomes complicated when you have a budget on player spending. Will you buy a few really big scorers or 21 average players? Your 'Box and Whisker Plot' task should provide some alternative choices.

Selecting your 21-man squad:

From the 'Player Comparison' task, use the statistics and fantasy points to consider the selection of the entire squad. For the first 13 players you need to stick to thirteen on-field positions, the remaining players should be selected from a variety of positions based on last year's 'Fantasy League Points' and your remaining salary cap.

The NRL website has a fantasy guide on all the teams for this year. It outlines the Fantasy Gun (big scorer), Value Buy (cheap but good player) and a Wildcard player (a player with potential but previously poor stats). Whilst this is a helpful tool and can help identify potential players to investigate, your task is to analyse the statistics. If their statistics do not add up, it is best to leave them out of your squad.

There is no exact formula for picking the perfect balance between costs of players and their 'Fantasy League Points' scoring ability. It is up to you to pick a team based on statistics and price.

Remember, you do not get any change back for not using your whole 9.4-million-dollar player salary cap.

Student Task:

	Position	Player	Price	Justification
1	Full Back			
2	Wing			
3	Centre			

Task 3:

Team Selection

Using the statistics from Task 1, select players that are statistically better selections and fit within your salary cap. Ensure your 'Justification' discusses the strengths in data and any possible weaknesses.

	Position	Player	Price	Justification
4	Centre			
5	Wing			
6	5/8			
7	Half Back			
8	Front Row Forward			
9	Dummy Half			

Task 3:

Team Selection

Using the statistics from Task 1, select players that are statistically better selections and fit within your salary cap. Ensure your 'Justification' discusses the strengths in data and any possible weaknesses.

	Position	Player	Price	Justification
10	Front Row Forward			
11	Second Row Forward			
12	Second Row Forward			
13	Lock Forward			
14				
15				

Task 3:

Team Selection

Using the statistics from Task 1, select players that are statistically better selections and fit within your salary cap. Ensure your 'Justification' discusses the strengths in data and any possible weaknesses.

	Position	Player	Price	Justification
16				
17				
18				
19				
20				
21				
Total Salary Cap:				

Task 4: Mean Verses Yearly Totals

The statistics you have gathered throughout earlier tasks are based on means (averages). If your team was selected using **totals** from last year's season, would your selections be affected?

Consider this, if a player returned from a bad injury with only 10 games left in the season, how would you compare his statistics compared to a player who was available all year??

Student Task:

Write a statement that justifies why 'mean' is a fairer statistical figure to use rather than season 'totals' when comparing player fantasy league performance.

The table below is created using season totals unlike Task 1 that utilised the mean of all games from last season. Complete the 'mean' points per game and then utilise the figures in the table below in your justification.

Dummy Half	**Player 1 :**	**Player 2:**	**Player 3:**	**Player 4:**
Price	**$850 000**	**$798 000**	**$660 000**	**$805 000**
Games Played	**22**	**23**	**17**	**24**
Statistic 1: **Tackles**	890	978	777	829
Statistic 2: **Run Metres**	1267m	823m	1312m	1098m
Statistic 3: **Kick Metres**	207m	131m	47	178
Fantasy League Points:	890 + (1267 ÷10) +(207 ÷20) = 890 + 126 + 10 = 1026 Player 1 earnt at least 1026 points for the season	978 + (823÷10) + (131÷20) = 978 + 82 + 6 = 1066 Player 2 earnt at least 1066 points for the season	777 + (1312÷10) + (47÷20) = 777+131+2= 910 Player 3 earnt at least 910 points for the season	829 + (1098÷10) + (178÷20) = 829+109+8= 946 Player 3 earnt at least 910 points for the season
Mean points per game				

Task 5: Back-to-Back Stem-and-Leaf Plot

Part A: Complete two Back-To-Back Stem-and Leaf-plots utilising one categorical variable from Task One and two players from a single position for each plot.

Each stem-and-leaf plot should isolate only one statistic and plot data from each of the 25 rounds from last year's NRL season. Two players from the same position will have their data on a chosen statistic compared in each of the two plots.

Part B: Construct a statement for each Back-To-Back Stem-and-Leaf plot examining the shape of the distribution of data.

Utilise terms such as 'positive skew', 'negative skew' and 'symmetric' and 'bi-modal'.
Each stem and leaf plot should isolate only one statistic and plot data from each of the 25 rounds from last year's NRL season.

Example of standard stem-and-leaf plot:

Round	Team	TK
1	Cowboys	15
2	Cowboys	22
3	Cowboys	19
4	Cowboys	21
5	Cowboys	20
6	Cowboys	18
7	Cowboys	20
8	Cowboys	15
9	Cowboys	17
10	Cowboys	23
11	Cowboys	24
13	Cowboys	12
14	Cowboys	24
15	Cowboys	25
16	Cowboys	21
17	Cowboys	12
19	Cowboys	17
20	Cowboys	15
21	Cowboys	19
22	Cowboys	17
23	Cowboys	20
24	Cowboys	18
25	Cowboys	18

Analysis Statement:

This table displays a Cowboy's player data collected from games last year. This statistic can be placed into a single Stem-and-Leaf plot but shows no comparison can be established. To create a comparison a Back-To-Back Stem-and-Leaf plot with another player's data is needed.

Statistics for each round can be found on various websites such as Totalfootystats.com

Appendix 1: NRL Fantasy Cheat Sheet

How to play NRL Fantasy: the basics

Cameron Smith or Jason Taumalolo? Shaun Johnson or Nathan Cleary? Andrew Fifita or Sam Burgess?

These are the tough questions you face as an NRL Fantasy coach.

At its core, the idea behind NRL Fantasy is simple. Pick a squad of current NRL players, and if they perform on the field your team wins in Fantasy. Players receive points for various stats during a game – one point for a tackle, eight points for a try, etc

So how do you get started?

The first hurdle you face is fitting a 21-man squad under the new $9.4 million salary cap. Player prices have risen from last year to match the increased cap so the game's best players won't come cheap.

So which players should you pick?

The most obvious starting point is to pick players who will be playing as many minutes as possible. Most cheap players in Fantasy are cheap for a reason – they may be bench specialists or fringe players – so try to snap up the bargains who are likely to play decent minutes next season, either because they've switched clubs or are likely to be promoted to the starting line-up. (Don't worry if you're stuck here, the NRL Fantasy league guides about all 16 clubs should help you out, plus more tips on NRL.com right up until the start of the season.)

The other thing to consider is that not all good NRL players are good Fantasy players. NRL Fantasy's scoring system rewards players who make a lot of tackles, or a lot of run metres, or are dominant ball-runners, but they don't reward hard-to-measure things like good defensive reads or positional play. So, think busy defenders like Cameron Smith, dominant playmakers like Mitchell Pearce or Shaun Johnson, and tackle-busting ball-runners like James Tedesco and Jason Taumalolo.

Try not to be over-awed by all the factors in the scoring system: if you ***focus on the four key statistics – tackles, run metres, kick metres and tackle breaks*** – you should have a strong idea on which players tend to excel in Fantasy.

There's no restriction on how many players from a single NRL club can be in your Fantasy side, this is a game based on data and statistics and not your favourite team – loyalty doesn't get you any points in Fantasy.

Appendix 2: NRL Fantasy Cheat Sheet

Do I need to be a footy expert to play?

No! Obviously watching the footy over the weekend doesn't hurt, but there are a lot of ways to keep up to date with the latest NRL Fantasy-relevant info. Analytics (statistics) provides all the evidence you need. Some of the best sports analysts around the world have little to no experience or knowledge of the game they are working within. Knowledge of statistics and data is the starting point for any team list, identifying strengths in players considered a cheap price is the key to success. *Will you pick the next Fantasy Football superstar?*

NRL Fantasy scoring system

Try: 8 points

Try assist: 5 points

Line break: 4 points

Line-break assist: 2 points

Tackle break: 3 points

Forced drop-out: 2 points

Goal: 2 points

Offload: 2 points

Tackle: 1 point

Kick defused: 1 point

Run metres: 1 point for every 10 metres

Kick metres: 1 point for every 20 metres

Field goal: 5 points

Try save: 5 points

40/20 kick: 4 points

Missed tackle: -2 points

Error: -2 points

Penalty conceded: -2 points

Sin bin: -5 points

HTTP://fantasy.nrl.com/help/guidelines

Appendix 3: Rugby League Game Description

Rugby League is an international game played by men and women in more than 70 nations. The National Rugby League competition is made up of 16 teams based in Australia and New Zealand. There are various representative games based both here and internationally every year.

Rugby League is a full contact sport played by two teams of 17 (13 on field and 4 reserves) 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 kick a 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 of 17 players 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.

A player with the ball must ensure that when they pass the ball it travels backwards. Team mates then attempt catch it without fumbling it and then it is their turn to attempt to gain field position. Passing the ball allows the team to avoid being tackled with the ball and halting their forward momentum.

To ensure that both teams follow the rules, a referee follows the play and ensures the rules are enforced. A penalty results in the opposition receiving the ball in better field position or alternatively they can kick for goal to earn 2 points.

The winner of this game is the team that has the most points at the end of the 80 minutes.

Appendix 4:

Positional Explanation

When selecting players for a Rugby League team it is important to understand the importance of all positions and what each player is responsible for.

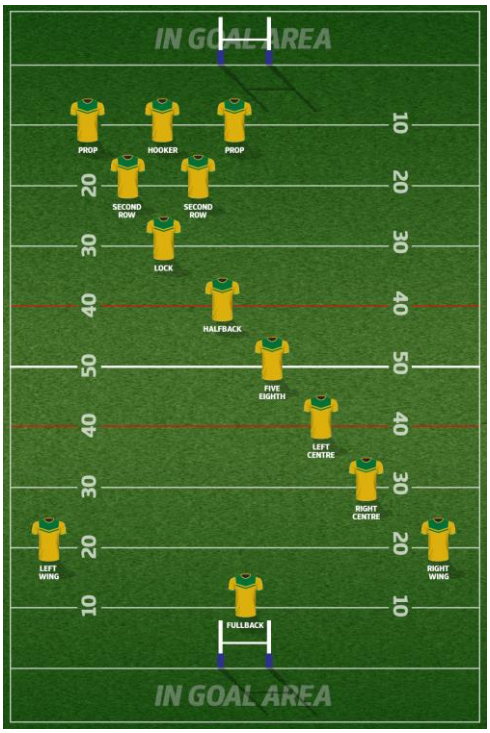
Forwards are considered a team's go forward and are responsible for working the ball forward and getting through the bulk of tackling so you should expect to see high tackle counts and run metres. Forward positions include the dummy half, front row forwards (prop), second row forwards, lock forwards and often make up most of the 4 reserve spots on the bench.

The backs are considered a Rugby League team's speedsters and try scorers. Positions of the backs include the fullback, wingers, and centres. They often chase down and return the kicks. They do not have the highest runs or tackle statistics as they position themselves at the edge of the field.

If forwards are the engine room and the backs are the speedsters, then the halves are the play makers, in play kickers and leaders on the field. Their task is to steer the team around the park and set up the other players so they can perform their roles. The 5/8 and halfback are generally responsible for all kicking duties.

Positions required:

- *Wingers – two required*
- *Centres – two required*
- *Halfback and 5/8 – one of each required*
- *Dummy Half – one required*
- *Full back –one required*
- *Lock – forward – one required*
- *Second rowers – forward – two required*
- *Prop forwards – two required*
- *Reserves bench generally include 3 extra forwards and utility player.*



When it comes to 'Fantasy League' the important data that clubs and the game value do not necessarily correspond. The point system reward specific statistical data, focussing on the four key statistics – tackles, run metres, tackle breaks and kick metres is an ideal starting point. Certain positions are not necessarily strong in all four areas so it is worth considering the alternatives including negative scoring statistics. Some players have very high penalty counts or error rates which could really affect their weekly score as a Fantasy League player in your team. Selecting a goal kicker can really be beneficial as well as they are awarded extra points for that skill.

Appendix 4:

Positional Explanations

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.	• Run metres • Tackles • Tackle Breaks
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.	• Run Metres • Tackle Breaks • Tries
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.	• Run metres • Tackles • Tackle breaks
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.	• Kick metres • Run metres • Tackles
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 expectancy to run the ball and create opportunities whilst on the move.	• Run metres • Kick metres • Tackles

Appendix 4:

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.	• Tackles • Run Metres • Kick Metres
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.	• Tackles • Run Metres • Tackle breaks
2nd 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.	• Run Metres • Tackles • Tackle Breaks
Prop Forward	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.	• Run Metres • Tackles • Tackle Breaks

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….