Learning Activity 13

– Footy Data: 'My Team' –

| Year Level: Years 5 - 6 | Learning Area: Mathematics
Strand: Statistics and Probability | Learning Area: Mathematics
Strand: Number and Place Value |

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

Sequence of Content
Year 5 and 6 students:
- Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies **(ACMSP119)**
- Describe and interpret different data sets in context **(ACMSP120)**
- Interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables **(ACMSP147)**
- Interpret secondary data presented in digital media and elsewhere **(ACMSP148)**
- Solve problems involving multiplication of large numbers by one- or two-digit numbers using efficient mental, written strategies and appropriate digital technologies **(ACMNA100)**
- Select and apply efficient mental and written strategies and appropriate digital technologies to solve problems involving all four operations with whole numbers **(ACMNA123)**

Learning Intention
We are learning to:
- Collect, analyse, interpret and communicate data.
- Apply addition, subtraction and multiplication strategies to solve math-based questions in football.

Success Criteria
I can:
- Collect, analyse, interpret and communicate data.
- Apply addition, subtraction and multiplication strategies to solve math-based questions in football.

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.

AFL Footy Stats Program

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

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)

Spilt 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.

Activity 6: If the AFL were only 100 players (AFL)
Students use statistics about AFL players to calculate percentages.

NRL Footy Stats Program
The following activities are recommended for students with a basic understanding of how to collect, analyse, interpret and communicate data:

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.

Extension Activity (Footy Numbers and Scores)

As a class or in small groups (footy teams) students use the scoring system of their selected football code (Australian Rules of Rugby League) to challenge each other in scoring quiz.

Questions can be made using addition, subtraction or multiplication.

For example:

- 6 goals + 4 behinds = __

- Team A kicked 56 points and lost to Team B by 3 points. What was Team B's score?

This can be facilitated by the teacher or students can write their own questions to challenge other students.

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 the shapes in each of the sports as well as to highlight how the different balls move and bounce.

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.**

Footy Colours Day Activities & Games
Click here to access the *Footy Colours Day Activities & Games* resources in the 'Tips & Ideas' 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 such as handballing and goal kicking and students can create their own competition to test their skills.

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