

Your challenge is to try to give an answer to that question

- in the sport of your choice

or

- across a number of sports.

The electronic files and links provided will help you to explore how much sport depends on mathematics. Use the list of suggested mathematical topics as a guide. Start your exploration in the National Sports Museum itself!

## Australian Football

The game	Home and away
Scoring	Finals series
Simulation	Famous players
Ladder calculations	Height and mass
The League and clubs	Using team data

## Athletics

Track events	Speed
Speed vs distance	Staggered starts
Field events	High jump
Long jump	Triple jump
Pole vault	Throwing

## Basketball

Australian teams	Scoring
Slam dunk	Penalty goal shooting
Movement on court	

## Cricket

Cricket Hall of Fame	Women's Cricket
Batting	Bradman
Run rate	Batting averages
Bowling	Fast bowling
Bowling averages	Spin bowling
Warne	Fielding
Cricket grounds	Wagon wheels
Fielding reaction times	Throws and catches in the 'out-field'
Scoring	Two tied matches

## Cycling

Tour de France (Cadel Evans)	Hubert Opperman
Speed and distance	Velodrome geometry
Bicycle frame geometry	Gears, cadence, speed

## Horse racing

Melbourne Cup	Pharlap
Carbine	Scobie Beasley (jockey)
Cummings (trainer)	Handicapping
TAB	Bookmakers

## Swimming

Famous Australians	Distance, times, speeds
Wins, records, gold medals	

## Golf

Famous Australian golfers	The golf ball
Choice of club	Putting
Magnus effect	Hooks and slices

## Soccer

National Australian teams	World Cup
Goalie	Angle kicking at goal
Soccer ball geometry	Famous players

## Tennis

Famous Australians	Scoring
Sets and matches	Serving - angles, speeds
Serve swing and kick	Shot angles
Drive, smash, volley	

## SOME MATHS THAT YOU MAY USE

... in life, sport or in school subjects

Add or subtract whole numbers	Use decimals (\$ or measurements)	Estimate answers
Use averages	Use ratios or rates	Order numbers
Use ratios	Use proportion	Read percentages
Calculate percentages	Use common fractions	Find fractions of something
Convert fractions to decimals or %	Use scientific notation	Use formulas (with letters)
Solve equations (mentally/symbols)	Read algebraic graphs	Use length measurement
Use time units	Use areas	Use volume units
Estimate time	Estimate speed	Estimate capacity
Use mass units	Use speed units	Estimate distance
Read statistical data	Calculate statistics (e.g. means)	Read statistical graphs
Draw statistical graphs	Understand chance and odds	Use chance or probability
Use angles or bearings	Read a map or plan (length, direction)	Create a map or plan
Use a map or plan scale	Enlarge or reduce a shape	Find unknown lengths
Read a 2D picture of 3D objects	Draw a 2D picture of 3D objects	Use symmetry in design etc.