

LEARNING ACTIVITY 22

Footy Data – Using the Data



YEAR LEVEL:
9 and 10

LEARNING AREA:
Mathematics

STRAND:
Statistics and Probability

Learning Focus

Students learn how to collect, analyse, interpret and communicate data through a range of football related activities.

Sequence of Content

Year 9 and 10 students:

- Identify everyday questions and issues involving at least one numerical and at least one categorical variable, and collect data directly and from secondary sources (**ACMSP228**)
- Compare data displays using mean, median and range to describe and interpret numerical data sets in terms of location (centre) and spread (**ACMSP283**)
- Construct and interpret box plots and use them to compare data sets (**ACMSP249**)
- Use scatter plots to investigate and comment on relationships between two numerical variables (**ACMSP251**)



Learning Intention

We are learning to:

- Collect, analyse, interpret and communicate data using various methods to present data such as box and scatter plots.

Success Criteria

I can:

- Collect, analyse, interpret and communicate data using various methods to present data such as box and scatter plots.

ACTIVITY

The Australian Bureau of Statistics (ABS), in partnership with the Australian Football League (AFL) and the National Rugby League (NRL), have developed a series of football related activities for students to learn how to analyse, interpret, and evaluate statistics, and to communicate statistical information and understandings.

The Footy Stats Program contains six different football related activities for students to learn and apply basic statistical concepts. Each related lesson plan involves recommended activities such as goal kicking and other group-based activities, in which participants collect, use and discuss data about different football skills or AFL / NRL clubs including data about their favourite team or player.

Teachers can access these activities from the Australian Bureau of Statistics (ABS) website under 'ABS Sports Stats' and may wish to select one or more of these activities for their class to complete. Click [here](#) to access.

AFL Footy Stats Program

The following activities are recommended for students with a basic understanding of statistics.

Activity 1: In Footy Mode (AFL)

Conduct a survey of AFL club popularity within your class. Present your findings as a graph and introduce statistical concepts such as mode.

Activity 2: Keeping Score (AFL)

Collect data while participating in a handball drill and recording results in a table. Use the data to construct a pie graph to show personal performance to inform football skills development.

NRL Footy Stats Program

The following activities are recommended for students with a basic understanding of statistics:

Activity 1: Statistics! Give it a Try (NRL)

Students watch the NRL Footy Stats introductory video and talk about how data and statistics are used in NRL and everyday life.

Activity 2: Playing Favourites (NRL)

Students conduct a survey and record the results to the question: "What is the favourite NRL team of all the people in the group?"

Activity 3: Graph It (NRL)

Students use their recorded data (refer to *Activity 2: Playing Favourites*) and convert it into a column graph or bar chart. They will identify the variables (data items), label each axis, give the graph a title and find the mode.

Source: www.abs.gov.au/websitedbs/a3121120.nsf/home/ABS+Sports+Stats

Resources

ABS Footy Stats Program

The AFL and NFL Footy Stats programs are available on the Australian Bureau of Statistics (ABS) website under 'ABS Sports Stats'. Click [here](#) to access.

To access the most up-to-date statistical information for any of the listed activities teachers are encouraged to visit the official AFL, NRL or A-League website and search under 'Stats'.

- Australian Rules (Australian Football League) www.afl.com.au
- Rugby League (National Rugby League) www.nrl.com
- Soccer (A-League) www.a-league.com.au (The 'Stats' section is under the 'Fixtures' tab)

Note: Each of the activities can be adapted to reflect the skills of soccer and can use team and player data from the A-League competition. Each of the listed *Activity Sheets* and related lesson plans describes the resources needed for that activity.

Extension Activity

The following activities are recommended for students with a basic understanding of how to collect, analyse, interpret and communicate data.

AFL Footy Stats Program

Activity 3: Team Colours (AFL)

Collect data to create a graph showing the frequency of each colour used to represent one or more AFL clubs. Begin to interpret data from the graph to identify the colour most used by AFL teams.

Activity 4: A Graphic Sports Report (AFL)

Split the class into two teams to practise goal kicking and record team and individual scores. In small groups, identify and construct a suitable graph as evidence to answer investigation questions and support findings.

Activity 5: Player Review (AFL)

Construct a graph representing the performance of three fictional football players using data provided. Interpret the graph to measure and compare performance between players and trends in the performance of each player over time.

NRL Footy Stats Program

Activity 4: Finding the Centres (NRL)

Students take turns kicking a football through goal markers. The number of accurate kicks through the goals for each student will be recorded in a tally. Students will use the data set to find the mean, mode and median.

Activity 5: Time Series (NRL)

Students throw / pass a football at a target and look at the accuracy of their throws over three separate trials. Each of the three trials represents a point in time, and students will use their 'time series' to assess whether their performance changed over time.

Activity 6: If your class was 100 people (NRL)

Students explore relative frequencies (percentages, proportions). Students will calculate the percentage of people in the class who support the top 5 teams (refer to the results from the class census conducted in *Activity 2: Playing Favourites*). Students will colour in the appropriate number of figures to visually represent the percentages they have calculated.

Source: www.abs.gov.au/websitedbs/a3121120.nsf/home/ABS+Sports+Stats

Additional Teacher Notes and Resources

Teachers can access game highlights to watch by searching the website of their respective footy code under 'Videos'. These can be used to identify and discuss the various sport-specific statistics used in Australian Rules, Rugby League and Soccer.

Additional Mathematics (AFL) activities and resources for teachers are available to access on the *AFL Community Club* website under the 'Schools' section. Click [here](#) to access.

Activities & Games

Click [here](#) to access the *Footy Colours Day Activities & Games* resources in the 'Tips & Tools' section of our website.

As a class, students can organise and compete in a 'Longest Kick Competition'. This may be adapted to include other skills from Australian Rules, Rugby League and Soccer such as handballing and goal kicking.

Building on their ability to collect, analyse, interpret and communicate data students collate and present the data from the 'Longest Kick Competition'.

This activity could also be extended to include students applying key knowledge and skills related to other areas of the Mathematics curriculum such as *Measurement* and *Chance*.

For example, students could measure different distances from where each kick could be taken and measure the angle of more difficult kicks for goal.

Students could also discuss the predicted distances that could be kicked, and the the probability or chance of the goal or penalty being kicked.

