# Critical thinking – Option 4: Strategies and innovations in sports – The path to victory



Table of contents

[Focus 3](#_Toc109226295)

[Outcomes 3](#_Toc109226296)

[Introduction 5](#_Toc109226297)

[Learning sequence 1 7](#_Toc109226298)

[Rule changes in sports: Video Assistant Referee (VAR) and the offside rule 7](#_Toc109226299)

[Rule change: Bowling in cricket 10](#_Toc109226300)

[The creation of netball 12](#_Toc109226301)

[Strategic development: Changes to football formation and impact on success 13](#_Toc109226302)

[Learning sequence 2 17](#_Toc109226303)

[Psychology in sports 17](#_Toc109226304)

[Examples of mind games in sports 17](#_Toc109226305)

[Statistics and sports 20](#_Toc109226306)

[Part A: Handball, observations, data, conclusions and decisions 20](#_Toc109226307)

[Part B: Data and the NBA 22](#_Toc109226308)

[Part C: Soccermatics: Are the numbers always correct? 23](#_Toc109226309)

[The rise of professional gaming, but is it a sport? 25](#_Toc109226310)

[The evolution of cricket 27](#_Toc109226311)

[Learning sequence 3 29](#_Toc109226312)

[Additional content 29](#_Toc109226313)

[Moneyball 29](#_Toc109226314)

[National Football League (NFL) draft 29](#_Toc109226315)

[Winning international tournaments 30](#_Toc109226316)

[Indigenous All-Stars 31](#_Toc109226317)

[Appendices 32](#_Toc109226318)

[Appendix 1: Results tables for the Premier League 32](#_Toc109226319)

[Appendix 2: Documentary and movie list 40](#_Toc109226320)

[Amazon Prime 40](#_Toc109226321)

[Netflix 41](#_Toc109226322)

[YouTube 41](#_Toc109226323)

[Hollywood movies accessed via a range of options 42](#_Toc109226324)

[Appendix 3: Alternative sports and teaching ideas 43](#_Toc109226325)

[Rock-climbing 43](#_Toc109226326)

[Field hockey 43](#_Toc109226327)

[Tennis 43](#_Toc109226328)

[References 45](#_Toc109226329)

## Focus

The urge to win is strong in both traditional sports and e-sports. In sports and online gaming, ideas, rules, and gameplay evolve continually. This is based on carefully thought-out decisions and innovative approaches that foster success. Students explore the ideas which have changed the direction and designs in the field of competition. This can range from picking the right player for a game, to considering which player to buy next. Which tactics should be used and why? Do rules need to be changed? How can technology be used to improve performance? Students will explore these questions and the thinking used in this industry.

### Outcomes

A student:

* **CT5-4** undertakes research and engages in evident self-reflection throughout the critical thinking process
* **CT5-5** communicates arguments logically in a range of modes
* **CT5-6** analyses the key attributes of critical thinking in a variety of contexts or scenarios to develop ideas, solutions or further questions
* **CT5-7** evaluates the impact of critical thinking on society and explains the importance of transferable skills across disciplines.

Outcomes referred to in this document are from the [Critical Thinking Course Document](https://education.nsw.gov.au/teaching-and-learning/curriculum/department-approved-courses/critical-thinking#/asset2) © NSW Department of Education for and on behalf of the Crown in the State of New South Wales (2021).

Students:

* research the impact that innovative ideas, rule changes, and strategic development can have on the success of a team or individual using specific examples
* investigate the role science, technology, psychology, and statistics play in providing evidence to:
* improve gameplay and performance
* support the development of new sports for example, the introduction of T20 cricket
* change the overall outcomes in sports.
* critically analyse an unsuccessful situation in sport and evaluate a range of recommendations to improve performance when considering technology advancement, strategy and tactics, or data analysis.

Additional content may be used to broaden and deepen students’ skills, knowledge and understanding.

Students:

* debate how successful champion teams or individuals from the past would perform in the current era of their chosen sport
* examine the thinking and evidence used to select the players for a game and recruit new players into a team
* develop and justify a strategic plan or tactic that can help a team or individual achieve success in a single game, tournament, or season
* evaluate the role coaches, managers and team owners play in successful and unsuccessful teams or individuals.

## Introduction

This resource utilises mainstream sports, of which a majority of students may have some knowledge, to address the outcomes for Option 4: Strategies and innovations in sports. Sports can be a passionate topic of discussion for some students. You will need to carefully manage the topic to ensure the learning focuses on critical thinking used in sports, rather than the feelings students have on a specific sporting situation.

The sports chosen can be substituted, or the activities modified, for sports that interest students or are familiar to you. The learning strategies provided are examples of how to use sports to demonstrate aspects of critical thinking.

To ensure all students feel included in the activities, you may need to make some adjustments. A discussion with your learning support team or referring to the department's [Diversity and inclusion](https://education.nsw.gov.au/teaching-and-learning/learning-from-home/teaching-at-home/diversity-and-inclusion) information can guide your adjustments to help all students experience the learning intentions of the activities. For example, activities that require a physical component such as football (soccer) can be modified by using an online gaming platform or modifying the game so all students can participate. On some occasions changing the sport could provide the best option to ensure all students can participate meaningfully.

You should watch the YouTube videos included in this resource prior to using them in your class to judge the suitability of the content for your students. This will also allow you to identify strategic points to promote discussion or bring students' attention to certain details. Other videos can be substituted if you feel they are better suited to your students. For accessibility, check that the videos have closed captions or a transcript available.

Some of the YouTube videos include paid promotions or have short advertisements. These can be skipped over to access the video content.

Students can be given flexibility regarding the manner they choose to communicate their ideas during the activity. Suggestions include creating animations, comic book strips, podcasts, short YouTube videos, infographics, and social media-styled posts. Written work can be in the form of reports, letters, journal entries, short stories, or magazine articles. Giving students a choice will help them showcase their critical thinking in a format in which they feel comfortable and help them engage in the activities.

Topics without a definitive argument that have the ability to be seen through multiple viewpoints best support the teaching of critical thinking. Some of these topic areas may be perceived as controversial. Referring to the department’s [Controversial Issues in Schools Policy](https://education.nsw.gov.au/policy-library/policies/pd-2002-0045) and a discussion with your senior executive is recommended in selecting appropriate topics for your students.

## Learning sequence 1

Research the impact that innovative ideas, rule changes, and strategic development can have on the success of a team or individual, using specific examples.

### Rule changes in sports: Video Assistant Referee (VAR) and the offside rule

**Note:** Asking students to form an opinion or provide an answer to a guided inquiry question should help them think more deeply about competitive sports and the role critical thinking plays in this domain. For example, questions such as ‘Is the offside rule needed in football?’ or statements such as ‘Football would be better off without the offside rule.’ can help drive discussions at the beginning of a learning sequence.

It is important to note that different leagues and tournaments have their own interpretations and official advice for judging offside calls. This topic could also provide an interesting discussion topic for the class.

While this activity is centred around the offside rule in football, it does cross over into the role technology has played in football. This includes how technology helps participants improve performance, and helps officials with on-field decisions.

The interpretation of the offside rule in football by referees and VAR has caused much controversy for coaches, managers, players, and fans.

Below is an extract from [The FA Handbook 2022/2023](https://www.thefa.com/football-rules-governance/lawsandrules/laws/football-11-11/law-11---offside) outlining the offside position.

**1. Offside position**

It is not an offence to be in an offside position.

A player is in an offside position if:

* any part of the head, body or feet is in the opponents’ half (excluding the halfway line) and
* any part of the head, body or feet is nearer to the opponents’ goal line than both the ball and the second-last opponent

The hands and arms of all players, including the goalkeepers, are not considered. For the purposes of determining offside, the upper boundary of the arm is in line with the bottom of the armpit.

A player is not in an offside position if level with the:

* second-last opponent or
* last two opponents.

Do you think the offside rule is easy to apply in a game with consistency and fairness? Provide the reasoning you used to develop your opinion.

Watch the following clips listed in Table 1 and determine whether in your opinion the ruling is fair. You may need to refer to the complete text in [Law 11: Offside](https://www.thefa.com/football-rules-governance/lawsandrules/laws/football-11-11/law-11---offside) to complete the table with your rulings and reasons. Use the current description of Law 11: Offside to make your decision.

Table 1 – Offside judgements

|  |  |  |
| --- | --- | --- |
| Link to YouTube Clip | Your ruling | Reason |
| [Premier League | Harry Kane Goal Denied by VAR (1:23)](https://www.youtube.com/watch?v=onXhJ3KaA3g) |  |  |
| [VAR Rewind: Cheick Tiote's incredible strike, but were his teammates offside? (1:06)](https://www.youtube.com/watch?v=kOqQW7Z5Rjo) |  |  |

Governing bodies have consistently reviewed the game to make rulings clearer and minimise the impact of incorrect decisions. VAR technology has recently been introduced to improve offside calls. However, its effectiveness is an area of great debate.

The links below and the summary of the historical changes to the offside rule may help you answer the questions at the end of this resource.

**Note:** You may choose to only show one video and give the option to students to watch the others. Alternatively, you may want students to research the changes in the offside rule and which technologies have been used to help officiate a game.

* [What to make of VAR changes to offside law in Premier League? | ESPN FC (6:02)](https://www.youtube.com/watch?v=z0KX-0HVxkI)
* [VAR overshadows Leicester's comeback vs. Tottenham: Millimetres is offside! - Ale Moreno | ESPN FC (6:28)](https://www.youtube.com/watch?v=MaTQqvv4WmM)
* [VAR was not meant for Premier League's narrow offside calls - Peter Walton | ESPN FC (8:02)](https://www.youtube.com/watch?v=8vb0JAxOqWg)
* [How offsides are determined by VAR.](https://www.premierleague.com/news/1488423)

Historically the offside rules have changed over time. Below is a summary of the major changes made.

The offside rule originated in 1863. A player was considered offside unless three players of the opposing side are in front of him (includes goalkeeper).

The offside rule was changed in 1925. A player was considered offside unless two players of the opposing team are in front of him (includes goalkeeper).

The offside rule was changed in 1990. A player is onside if he is level with the second-to-last player of the opposing team (includes goalkeeper).

(Sideline Soccer, 2022)

In 2016, The International Football Association Board (IFAB), approved trials for video referees or ‘live experiments with video assistance for clear errors in match-changing situations’.

On 3 March 2018, IFAB agreed to allow the use of VARs. In November 2018, the Premier League clubs voted unanimously to introduce VAR in season 2019-2020, pending testing. The testing was deemed a success, confirming the introduction of VAR for 2019-2020.

In July 2020, IFAB transferred the responsibility of VAR to FIFA. IFAB continues to work closely with FIFA, especially in terms of the VAR protocol, related Laws and qualification requirements.

(Premier League, 2022)

Answer the following questions:

* What is your assessment of the impact of the introduction of VAR on providing fairer rulings on the offside rule?
* What reasoning do you think was used in making changes to the offside rule since its origin in 1863?
* Have the changes to the offside rule and the implementation of technology given an advantage to attacking players or defending players?
* How would you change the rule of offside to make it clearer so it would not impact the result of a game because of interpretation?

**Note:** Students' responses to the questions may vary depending on their interest in the game and prior understanding. The focus of the elective is critical thinking, so this should be evident in their answers. Students should support their claims with clear reasoning and evidence, which demonstrates their thinking. A Claim-Evidence-Reasoning (CER) scaffold can help your students improve their skills in written communication. This [Resource Sheet: Claim-Evidence-Reasoning (CER)](https://blossoms.mit.edu/sites/default/files/video/download/CER-Resource-Sheet.pdf) may be useful in using CER in your classroom.

**Reflective question:** If rules are defined explicitly, why is there consistent debate over some rulings?

### Rule change: Bowling in cricket

**Note:** This activity looks at bowling in cricket, specifically the laws around throwing or chucking while bowling. Students explore the information provided to them to form an opinion. The context for exploring rule changes is the controversy of Muttiah Muralitharan’s bowling action and the debate it caused worldwide.

Engage with the 3 extracts regarding the bowling of a fair delivery in cricket and watch both videos.

**Extract 1**: [The Laws of Cricket](https://www.lords.org/mcc/the-laws-of-cricket/no-ball)

Law 21: No ball

21.2 Fair delivery – the arm

For a delivery to be fair in respect of the arm the ball must not be thrown.

A ball is fairly delivered in respect of the arm if, once the bowler’s arm has reached the level of the shoulder in the delivery swing, the elbow joint is not straightened partially or completely from that instant until the ball has left the hand. This definition shall not debar a bowler from flexing or rotating the wrist in the delivery swing.

Although it is the primary responsibility of the striker’s end umpire to assess the fairness of a delivery in this respect, there is nothing in this Law to debar the bowler’s end umpire from calling and signalling No ball if he/she considers that the ball has been thrown.

**Extract 2**: [ICC Regulations for the Review of Bowlers Reported with Suspect Illegal Bowling Actions [PDF 1.79MB]](https://icc-static-files.s3.amazonaws.com/ICC/document/2018/09/27/0201407d-9aac-41bb-99cb-5c4ac233c524/18-Illegal-Bowling-September-2018.pdf)

Introduction, p. 18.3

An Illegal Bowling Action is defined in these Illegal Bowling Regulations as a bowling action where a bowler’s Elbow Extension exceeds 15 degrees, measured from the point at which the bowling arm reaches the horizontal until the point at which the ball is released (any Elbow Hyperextension shall be discounted for the purposes of determining an Illegal Bowling Action).

**Extract 3**: [Bending the rules on chucking](https://www.smh.com.au/sport/cricket/bending-the-rules-on-chucking-20041112-gdk3k3.html), November 12, 2004

The proposed rule changes on throwing in cricket:

OLD RULES

International Cricket Council regulations permitted slow bowlers to straighten their arms from a bent position by five degrees. Medium-pace bowlers were allowed to straighten their arms by seven-and-a-half degrees and fast bowlers by 10 degrees.

NEW RULE

All bowlers are allowed to straighten their arms by up to 15 degrees.

WHY THE CHANGE?

Biomechanical studies of bowlers who were thought to have ‘pure’ actions found that they straightened their arms by up to 12 degrees, an amount that is illegal under current regulations.

WHY 15 DEGREES?

Expert advice recommended 15 degrees would accommodate any straightening that was as a result of the biomechanical forces, such as the hyperextension of a bowler's elbow joint. These experts have demonstrated this is also consistent with the point at which any straightening is likely to become noticeable to the naked eye.

Watch the following YouTube videos about Muttiah Muralitharan:

* [Murali has chequered history with Australia (5:39)](https://www.youtube.com/watch?v=djc6JJheR0A)
* [Waugh says Murali no-balling was the wrong call (3:19)](https://www.youtube.com/watch?v=Ivf1qI5ZalA)

**Question 1**

Why do you think there is much debate over Muttiah Muralitharan’s bowling action when no other bowlers have had the same scrutiny over their bowling actions?

**Question 2**

Do you believe the rules of the game were changed to benefit a single player? Support your answer with clear reasoning.

Research the work of Daryl Foster (Western Australian cricket coach and cricket's long-standing biomechanical expert) on bowling actions in cricket. With access to this added information, does it change the opinion you gave in Question 1 and why?

Your research could include the analysis of the bowling action of the Pakistani fast bowler, Shoaib Akhtar. An analysis of his bowling action was undertaken at the University of Western Australia and the [Final Bowling Report – Shoaib Akhtar [PDF 1MB]](https://www.pcb.com.pk/downloads/Shoaib-Final.pdf) published on the [Pakistan Cricket Board website](https://www.pcb.com.pk/important-documents.html) (under ‘Reports’).

**Reflective question:** How do rule changes in sports have the potential to either advance or destroy the careers of the competitors?

### The creation of netball

**Note:** This activity will explore both the innovation of and the creation of rules for netball, arguably the most popular women’s sport across Commonwealth countries. Students will investigate and apply their critical thinking in comparing basketball and netball.

**Preliminary question**: Netball is often given the title of the ultimate team sport, where the collective skill of the team has a greater impact than the brilliance of an individual.

Do you agree with the statement? Provide an outline of the thought process you undertook to come to your opinion.

Watch the video highlights below of an international women’s basketball game and an international women’s netball game. If you were coaching basketball players to adapt to playing netball, how would you facilitate their transition to the new game? Do you believe this to be an easy transition for players to make?

* [Highlights: New Zealand v England | Netball | Preliminary Round Pool B | Gold Coast 2018 (5:36)](https://www.youtube.com/watch?v=rjc3g_x-lEU)
* [Highlights | Basketball | Australia v New Zealand | Women's Semi Final (2:42)](https://www.youtube.com/watch?v=JgwuyPK3zP4)

Research how and why netball was created. What was the thinking behind the development of netball? Would you classify this as critical thinking?

**Note:** [A Brief History Of Netball In Australia (3:48)](https://www.youtube.com/watch?v=c4CMkLhbjf8) can be shown at the conclusion of the research activity.

Watch [Netball 'could be introduced' at Brisbane 2032 Olympic games: Murray (0:44)](https://www.youtube.com/watch?v=HhGTaXiDoso). Debate the inclusion of netball as an Olympic sport. In creating your argument, think about sports that are currently included and under what criteria they are selected to be an Olympic sport.

**Note:** You could have students write arguments in a transcript or as an illustrated comic book strip to show both sides of a debate. These variations could be substituted for a traditional debate setup.

### Strategic development: Changes to football formation and impact on success

**Note:** Football formation and tactics are closely linked. For example, how you set up your team’s formation will support the tactics you want to utilise. In this activity, students will focus on the team formation used by managers and why the formation was chosen. An assessment of each formation’s strengths and weaknesses can be followed by a discussion around what tactics would be best suited to the formation. A deeper analysis can be centred around how formations are used by individual managers in possession, in transition and without possession.

Football players can be categorised into 4 basic positions on the field: goalkeepers, defenders, midfielders, and attackers. A team consists of 11 players on the field, a goalkeeper and 10 outfield players. The formation of the 10 outfield players can be arranged in multiple ways, depending on the team's tactics and opposition.

**Note:** Any football match can be used to highlight how formations and tactics can impact a game. This activity will begin with an analysis of a football match between Manchester City and Tottenham Hotspur in 2022 as part of the Premier League. Students will have the opportunity to critically engage with videos that break down matches and formations, leading them to research how and why formations have changed in football.

The Figures 1 and 2 below are the formations used by Manchester City and Tottenham Hotspurs in a Premier League match in 2022.

Figure 1 – Manchester City, 4-3-3



Figure 2 – Tottenham Hotspurs, 3-4-3



Based on the above images:

* What do you think are the strengths and weaknesses of each formation?
* Assuming the players from each side are equal in skill, what formation would come out on top and why?

Watch [EXTENDED HIGHLIGHTS | Manchester City 2-3 Tottenham | Premier League | Gundogan & Mahrez goals (8:59)](https://www.youtube.com/watch?v=PSJ_nIV0xCc). Did both team's formations and tactics impact the result of the game or was the result due to a moment of individual brilliance? How can you be certain?

Watch the match analysis in [Tactical Analysis: Manchester City 2-3 Tottenham | How Conte's Tactics Beat Guardiola (8:01)](https://www.youtube.com/watch?v=AJyYpnWdjOw).

What further insights into the role of formations in a match does the video give you?

What information would other team managers gain into the gameplay of either side if they were playing against them in the next round? What formation would you use against either side to give you the best possibility of a win?

**Note:** The next activity is designed for students to reflect on the use of formations in football. The activity will show that choosing the correct formation for the players you have, together with the execution of the plan, is vital for success on the pitch.

Watch the following 2 videos, paying particular attention to the differences in the formations. Think about why different managers prefer different formations and why they change formations when results are not going their way.

* [Why Ralf Rangnick's Early United Tactics Failed | Rangnick 4-2-2-2 Tactical Analysis (8:51)](https://www.youtube.com/watch?v=k-3SiB84PCE)
* [Johan Cruyff's Tactics Explained | Cruyff Dream Team Tactics | How Cruyff Transformed Barcelona (9:30)](https://www.youtube.com/watch?v=DWjmbTp5jq8)

**Note:** Students should now be directed to research the history of formation changes through the years. Direct students to focus on why changes happened and the thinking behind the changes. Did managers know the changes worked based on evidence, or was it a ‘gut feeling’? Did particular sides have greater success by thinking ‘ahead of their times’ and outside traditional thinking?

Research and investigate the changes in formations used throughout the eras of football. What was the thinking behind each change? Did any particular sides gain success as a result of changing their formations from those which were the accepted formations at the time?

Present your research as a report, a presentation or an analysis segment on a football show.

**Note:** Students could play small matches of football (5-a-side) against each other, in which they use different formations against each team. This would require students to have some prior understanding of positional play in football and an interest in the game.

**Reflective question:** Why is the formation used by a team an important aspect of gameplay in football?

## Learning sequence 2

Investigate the role of science, technology, psychology, and statistics in providing evidence to:

* improve gameplay and performance
* support the development of new sports, for example, the introduction of T20 cricket
* influence outcomes in sports.

### Psychology in sports

**Note:** Students look at how competitors use psychology and mind games to gain a competitive edge over their competition. Students will explore different examples from boxing and cricket to draw parallels in the use of ‘mind games’ in sports. The research element of this activity will explore the role of sports psychologists and the role they play in mentally preparing athletes.

Examples provided of ‘Trash talk’ videos showing ways to upset the psychology of the competition could cause distress to some students. Watching the videos prior to their use in class and discussing the content with your senior executive is highly recommended to assess their suitability. Referencing the department’s [Controversial Issues in Schools](https://education.nsw.gov.au/policy-library/policies/pd-2002-0045) Policy can help with the decision-making process.

Sledging and mind games can play a large part in professional and amateur sports. This conduct should not be encouraged in the school setting.

In some sports, it is common and even encouraged to try to put the opposition players off their game. This has come under scrutiny recently and there are guidelines in place to stop players from taking things too far. However, many players still use the strategy of mind games, some more than others.

#### Examples of mind games in sports

Watch the following videos showing examples of ‘trash talk’ designed to upset the psychology of the competition.

**Historical examples**

* [Original Muhammad Ali vs Sonny Liston weigh-in 1964 (2:43)](https://www.youtube.com/watch?v=zaTbr5TrnHA)
* [Muhammad Ali and Joe Frazier talk trash in 1971 press conference before 'Fight of the Century' (3:50)](https://www.youtube.com/watch?v=f1pZPCLz-k4)

**Current examples**

* [The best (and worst?) of stump mic (3:15)](https://www.youtube.com/watch?v=J3ea_3nM8_M)
* [UFC 229: Khabib vs McGregor Press Conference Highlights (4:02)](https://www.youtube.com/watch?v=R_IextK-x2A)

Answer the following questions:

* If sporting competitions are about testing your skill against opponents, why would some players choose to engage in mind games?
* What common aspects do the 4 videos have in terms of ‘trash talk’? What do you think the goal is?
* How would you prepare players to defend themselves from this type of psychological attack to limit the impact on their performance in a game?

**Note:** The next activity will require strong management of the class and your active judgement as to whether the activity suits the personalities in the class. The idea is to simulate a hostile and positive environment and assess the impact on performance. Table 2 provides a sample script to keep students on task and to maintain a controlled environment throughout the activity. The gathered data can be measured either quantitatively or qualitatively. No personal attacks or offensive attacks are to be used at all. The suggested activity of free throws in basketball can be modified or alternative skills in a sport used if that is better suited to your class’s needs. Some examples include penalty kicks, serving in tennis, and goal kicking in rugby.

Informing parents of the nature of the activity and including a permission note for participation is recommended. A [wellbeing check](https://education.nsw.gov.au/student-wellbeing/counselling-and-psychology-services) and debrief at the conclusion of this activity is also recommended to ensure psychological safety for students. Checking with the school wellbeing team as well as a planning discussion with your senior executive would help identify if this activity is suitable for your class.

In small groups, attempt free throws on a basketball court. Each player in the group should record your observations to establish a baseline for your ability. The data can include how many successful shots were taken (number of successful baskets versus attempts) and/or observations of how close the shots were (whether they hit the ring or backboard).

Once a baseline has been established, simulate a hostile environment within your small group. This can only include jeering/booing and simple statements such as ‘You are going to miss’ (no personal attacks or insults – see Table 2). Record the data for how you went in these free throws (compared to the baseline) and how you felt.

Repeat the experiment again, but instead have the group deliver positive feedback and establish an encouraging environment – see Table 2. Record how you went in your free throws (compared to the baseline) and how you felt.

Can you draw a conclusion from this investigation? Explain your reasoning.

Table 2 – Scripts to create either hostile or encouraging environments

|  |  |
| --- | --- |
| Hostile | Encouraging |
| You are going to miss. | You can do this. |
| Booing | Clapping or cheering |
| Jeering | You got this, I believe in you. |
| No way you will make this. | Chin up, you will get the next one. |

**Note:** Alternatively, [The Power of Positivity | Brain Games (3:11)](https://www.youtube.com/watch?v=kO1kgl0p-Hw) can be shown in lieu of the activity or used to model how to conduct the investigation for the purpose of learning.

The mindset and psychology of players can be impacted by the crowd. Some home crowds have been referred to as the 12th player in football (soccer) and home grounds are referred to as fortresses.

Watch the video about the [Argentinian football derby BBC (4:01)](https://www.youtube.com/watch?v=dzbzZNzV5oo). Do you think the psychology of players can be impacted by crowds?

For a chosen sport you are interested in, research the results for teams/individuals playing at home or away in a given season. Is there a noticeable difference in results?

Compare your findings during the seasons in which COVID-19 impacted attendance at stadiums and there were no crowds. Is there a difference between these home and away results compared to seasons when there were crowds?

Consolidate the research to form a single data set, consisting of group/individual findings. Are there any significant trends or patterns to help you form your ideas on home ground advantage?

Can you draw a conclusion from this investigation? Explain your reasoning.

Watch [WHY footballers win at home and lose away (8:09)](https://www.youtube.com/watch?v=YNBBuNAA9oU). Do you think the significance of home crowd advantage is overstated in sports? What evidence did you use to come to your opinion?

**Note:** The role of sports psychologists within professional sporting organisations can be an area of research for students. The task can focus on the role of sports psychologists, whether they are needed, and how students know they work.

[What makes elite athletes thrive or dive under pressure? | The Economist (5:48)](https://www.youtube.com/watch?v=N8TBavtJu0o) may be useful in setting inquiry questions or setting a lesson around assessing the role of sports psychologists.

**Reflective question:** How can employing a sports psychologist help improve outcomes for individuals or teams?

### Statistics and sports

Statistics and data play a significant role in the management of competitive sports, from the composition of teams and individual player performance, to the outcome of games and overall results of competition seasons.

#### Part A: Handball, observations, data, conclusions and decisions

**Note:** This activity begins with a simple practical activity of a class handball tournament. This can either take place as 1 versus 1 or the traditional four-square game. The aim is to gather data regarding gameplay and then critically examine the data to make decisions regarding future gameplay.

As a class decide how you would run a handball tournament for your class. This can either be a 1 versus 1 format or the traditional four square model. Together, decide on the rules of the game and how to structure the tournament to find out who the best player in your class is.

You may have to debate the rules and ensure the decisions you make are in the best interest of the game. Your decisions need to be based on clear reasoning and evidence.

* [Rules – Downball Australia](https://downballaustralia.com.au/rules)
* [Official Rules of Four Square | Play Four Square](https://squarefour.org/rules#:~:text=1%20Once%20ball%20bounces%20in%20a%20square%2C%20ONLY,any%20time%20is%20subject%20to%20all%20other%20rules.)

After the rules and structure are finalised, conduct an anonymous vote on who you think will win the tournament.

During the tournament, either a maximum of 2 or 4 players are involved in the game. When you are not involved, your job will be either to record your observations qualitatively (Group A) or quantitatively (Group B). These groups will be designated by your teacher before the tournament.

* **Qualitative**: To use descriptive explanations involving features, characteristics or properties to identify important components. Data and information that is not numerical in nature.
* **Quantitative**: Data or components that can be expressed or measured numerically, including chemical formulae or numbers.

([Science 7–10 | NSW Education Standards](https://www.educationstandards.nsw.edu.au/wps/portal/nesa/k-10/learning-areas/science/science-7-10-2018) Authority, 2018)

In your groups decide on what information/data you will collect, why and how. The table below is an example of data/information that may be collected.

Table 3 – Example table for recording qualitative and quantitative data

|  |  |
| --- | --- |
| Qualitative | Quantitative |
|  |  |
|  |  |

After the tournament, Group A and Group B will analyse their gathered data.

* How did you make sense of it?
* What were you looking for and how confident are you about the conclusions you have drawn?
* What player strengths, weaknesses and insight into gameplay did each group find?
* Compare and assess the data used by each group. Did the winning player's data agree with their results as ‘best in class’?
* How did the tournament results, findings from data collection for both groups and the initial survey compare?

Create a report and/or presentation of your findings targeted at the managers, coaches and senior executives of a hypothetical professional handball club. Keep the following in mind:

* What information are you giving them and why?
* How is it communicated and represented?
* What insights into players and gameplay does it give? How can it be used?

#### Part B: Data and the NBA

**Note:** The basic lessons and insights students gained during Part A are explored in the context of how the NBA is using data and why. Students will watch a video showing the last 3 minutes of Kobe Bryant’s final NBA game. You could facilitate a class discussion around what type of data would be useful to improve performance.

Watch [the final 3 minutes of Kobe Bryant's last game (6:47)](https://www.youtube.com/watch?v=Rx2inwUj_F0). If you were looking at the game from a coach's perspective, what type of data would you want to gather?

**Note:** After the initial discussion introduce common statistical terms such as average, medium and probability to the class. Ask students if statistics have a place in improving outcomes in NBA games. Then show either one or both of the videos below.

Watch either one or both of the videos below.

* [How data transformed the NBA | The Economist (6:40)](https://www.youtube.com/watch?v=oUvvfHkXyOA)
* [The Math Behind Basketball's Wildest Moves | Rajiv Maheswaran | TED Talks (12:08)](https://www.youtube.com/watch?v=66ko_cWSHBU)

After watching the videos has your opinion changed on the role statistics and mathematics can play in professional sports such as the NBA? What further evidence would you need to be convinced of the role mathematics can play in helping teams win?

#### Part C: Soccermatics: Are the numbers always correct?

**Note:** The lesson and insights into data are transferred to arguably the biggest sport in the world. Students look at the Premier League and how statistics and mathematics are being used to drive success for both individuals and teams. In this part, we also introduce players and teams' defying the odds.

Refer to the Premier League standings over 4 seasons in [Appendix 1](#_Appendix_1:_League). Can you see any patterns or standout results that could be said to defy the odds? Why would you say this? Explain the reasoning you used.

The table below shows how the odds for the winner of the Premier League changed during the 2015/2016 season.

Table 4 – Changing odds during a Premier League season

|  |  |
| --- | --- |
| Dates | Odds |
| August 8 | Chelsea 13/8, Man City 5/2, Arsenal 7/2, Man Utd 5/1, Spurs 100/1, Leicester 5000/1 |
| September 12 | Man City 4/11, Arsenal 4/1, Man Utd 12/1, Chelsea 14/1, Spurs 250/1, Leicester 5000/1 |
| October 6 | Man City 8/11, Arsenal 5/2, Man Utd 13/2, Chelsea 22/1, Spurs 100/1, Leicester 1500/1 |
| November 21 | Man City 15/8, Arsenal 9/4, Man Utd 7/2, Spurs 28/1, Chelsea 80/1, Leicester 100/1 |
| December 21 | Arsenal 10/11, Man City 15/8, Leicester 10/1, Man Utd 18/1, Spurs 20/1, Chelsea 66/1 |
| January 24 | Man City 11/10, Arsenal 13/8, Leicester 8/1, Spurs 9/1, Man Utd 33/1, Chelsea 250/1 |
| February 2 | Man City evens, Arsenal 3/1, Leicester 5/1, Spurs 6/1, Man Utd 33/1 |
| February 6 | Leicester 7/4, Arsenal 11/4, Man City 3/1, Spurs 9/2, Man Utd 33/1 |
| February 14 | Arsenal 13/8, Spurs 5/2, Leicester 11/4, Man City 7/1, Man Utd 100/1 |
| February 28 | Leicester 15/8, Spurs 2/1, Arsenal 11/4, Man City 6/1 |
| March 1 | Spurs 6/4, Arsenal 9/4, Leicester 3/1, Man City 5/1 |
| March 12 | Leicester 10/11, Spurs 5/2, Arsenal 9/2, Man City 10/1 |
| April 17/18 | Leicester 4/9, Spurs 7/4 |
| April 24/25 | Leicester 1/20 Spurs 10/1 |

Why are the odds of winning always changing and what information is used when determining them?

Leicester City were 5000/1 at the beginning of the season and eventually were crowned champions. Does this mean the mathematics used to determine the odds was incorrect? Support your answer with clear reasoning and examples.

**Note:** If students are interested in this ‘Cinderella story’, this documentary may be of interest to them: [Leicester City - Kings of England (58:00)](https://www.youtube.com/watch?v=WHXvJ8akYQE). Alternatively, students may want to research other teams, across a wide range of sports, that defied the odds. Did they have common traits in their story besides being ‘underdogs’?

Watch the [TEDx talk on Soccermatics (9:27)](https://www.youtube.com/watch?v=Nv7JYtVbzvI). Given Leicester City beat the odds in the 2015/16 Premier League season, do you think the use of statistics and mathematics can unlock the secret to success in football?

**Note:** If students have an interest in football, a 5-a-side game could be played and analysed similarly to the handball tournament in Part A. If the school has a grade or K.O. team, and the students and teachers agree, students could extend this idea of using data to support performance outside the classroom. If the class/school has the capacity, games at the grade level work better for this analysis.

**Reflective question:** How does the use of statistics and mathematics have a significant impact on the success of teams and individuals?

### The rise of professional gaming, but is it a sport?

**Note:** This activity explores how computer games went from being a recreational activity to being e-sports with multimillion-dollar tournaments. Students will examine their history and the innovations used, and look to critically answer the question ‘Can e-sports be considered a real sport?’

Students are not being asked to view or play the games, just to evaluate the technology in each time period. Some basic information regarding gameplay and specifications can be found by research. Due to the content rating of the examples used in Table 5, informing parents and seeking permission to research the games is recommended. You will otherwise need to substitute the choice of game. For more information please refer to [Controversial Issues in Schools](https://education.nsw.gov.au/policy-library/policies/pd-2002-0045) and [Audiovisual material in schools – procedures for use](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Feducation.nsw.gov.au%2Fcontent%2Fdam%2Fmain-education%2Fpolicy-library%2Fassociated-documents%2Faudio_proc.doc&wdOrigin=BROWSELINK).

The table below has some examples of computer games throughout the ages. Research other games from the same era to address the questions below the table. Make sure to include your reasoning when answering the questions.

Table 5 – Examples of computers games from the 1970s to 2020

|  |  |  |  |
| --- | --- | --- | --- |
| Era | Game | Playing platform used | Answers to research questions |
| 1970s(1978) | Space Invaders (K-A) |  |  |
| 1980s(1983) | Super Mario Brothers (PG) |  |  |
| 1990s(1998) | StarCraft (M, 15+) |  |  |
| 2000s(2004) | World of Warcraft (WoW) (T - Teen) |  |  |
| 2010s(2012) | Call of Duty: Black Ops II (MA, 17+) |  |  |
| 2020s(2020) | Ghost of Tsushima Director's Cut (MA 15+) |  |  |

* Do you think the games lend themselves to competitions?
* At the time of their release, do you think each game attracted crowds and a fanbase in the same way traditional sports does?
* What technology was available and how was it used in gaming?
* What are the common features or trends in computer games in each era?

Dennis ’Thresh‘ Fong (USA, b. 1977) is regarded as the first professional gamer in history. In the final match of a tournament, Dennis ’Thresh‘ Fong defeated Tom ’Entropy‘ Kimzey of Impulse 9 on the map Castle of the Damned.. Red Annihilation was a competitive eSport event held in May 1997 that was one of the first nationwide video game competitions held in the United States.

Research and create 2 separate annotated timelines. In the first, show the changes in technology, thinking in game design and thinking that led to the event ‘first professional gamer’. In the second, show how professional gaming developed from 1997 into a billion-dollar industry today.

As a class, debate whether e-sports should gain the same recognition as other sports. Should e-sports be included in events such as the Olympics and should its ‘players’ be recognised as athletics or professional sportspeople?

**Reflective question:** When defining a game as a competitive sport what factors will influence your decision?

### The evolution of cricket

**Note:** The stimulus used in this activity is a table of the different formats of cricket currently played internationally. Students could begin this activity by giving reasons why the game has developed different formats (without conducting any research). This could be in the form of a class discussion or students can write their ideas down. They then research to see if their initial ideas were correct. A class discussion can be conducted on why initial thoughts can often change after research.

The table below has some basic information regarding the 3 different formats of cricket played internationally at this time.

Table 8 – Different formats of cricket (source: International Cricket Council, n.d.)

|  |  |  |
| --- | --- | --- |
| Format | First introduced | Information |
| Test cricket | 1877 (first official test match) - Men’s1934 - Women’s | Test cricket is the traditional form of the game which has been played since 1877 and is now settled in a five-day format which comprises two innings each. |
| One day international | 1971 - Men’s1973 - Women’s | One day internationals, also known as ODIs, are a pacier format that started in 1971 but gained in popularity in the 1980s. These are one-innings matches of 50 overs per side. |
| T20 international | 2005 (international game) - Men’s2004 - Women’s | Twenty20 Internationals are the newest, shortest and fastest form of the game. This format of the game has a maximum of 20 overs for each side in an innings. |

While statistics can play a major role in the success of a team, what role do you think statistics play for the governing bodies of sports such as cricket, in this case, the International Cricket Council (ICC)?

What type of data are they interested in and how do you think they use this data?

Why do you think the new formats have been introduced in cricket and how is the success measured? You may need to define what success means in this context.

**Note:** The research task can be focused on cricket or left open for students to decide on a sport that interests them.

**Research task**: How has the evolving introduction of variations into existing sports, or creation of new sports altogether, impacted the sporting landscape? Use the following questions to guide your research. You are not limited to these questions and can go into greater depth. Think about how a critical mind would address the question presented.

* Why is there a need for new sports or variations on existing sports? What is the thinking behind these changes?
* What data do governing bodies collect and how do they use this data to inform decisions about the direction, success and longevity of a game?

**Reflection question:** Are decisions made in sports guided by what is best for the game, or what is best for the business of sports?

## Learning sequence 3

**Note:** Additional content is not mandatory to teach. However it does provide opportunities for classes that demonstrate an interest in the topic to look more deeply and think critically about sports. It provides extension opportunities for students to explore an area of interest in greater depth.

### Additional content

Additional content may be used to broaden and deepen students’ skills, knowledge, and understanding. Students examine the thinking and evidence used to select the players for a game and recruit new players into a team.

#### Moneyball

**Note:** The movie *Moneyball* (2011, content rating PG-13) can provide a great introduction to how statistics transformed the fortunes of a baseball club. After watching the movie, students can research to discern fact from fiction. A research task looking at the real story behind *Moneyball* or Oakland Athletics can also be an option after watching the movie. The movie is one suggestion and can be substituted for other sporting movies with the same focus on the selection or recruitment of players.

Research the thinking behind Oakland Athletics’ recruitment of players in the lead-up to the 2002 season. Why did this trouble those who used established methods for recruiting future players, such as the use of talent scouts?

Debate which method you think is best (talent scouts versus data analytics) for identifying future players. Ensure your thinking process is evident in your argument and use specific examples to support your case.

#### National Football League (NFL) draft

**Note:** In this activity, students examine the choices made in the most recent NFL draft in the United States (other years can be substituted). Students provide an assessment of the top 10 draft picks (one or more). They will need to create criteria on which they will base their judgement and support it with clear evidence. They can present their research in the form of a report, television media report or podcast. Any other sport such as the National Basketball Association (NBA) or Australian Football League (AFL) can be used instead of NFL, as long it uses a similar draft system to recruit. If past drafts are used, students can compare the potential of the draft picks and how they fared in the team. This could extend to explanations of why they think the player's potential was not reached.

Watch [How the NFL Draft Works | NFL Network (5:31)](https://www.youtube.com/watch?v=D8gsxDtc4tU). Do you think the draft system is fair when compared with the football (soccer) method of buying players during transfer windows? Compare each method, highlighting the strengths and weaknesses of each and develop a conclusion on which is the best method. Include the criteria you used to determine/define what best looks like.

Examine the top 5 draft picks in the most current edition of the NFL draft. Provide an assessment on each draft pick and whether you agree with the choices made by each club.

Watch [Why Tom Brady Was Passed on by the 49ers & Drafted by the Patriots | The Brady 6 (2011) | NFL Films (7:22)](https://www.youtube.com/watch?v=FmZofANQu74). Tom Brady was selected with pick number 199, a compensatory pick, in the sixth round of the 2000 NFL draft. He finished his career as one of the all-time best quarterbacks and won an amazing 7 Super Bowls. Why do you think some players do not fulfil their potential and others surpass all expectations? How can a team ensure they have made the correct choice and how can they increase their chances of making the correct decision?

**Extension**: The draft system of selecting players or trading can be a complex and fluid workspace. How would you advise clubs to strategise for the event and what steps can they take to ensure they come up as ‘winners’ in their selections? The following videos may help you better understand the complexity of the NFL draft system [The winners and losers from the first round of the 2021 NFL Draft (7:02)](https://www.youtube.com/watch?v=N0cdSMo6h0Y) and [How the NFL’s best teams outsmart everyone in the draft (5:15)](https://www.youtube.com/watch?v=7LFfMfGnFIU).

#### Winning international tournaments

**Note:** This activity uses the upcoming 2022 World Cup in Qatar to focus on the English football team. It is recommended any international team or sport can be used instead. However, this activity is best suited to an upcoming event rather than a past event, as students will need to justify their selections while operating in the area of the unknown.

England’s last and only win in the World Cup in 1966. The 2022 World Cup in Qatar is potentially their best chance to secure their second win. In small groups (maximum of 4), select a 23-person squad to take to the tournament, and strategise on the formation and your starting 11. Present this to the class and be prepared to defend and justify your selections from questions.

Once your class has shared their selections for the 2022 World Cup, you could view [Predicting England’s 2022 World Cup squad | Saturday Social feat Thogden & Specs (21:19)](https://www.youtube.com/watch?v=94r9_5qbhn8) to see what others have said.

#### Indigenous All-Stars

**Note:** One-off games prove a unique challenge for preparation and selection. In this example from the NRL, the Indigenous All-Stars v Maori All-Stars is used as the context for using limited statistics from one game to prepare for the next.

The Indigenous All-Stars NRL game offers a challenge for selectors as the game is usually played once a year and only has limited time for the team to train together. Watch [NRL Highlights: Indigenous All Stars v Maori All Stars | NRL on Nine (11: 08)](https://www.youtube.com/watch?v=PMkzEc8QmhY) and engage with the [game statistics](https://www.nrl.com/draw/all-stars/2022/round-1/maori-v-indigenous/) for the Maori v Indigenous All-Stars - Round 1, 2022. The game was played on Saturday, 12 February 2022.

1. Create a player analysis document that indicates their viability for selection in next year’s game.
2. What changes would you make to the team and what evidence would you use to support your decision?
3. If you were coaching the Indigenous All-Star team in the next game, how would you prepare your players using an in-depth analysis of their performance from the previous game played?

**Reflective question:** Why is selecting a team such an area of debate in the era of sports statistics and science?

## Appendices

### Appendix 1: Results tables for the Premier League

Table 6 – Premier League results for 2016/2017 season

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Rank | Team | Played | Won | Drawn | Lost | Goals for | Goals against | Goal difference | Points |
| 1 | Chelsea | 38 | 30 | 3 | 5 | 85 | 33 | 52 | 93 |
| 2 | Tottenham Hotspur | 38 | 26 | 8 | 4 | 86 | 26 | 60 | 86 |
| 3 | Manchester City | 38 | 23 | 9 | 6 | 80 | 39 | 41 | 78 |
| 4 | Liverpool | 38 | 22 | 10 | 6 | 78 | 42 | 36 | 76 |
| 5 | Arsenal | 38 | 23 | 6 | 9 | 77 | 44 | 33 | 75 |
| 6 | Manchester United | 38 | 18 | 15 | 5 | 54 | 29 | 25 | 69 |
| 7 | Everton | 38 | 17 | 10 | 11 | 62 | 44 | 18 | 61 |
| 8 | Southampton | 38 | 12 | 10 | 16 | 41 | 48 | −7 | 46 |
| 9 | Bournemouth | 38 | 12 | 10 | 16 | 55 | 67 | −12 | 46 |
| 10 | West Bromwich Albion | 38 | 12 | 9 | 17 | 43 | 51 | −8 | 45 |
| 11 | West Ham United | 38 | 12 | 9 | 17 | 47 | 64 | −17 | 45 |
| 12 | Leicester City | 38 | 12 | 8 | 18 | 48 | 63 | −15 | 44 |
| 13 | Stoke City | 38 | 11 | 11 | 16 | 41 | 56 | −15 | 44 |
| 14 | Crystal Palace | 38 | 12 | 5 | 21 | 50 | 63 | −13 | 41 |
| 15 | Swansea City | 38 | 12 | 5 | 21 | 45 | 70 | −25 | 41 |
| 16 | Burnley | 38 | 11 | 7 | 20 | 39 | 55 | −16 | 40 |
| 17 | Watford | 38 | 11 | 7 | 20 | 40 | 68 | −28 | 40 |
| 18 | Hull City | 38 | 9 | 7 | 22 | 37 | 80 | −43 | 34 |
| 19 | Middlesborough | 38 | 5 | 13 | 20 | 27 | 53 | −26 | 28 |
| 20 | Sunderland | 38 | 6 | 6 | 26 | 29 | 69 | −40 | 24 |

Table 7 – Premier League results for 2015/2016 season

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Rank | Team | Played | Won | Drawn | Lost | Goals for | Goals against | Goal difference | Points |
| 1 | Leicester City | 38 | 23 | 12 | 3 | 68 | 36 | 32 | 81 |
| 2 | Arsenal | 38 | 20 | 11 | 7 | 65 | 36 | 29 | 71 |
| 3 | Tottenham Hotspur | 38 | 19 | 13 | 6 | 69 | 35 | 34 | 70 |
| 4 | Manchester City | 38 | 19 | 9 | 10 | 71 | 41 | 30 | 66 |
| 5 | Manchester United | 38 | 19 | 9 | 10 | 49 | 35 | 14 | 66 |
| 6 | Southampton | 38 | 18 | 9 | 11 | 59 | 41 | 18 | 63 |
| 7 | West Ham United | 38 | 16 | 14 | 8 | 65 | 51 | 14 | 62 |
| 8 | Liverpool | 38 | 16 | 12 | 10 | 63 | 50 | 13 | 60 |
| 9 | Stoke City | 38 | 14 | 9 | 15 | 41 | 55 | −14 | 51 |
| 10 | Chelsea | 38 | 12 | 14 | 12 | 59 | 53 | 6 | 50 |
| 11 | Everton | 38 | 11 | 14 | 13 | 59 | 55 | 4 | 47 |
| 12 | Swansea City | 38 | 12 | 11 | 15 | 42 | 52 | −10 | 47 |
| 13 | Watford | 38 | 12 | 9 | 17 | 40 | 50 | −10 | 45 |
| 14 | West Bromwich Albion | 38 | 10 | 13 | 15 | 34 | 48 | −14 | 43 |
| 15 | Crystal Palace | 38 | 11 | 9 | 18 | 39 | 51 | −12 | 42 |
| 16 | Bournemouth | 38 | 11 | 9 | 18 | 45 | 67 | −22 | 42 |
| 17 | Sunderland | 38 | 9 | 12 | 17 | 48 | 62 | −14 | 39 |
| 18 | Newcastle United | 38 | 9 | 10 | 19 | 44 | 65 | −21 | 37 |
| 19 | Norwich City | 38 | 9 | 7 | 22 | 39 | 67 | −28 | 34 |
| 20 | Aston Villa | 38 | 3 | 8 | 27 | 27 | 76 | −49 | 14 |

Table 8 – Premier League results for 2014/2015 season

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Rank | Team | Played | Won | Drawn | Lost | Goals for | Goals against | Goal difference | Points |
| 1 | Chelsea | 38 | 26 | 9 | 3 | 73 | 32 | 41 | 87 |
| 2 | Manchester City | 38 | 24 | 7 | 7 | 83 | 38 | 45 | 79 |
| 3 | Arsenal | 38 | 22 | 9 | 7 | 71 | 36 | 35 | 75 |
| 4 | Manchester United | 38 | 20 | 10 | 8 | 62 | 37 | 25 | 70 |
| 5 | Tottenham Hotspur | 38 | 19 | 7 | 12 | 58 | 53 | 5 | 64 |
| 6 | Liverpool | 38 | 18 | 8 | 12 | 52 | 48 | 4 | 62 |
| 7 | Southampton | 38 | 18 | 6 | 14 | 54 | 33 | 21 | 60 |
| 8 | Swansea City | 38 | 16 | 8 | 14 | 46 | 49 | −3 | 56 |
| 9 | Stoke City | 38 | 15 | 9 | 14 | 48 | 45 | 3 | 54 |
| 10 | Crystal Palace | 38 | 13 | 9 | 16 | 47 | 51 | −4 | 48 |
| 11 | Everton | 38 | 12 | 11 | 15 | 48 | 50 | −2 | 47 |
| 12 | West Ham United | 38 | 12 | 11 | 15 | 44 | 47 | −3 | 47 |
| 13 | West Bromwich Albion | 38 | 11 | 11 | 16 | 38 | 51 | −13 | 44 |
| 14 | Leicester City | 38 | 11 | 8 | 19 | 46 | 55 | −9 | 41 |
| 15 | Newcastle United | 38 | 10 | 9 | 19 | 40 | 63 | −23 | 39 |
| 16 | Sunderland | 38 | 7 | 17 | 14 | 31 | 53 | −22 | 38 |
| 17 | Aston Villa | 38 | 10 | 8 | 20 | 31 | 57 | −26 | 38 |
| 18 | Hull City | 38 | 8 | 11 | 19 | 33 | 51 | −18 | 35 |
| 19 | Burnley | 38 | 7 | 12 | 19 | 28 | 53 | −25 | 33 |
| 20 | Queens Park | 38 | 8 | 6 | 24 | 42 | 73 | −31 | 30 |

Table 9 – Premier League results for 2013/2014 season

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Rank | Team | Played | Won | Drawn | Lost | Goals for | Goals against | Goal difference | Points |
| 1 | Manchester City | 38 | 27 | 5 | 6 | 102 | 37 | 65 | 86 |
| 2 | Liverpool | 38 | 26 | 6 | 6 | 101 | 50 | 51 | 84 |
| 3 | Chelsea | 38 | 25 | 7 | 6 | 71 | 27 | 44 | 82 |
| 4 | Arsenal | 38 | 24 | 7 | 7 | 68 | 41 | 27 | 79 |
| 5 | Everton | 38 | 21 | 9 | 8 | 61 | 39 | 22 | 72 |
| 6 | Tottenham Hotspur | 38 | 21 | 6 | 11 | 55 | 51 | 4 | 69 |
| 7 | Manchester United | 38 | 19 | 7 | 12 | 64 | 43 | 21 | 64 |
| 8 | Southampton | 38 | 15 | 11 | 12 | 54 | 46 | 8 | 56 |
| 9 | Stoke City | 38 | 13 | 11 | 14 | 45 | 52 | −7 | 50 |
| 10 | Newcastle United | 38 | 15 | 4 | 19 | 43 | 59 | −16 | 49 |
| 11 | Crystal Palace | 38 | 13 | 6 | 19 | 33 | 48 | −15 | 45 |
| 12 | Swansea City | 38 | 11 | 9 | 18 | 54 | 54 | 0 | 42 |
| 13 | West Ham United | 38 | 11 | 7 | 20 | 40 | 51 | −11 | 40 |
| 14 | Sunderland | 38 | 10 | 8 | 20 | 41 | 60 | −19 | 38 |
| 15 | Aston Villa | 38 | 10 | 8 | 20 | 39 | 61 | −22 | 38 |
| 16 | Hull City | 38 | 10 | 7 | 21 | 38 | 53 | −15 | 37 |
| 17 | West Bromwich Albion | 38 | 7 | 15 | 16 | 43 | 59 | −16 | 36 |
| 18 | Norwich City | 38 | 8 | 9 | 21 | 28 | 62 | −34 | 33 |
| 19 | Fulham | 38 | 9 | 5 | 24 | 40 | 85 | −45 | 32 |
| 20 | Cardiff City | 38 | 7 | 9 | 22 | 32 | 74 | −42 | 30 |

League results all taken from [Premier League](https://www.premierleague.com/tables) (2022)

### Appendix 2: Documentary and movie list

**Note**: There is a wide range of movies and sports documentaries that can be utilised as stimulus sources for students. Ensure accessibility features are available for all digital content including YouTube videos and movies, such as closed captions and transcripts. They can be used either as case studies tying multiple ideas together, or used strategically to support lesson outcomes through the learning sequence. Any video, movie or documentary must be carefully selected and the supporting lesson outcomes made evident to students. Most of the films and documentaries will cover a few different perspectives and provide great opportunities for learning across learning sequences. This appendix lists examples of titles that can be used and a suggested extract on which to focus.

When assessing the choice of documentary or movie, please refer to the following resources to assess their suitability for students.

* [Controversial Issues in Schools Policy](https://education.nsw.gov.au/policy-library/policies/pd-2002-0045)
* [Audiovisual material in schools](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Feducation.nsw.gov.au%2Fcontent%2Fdam%2Fmain-education%2Fpolicy-library%2Fassociated-documents%2Faudio_proc.doc&wdOrigin=BROWSELINK).

#### Amazon Prime

**Fever Pitch (Series) (PG-13)**

A docuseries looking at the rise of the Premier League. Students can explore why the premier league was formed, and the change in the psychology of managers and players.

[Fever Pitch - The Rise of The Premier League | Official Trailer | 2021 | Amazon Exclusive (1:04)](https://www.youtube.com/watch?v=jL6-6voyAS8)

**All or Nothing: Manchester City (Not Rated)**

This docuseries focuses on Pep Guardiola's transition to the Premier League. The series can be shown throughout the unit or just the opening episode. Students can be asked if he was to change to another midtable side or another league without a large amount of funds, would he still be successful?’ This prompt can either be completed immediately after viewing, or following further analysis of his transition across multiple leagues and how he evolved.

[The Tactical Evolution Of Pep Guardiola | Pep Barca vs Bayern vs City | How Guardiola has changed (10:06)](https://www.youtube.com/watch?v=sj1LiFCds7o).

#### Netflix

**The Last Dance (Series) (TV-MA)**

Students can research and investigate what made Michael Jordan’s Chicago Bulls one of the most dominant teams in the NBA.

['The Last Dance' exclusive trailer and footage: The untold story of Michael Jordan and the Bulls (3:33)](https://www.youtube.com/watch?v=Peh9Yqf1GXc)

**The Playbook (Series) (TV-MA)**

Students can research and investigate the key role coaches and managers play in driving success.

[The Playbook | Official Trailer | Netflix (1:59)](https://www.youtube.com/watch?v=Iapq84suC3c)

**Azzurri – Road to Wembley (PG)**

A behind-the-scenes look at Italy’s 2020 Euro-winning side. This documentary can be used to drive discussion and prompt reflective research into the tactics used by the European champions of 2020 (played in 2021).

[The reaction in Italy to their European Championship win (4:34)](https://www.youtube.com/watch?v=qmK2euGsEbc)

#### YouTube

**The Brady 6**

After watching this documentary, students can investigate Tom Brady’s statistics from college ball versus NFL. The aim is to provide an assessment of how the statistical data and coaches’ assessments of Brady’s ability could have been so inaccurate.

[The Brady 6: Journey of the Legend NO ONE Wanted! (47:20)](https://www.youtube.com/watch?v=o5fdhfVrg1I)

#### Hollywood movies accessed via a range of options

**Miracle (2004, PG)**

Students can examine the thinking behind the team USA's psychology, selection and training ideas which led to one of the greatest upsets in sport.

[Remembering The USA's Miracle On Ice | Sochi 2014 Winter Olympics (5:02)](https://www.youtube.com/watch?v=Ql9I2NScwSI)

**Moneyball (2011, PG)**

After watching the movie, students can look at using statistics to select the most suitable players while also reducing the team’s overall spending on team composition.

[Moneyball (2011) Movie Trailer - HD - Brad Pitt (2:30)](https://www.youtube.com/watch?v=-4QPVo0UIzc)

### Appendix 3: Alternative sports and teaching ideas

#### Rock-climbing

Introduced as an Olympic sport in Tokyo (2021). The format chosen and the skills involved can be debated in the context of the critical thinking elective.

[Reel Rock S5 E1: Up to speed (22:30)](https://www.redbull.com/au-en/episodes/up-to-speed-reel-rock-s05-e01)

#### Field hockey

Students watch the 3 videos below from the 1980, 1992, and 2020 Olympic games.

* [India win Gold - Men's Hockey | Moscow 1980 Olympics (3:31)](https://www.youtube.com/watch?v=-ABDaGcPcos)
* [Spanish Womens field hockey gold - Barcelona 1992 (3:07)](https://www.youtube.com/watch?v=sK1hPYTdDb8)
* [India stun Australia in quarter-final | #Tokyo2020 Highlights (3:05)](https://www.youtube.com/watch?v=JIEso8-Tbfo)

What observations can we make about the changes across the 3 Olympics?

Research the rule and equipment changes in field hockey. How have these changes impacted the thinking and gameplay? Looking back at the 3 videos, are your ideas reflected in the game highlights?

#### Tennis

Students can develop and use criteria to determine the Greatest of All Time (GOAT) in both men’s and women’s tennis. Students focus on statistics and can collate numerous numbers such as win percentage, open wins and so on. They can then take into consideration technology and the impact of sports science on the game.

* [Is Serena Williams the GOAT of all GOATS? Is she the greatest female athlete ever? | Wimbledon 2019 (4:26)](https://www.youtube.com/watch?v=UgWibQSp_74)
* [Federer, Djokovic or Nadal: The Futility of Tennis' G.O.A.T Debate (7:26)](https://www.youtube.com/watch?v=xSFVGK6bylw)

## References

**Links to third-party material and websites**

Please note that the provided (reading/viewing material/list/links/texts) are a suggestion only and implies no endorsement, by the New South Wales Department of Education, of any author, publisher or book title. School principals and teachers are best placed to assess the suitability of resources that would complement the curriculum and reflect the needs and interests of their students.

If you use the links provided in this document to access a third party's website, you acknowledge that the terms of use, including licence terms set out on the third party's website apply to the use which may be made of the materials on that third-party website or where permitted by the *Copyright Act 1968* (Cth). The department accepts no responsibility for content on third-party websites.

[Science Years 7–10 Syllabus © 2018](https://educationstandards.nsw.edu.au/wps/portal/nesa/k-10/learning-areas/science/science-7-10-2018) NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales.

7CommGames (11 April 2018) ['Highlights: New Zealand v England | Netball | Preliminary Round Pool B | Gold Coast 2018’ [video]](https://www.youtube.com/watch?v=rjc3g_x-lEU), *7CommGames*, YouTube, accessed 18 July 2022.

7CommGames (14 April 2018) [‘Highlights | Basketball | Australia v New Zealand | Women’s Semi Final’ [video]](https://www.youtube.com/watch?v=JgwuyPK3zP4), *7CommGames*, YouTube, accessed 18 July 2022.

Baseline Tennis (15 December 2020) ['Federer, Djokovic or Nadal: The Futility of Tennis' G.O.A.T Debate' [video]](https://www.youtube.com/watch?v=xSFVGK6bylw), *Baseline Tennis,* YouTube, accessed 18 July 2022.

British Broadcasting Corporation (BBC) (15 January 2010) [‘Argentinian football derby – Explore - BBC’ [video]](https://www.youtube.com/watch?v=dzbzZNzV5oo), *BBCExplore,* YouTube, accessed 18 July 2022.

Cricket Australia (10 January 2019) [‘The best (and worst?) of stump mic’ [video]](https://www.youtube.com/watch?v=J3ea_3nM8_M), *cricket.com.au*, YouTube, accessed 18 July 2022.

Cricket Australia (18 June 2014) ['Murali has chequered history with Australia' [video]](https://www.youtube.com/watch?v=djc6JJheR0A), *cricket.com.au*, YouTube, accessed 18 July 2022.

Cricket Australia (24 December 2017) ['Waugh says Murali no-balling was the wrong call' [video]](https://www.youtube.com/watch?v=Ivf1qI5ZalA), *cricket.com.au*, YouTube, accessed 18 July 2022.

Deutsche Welle (2 August 2019) [‘WHY footballers win at home and lose away’ [video]](https://www.youtube.com/watch?app=desktop&v=YNBBuNAA9oU), *DW Kick off!*, YouTube, accessed 18 July 2022.

Downball Australia (n.d.) [Old School Rules](https://downballaustralia.com.au/rules/)*,* Downball Australia website, accessed 18 July 2022.

ESPN (25 December 2019) [''The Last Dance' exclusive trailer and footage: The untold story of Michael Jordan and the Bulls' [video]](https://www.youtube.com/watch?v=Peh9Yqf1GXc),  *ESPN,* YouTube, accessed 18 July 2022.

ESPN (30 April 2021) ['The winners and losers from the first round of the 2021 NFL Draft | KJZ' [video]](https://www.youtube.com/watch?v=N0cdSMo6h0Y), *ESPN*, YouTube, accessed 18 July 2022.

ESPN UK (13 July 2019) ['Is Serena Williams the GOAT of all GOATS? Is she the greatest female athlete ever? | Wimbledon 2019' [video]](https://www.youtube.com/watch?v=UgWibQSp_74), *ESPN UK,* YouTube, accessed 18 July 2022.

ESPN UK (22 September 2019) [‘VAR overshadows Leicester’s comeback vs. Tottenham: Millimetres is offside! – Ale Moreno | ESPN FC’ [video]](https://www.youtube.com/watch?v=MaTQqvv4WmM), *ESPN UK*, YouTube, accessed 18 July 2022.

ESPN UK (31 December 2019) ['VAR was not meant for Premier League's narrow offside calls - Peter Walton | ESPN FC' [video]](https://www.youtube.com/watch?v=8vb0JAxOqWg), *ESPN UK*, YouTube, accessed 18 July 2022.

ESPN UK (5 August 2021) ['What to make of VAR changes to offside law in Premier League? | ESPN FC' [video]](https://www.youtube.com/watch?app=desktop&v=z0KX-0HVxkI), *ESPN UK*, YouTube, accessed 18 July 2022.

Football Made Simple (15 May 2020) ['The Tactical Evolution Of Pep Guardiola | Pep Barca vs Bayern vs City | How Guardiola has changed |' [video]](https://www.youtube.com/watch?v=sj1LiFCds7o), *Football Made Simple*, YouTube, accessed 18 July 2022.

Football Made Simple (20 February 2022) ['Tactical Analysis: Manchester City 2-3 Tottenham | How Conte's Tactics Beat Guardiola |' [video]](https://www.youtube.com/watch?v=AJyYpnWdjOw), *Football Made Simple*, YouTube, accessed 18 July 2022.

Football Made Simple (25 April 2020) ['Johan Cruyff's Tactics Explained | Cruyff Dream Team Tactics | How Cruyff Transformed Barcelona |' [video]](https://www.youtube.com/watch?v=DWjmbTp5jq8), *Football Made Simple*, YouTube, accessed 18 July 2022.

Football Made Simple (3 February 2022) ['Why Ralf Rangnick's Early United Tactics Failed | Rangnick 4-2-2-2 Tactical Analysis |' [video]](https://www.youtube.com/watch?app=desktop&v=k-3SiB84PCE), *Football Made Simple*, YouTube, accessed 18 July 2022.

International Cricket Council (ICC) (2022) ‘[The Three Formats of Cricket](https://www.icc-cricket.com/about/cricket/game-formats/the-three-formats)’, *Cricket,* ICC website, accessed 18 July 2022.

International Cricket Council (ICC) (2022) [ICC Regulations for the Review of Bowlers Reported with Suspect Illegal Bowling Actions [PDF 1.79MB]](https://icc-static-files.s3.amazonaws.com/ICC/document/2018/09/27/0201407d-9aac-41bb-99cb-5c4ac233c524/18-Illegal-Bowling-September-2018.pdf), ICC, accessed 18 July 2022.

Man City (21 February 2022) ['EXTENDED HIGHLIGHTS | Manchester City 2-3 Tottenham | Premier League | Gundogan & Mahrez goals' [video]](https://www.youtube.com/watch?v=PSJ_nIV0xCc), *Man City*, YouTube, accessed 18 July 2022.

Marylebone Cricket Club (MCC) (2022) [‘Law 21: No Ball’](https://www.lords.org/mcc/the-laws-of-cricket/no-ball), *The Laws,* MCC website, accessed 18 July 2022.

MIT (Massachusetts Institute of Technology) (2022) ‘[Resource Sheet: Claim-Evidence-Reasoning (CER)](https://blossoms.mit.edu/videos/lessons/3_2_1_blast_off_understanding_reaction_rate_better_design_toy_rocket)’, MIT BLOSSOMS, MIT, accessed 18 July 2022.

National Geographic (23 June 2015) ['The Power of Positivity | Brain Games' [video]](https://www.youtube.com/watch?v=kO1kgl0p-Hw), *National Geographic*, YouTube, accessed 18 July 2022.

NBA Highlights (16 April 2016) [‘Kobe Bryant Amazing last 3 minutes in his FINAL GAME vs Jazz (04/13/16)’ [video]](https://www.youtube.com/watch?app=desktop&v=Rx2inwUj_F0), *NBA Highlights*, YouTube, accessed 18 July 2022.

Netflix (10 September 2020) ['The Playbook | Official Trailer | Netflix' [video]](https://www.youtube.com/watch?v=Iapq84suC3c), *Netflix,* YouTube, accessed 18 July 2022.

NFL Films (28 June 2017) ['Why Tom Brady Was Passed on by the 49ers & Drafted by the Patriots | The Brady 6 (2011) | NFL Films' [video]](https://www.youtube.com/watch?v=FmZofANQu74), *NFL Films*, YouTube, accessed 18 July 2022.

NFL Films (6 March 2020) ['The Brady 6: Journey of the Legend NO ONE Wanted!' [video]](https://www.youtube.com/watch?v=o5fdhfVrg1I), *NFL Films,* YouTube, accessed 18 July 2022.

NFL Network (27 April 2018) ['How the NFL Draft Works | NFL Network' [video]](https://www.youtube.com/watch?app=desktop&v=D8gsxDtc4tU), *NFL Network*, YouTube, accessed 18 July 2022.

NRL (National Rugby League) (2022) ‘[Maori vs Indigenous – Round 1, 2022](https://www.nrl.com/draw/all-stars/2022/round-1/maori-v-indigenous/)’, *Draw,* National Rugby League (NRL) website, accessed 18 July 2022.

NRL on Nine (12 February 2022) ['NRL Highlights: Indigenous All Stars vs Maori All Stars | NRL on Nine' [video]](https://www.youtube.com/watch?v=PMkzEc8QmhY), *NRL on Nine*, YouTube, accessed 18 July 2022.

Olympics (1 March 2010) ['India win Gold - Men's Hockey | Moscow 1980 Olympics' [video]](https://www.youtube.com/watch?v=-ABDaGcPcos), *Olympics,* YouTube, accessed 18 July 2022.

Olympics (1 November 2011) ['Spanish Womens field hockey gold - Barcelona 1992' [video]](https://www.youtube.com/watch?v=sK1hPYTdDb8), *Olympics,* YouTube, accessed 18 July 2022.

Olympics (12 February 2014) ['Remembering The USA's Miracle On Ice | Sochi 2014 Winter Olympics' [video]](https://www.youtube.com/watch?v=Ql9I2NScwSI), *Olympics,* YouTube, accessed 18 July 2022.

Olympics (2 August 2021) ['India stun Australia in quarter-final 🏑 | #Tokyo2020 Highlights' [video]](https://www.youtube.com/watch?v=JIEso8-Tbfo), *Olympics,* YouTube, accessed 18 July 2022.

Optus Sport (30 October 2019) ['Leicester City - Kings of England' [video]](https://www.youtube.com/watch?v=WHXvJ8akYQE), *Optus Sport,* YouTube, accessed 18 July 2022.

Optus Sport (27 March 2020) ['VAR Rewind: Cheick Tiote's incredible strike, but were his teammates offside?' [video]](https://www.youtube.com/watch?app=desktop&v=kOqQW7Z5Rjo), *Optus Sport,* YouTube, accessed 18 July 2022.

PIX11 News (4 June 2016) ['Muhammad Ali and Joe Frazier talk trash in 1971 press conference before 'Fight of the Century' [video]](https://www.youtube.com/watch?v=f1pZPCLz-k4), *PIX11 News,* YouTube, accessed 18 July 2022.

Play Four Square (2022) [Official Rules of Four Square](https://squarefour.org/rules#:~:text=1%20Once%20ball%20bounces%20in%20a%20square%2C%20ONLY,any%20time%20is%20subject%20to%20all%20other%20rules.)*,* Play Four square website, accessed 18 July 2022.

Premier League (2020) ‘[History of VAR](https://www.premierleague.com/news/1293198)’, *News,* Premier League website, accessed 18 July 2022.

Premier League (2020) ‘[How offsides are determined by VAR](https://www.premierleague.com/news/1488423)’, *News,* Premier League website, accessed 18 July 2022.

Premier League (2022) [*Tables*](https://www.premierleague.com/tables), Premier League website, accessed 20 July 2022.

Prime Video AU & NZ (25 October 2021) ['Fever Pitch - The Rise of The Premier League | Official Trailer | 2021 | Amazon Exclusive' [video]](https://www.youtube.com/watch?v=jL6-6voyAS8), *Prime Video AU & NZ,* YouTube, accessed 18 July 2022.

Red Bull (n.d.) ['Up To Speed: Reel Rock, S5 E1' [video]](https://www.redbull.com/au-en/episodes/up-to-speed-reel-rock-s05-e01), *Red Bull,* Red Bull website, accessed 18 July 2022.

Rotten Tomatoes Trailers (17 June 2011) ['Moneyball (2011) Movie Trailer - HD - Brad Pitt' [video]](https://www.youtube.com/watch?v=-4QPVo0UIzc), *Rotten Tomatoes Trailers,* YouTube, accessed 18 July 2022.

Secret Base (8 March 2016) ['How the NFL's best teams outsmart everyone in the draft' [video]](https://www.youtube.com/watch?v=7LFfMfGnFIU), *Secret Base,* YouTube, accessed 18 July 2022.

shammi13 (10 May 2007) ['Original Muhammad Ali vs Sonny Liston weigh-in 1964' [video]](https://www.youtube.com/watch?app=desktop&v=zaTbr5TrnHA), *shammi13,* YouTube, accessed 18 July 2022.

Sideline Soccer (2022) [The History of the Offside Rule](http://www.sidelinesoccer.com/history-of-the-offside-rule), Sideline Soccer website, accessed 18 July 2022.

Sky News Australia (9 August 2021) [‘Netball ‘could be introduced’ at Brisbane 2032 Olympic Games: Murray’ [video]](https://www.youtube.com/watch?v=HhGTaXiDoso), *Sky News Australia,* YouTube, accessed 18 July 2022.

Sky Sports Football (9 October 2021) ['Predicting England's 2022 World Cup squad | Saturday Social feat Thogden & Specs' [video]](https://www.youtube.com/watch?app=desktop&v=94r9_5qbhn8), *Sky Sports Football,* YouTube, accessed 18 July 2022.

Sky Sports News (13 July 2021) ['The reaction in Italy to their European Championship win' [video]](https://www.youtube.com/watch?v=qmK2euGsEbc), *Sky Sports News,* YouTube, accessed 18 July 2022.

Sky UK (2022) [Premier League Table](https://www.skysports.com/premier-league-table)*,* Sky Sports website, accessed 18 July 2022.

SUPERSOCCER (9 May 2021) ['Premier League | Harry Kane Goal Denied by VAR' [video]](https://www.youtube.com/watch?v=onXhJ3KaA3g), *SUPERSOCCER,* YouTube, accessed 18 July 2022.

TED (7 July 2015) ['The Math Behind Basketball's Wildest Moves | Rajiv Maheswaran | TED Talks' [video]](https://www.youtube.com/watch?v=66ko_cWSHBU), *TED,* YouTube, accessed 18 July 2022.

TED (9 January 2017) ['Soccermatics: how maths explains football | David Sumpter | TEDxUppsalaUniversity' [video]](https://www.youtube.com/watch?v=Nv7JYtVbzvI), *TEDx Talks,* YouTube, accessed 18 July 2022.

The Economist (16 January 2019) ['What makes elite athletes thrive or dive under pressure? | The Economist' [video]](https://www.youtube.com/watch?app=desktop&v=N8TBavtJu0o), *The Economist,* YouTube, accessed 18 July 2022.

The Economist (5 December 2018) ['How data transformed the NBA | The Economist' [video]](https://www.youtube.com/watch?app=desktop&v=oUvvfHkXyOA), *The Economist,* YouTube, accessed 18 July 2022.

The Football Association (TheFA) (2022) ['Law 11: Offside'](https://www.thefa.com/football-rules-governance/lawsandrules/laws/football-11-11/law-11---offside), *Laws of the Game & FA Rules,* TheFA website, accessed 18 July 2022.

The Sydney Morning Herald (12 November 2004) ‘[Bending the rules on chucking](https://www.smh.com.au/sport/cricket/bending-the-rules-on-chucking-20041112-gdk3k3.html)’, *The Sydney Morning Herald*, accessed 18 July 2022.

The University of Western Australia (2001) [Final Bowling Report: Mr Shoaib Akhtar](https://www.pcb.com.pk/important-documents.html), Department of Human Movement & Exercise Science, Australian Government, accessed 18 July 2022.

UFC – Ultimate Fighting Championship (21 September 2018) ['UFC 229: Khabib vs McGregor Press Conference Highlights' [video]](https://www.youtube.com/watch?app=desktop&v=R_IextK-x2A),  *UFC Fighting Championship,* YouTube, accessed 18 July 2022.

upstart magazine (7 October 2019) ['A Brief History of Netball In Australia' [video]](https://www.youtube.com/watch?app=desktop&v=c4CMkLhbjf8),  *upstart magazine,* YouTube, accessed 18 July 2022.