MATHS IN SPORTS

Numbers, scores, speed and strategy in the world of sport

GAMES	TIME	SCORES	STRATEGY

Inside this pack: 12 sporty maths activities, scorecards, data challenges, real-life calculations and a complete answer key.

PLAY • CALCULATE • COMPARE • WIN

Name: _____ Date: _____

Welcome, Sports Maths Champion!

Maths is part of every sport. Players use speed, distance, time, angles, scores, statistics and strategy. Coaches study data to make decisions, and spectators use numbers to follow the action. Get ready to explore the maths behind the games!

Remember: Read each question carefully, include units and show your working. The sports and results in this pack are examples created for maths practice.

YOUR SPORTS MATHS TOOLKIT	
Scores & totals	Add points, goals, runs and sets to compare results
Time & speed	Use elapsed time, distance and average speed
Fractions & percentages	Compare successful attempts, possession and performance
Data & graphs	Read scorecards, tables and player statistics
Geometry	Explore court dimensions, perimeter, area and angles
Strategy	Use logical thinking and number patterns to plan a game

Sportsmanship matters: These challenges are about enjoying maths, trying your best and respecting every player.

1. The Big Scoreboard

A school basketball tournament has four teams. Study the points scored in the final round.

SPORTS MATHS • GAME ON!

Scorecard / Data: Falcons – 48 points; Tigers – 56 points; Sharks – 42 points; Eagles – 51 points.

1. Which team scored the most points?

_____

2. How many points did all four teams score altogether?

_____

3. How many more points did the Tigers score than the Sharks?

_____

4. What is the difference between the highest and lowest scores?

_____

5. If the Falcons score 9 more points, what will their new total be?

_____

MINI CHALLENGE

Create a bar graph showing the four team scores. Add a title and label the number of points.

_____

_____

2. Race Against Time

Four runners completed a race. Their finishing times are shown below.

SPORTS MATHS • GAME ON!

Scorecard / Data: Asha – 14.8 seconds; Ben – 15.2 seconds; Cara – 14.5 seconds; Dev – 15.0 seconds.

1. Who finished first?

_____

2. Who finished last?

_____

3. What is the difference between the fastest and slowest times?

_____

4. Write the four times in order from fastest to slowest.

_____

5. If Cara improves her time by 0.3 seconds, what will her new time be?

_____

MINI CHALLENGE

Time three short, safe activities such as walking between two marked points. Compare the results.

_____

_____

3. Football League Table

A mini football league awards 3 points for a win, 1 point for a draw and 0 points for a loss.

SPORTS MATHS • GAME ON!

Scorecard / Data: Lions: 3 wins, 1 draw, 1 loss. Wolves: 2 wins, 2 draws, 1 loss. Bears: 2 wins, 1 draw, 2 losses.

1. How many points did the Lions earn?

_____

2. How many points did the Wolves earn?

_____

3. How many points did the Bears earn?

_____

4. Which team is top of the league?

_____

5. How many matches did each team play?

_____

MINI CHALLENGE

Make a league table showing each team's wins, draws, losses and total points.

_____

_____

4. Cricket Scorecard Challenge

A batter scored the following runs in five matches.

SPORTS MATHS • GAME ON!

Scorecard / Data: Match 1 – 35 runs; Match 2 – 48 runs; Match 3 – 22 runs; Match 4 – 55 runs; Match 5 – 40 runs.

1. How many runs did the batter score altogether?

_____

2. What was the highest score?

_____

3. What was the lowest score?

_____

4. Find the average runs per match.

_____

5. How many more runs were scored in Match 4 than Match 3?

_____

MINI CHALLENGE

Display the five scores in a bar graph. Write one sentence about the batter's performance.

_____

_____

5. The Practice Planner

A player follows a weekly training plan. Calculate the time spent on practice.

SPORTS MATHS • GAME ON!

Scorecard / Data: Monday – 45 minutes; Tuesday – 60 minutes; Wednesday – 30 minutes; Thursday – 45 minutes; Friday – 60 minutes.

1. How many minutes of practice are completed in the week?

_____

2. Convert the total practice time into hours and minutes.

_____

3. What is the difference between the longest and shortest sessions?

_____

4. If the player adds a 30-minute session on Saturday, what is the new weekly total?

_____

5. What is the average practice time per day over the five weekdays?

_____

MINI CHALLENGE

Create a balanced three-day practice plan. Write the activity and time for each day, then find the total time.

_____

_____

6. How Fast Are They?

A cyclist travels 36 km in 2 hours at a steady average speed.

SPORTS MATHS • GAME ON!

Scorecard / Data: What is the cyclist's average speed in kilometres per hour?

1. At the same speed, how far will the cyclist travel in 3 hours?

_____

2. How long will it take to travel 90 km at this speed?

_____

3. A second cyclist travels 48 km in 2 hours. What is the second cyclist's average speed?

_____

4. Which cyclist is faster, and by how many kilometres per hour?

_____

MINI CHALLENGE

Choose a journey you know and estimate its distance and travel time. Calculate an approximate average speed.

_____

_____

7. Shooting for Success

A player practises free throws over four sessions. Use the attempts and successful shots to compare performance.

SPORTS MATHS • GAME ON!

Scorecard / Data: Session A – 8 successful shots out of 10; Session B – 6 out of 10; Session C – 9 out of 12; Session D – 7 out of 8.

1. How many successful shots were made altogether?

_____

2. How many attempts were made altogether?

_____

3. What fraction of Session A attempts were successful?

_____

4. What percentage of Session B attempts were successful?

_____

5. Which session had the highest success percentage?

_____

MINI CHALLENGE

Make a table showing attempts, successful shots and success percentage for each session.

_____

_____

8. Court & Field Geometry

A sports club is marking out practice spaces. Use the dimensions below.

SPORTS MATHS • GAME ON!

Scorecard / Data: A rectangular court is 28 m long and 15 m wide. Find its perimeter.

1. Find the area of the court.

_____

2. A square practice zone has sides of 8 m. Find its area.

_____

3. A running track lap is 400 m. How far does an athlete run in 5 laps?

_____

4. A rectangular training area is 20 m by 12 m. How much fencing is needed to go all the way around it?

_____

MINI CHALLENGE

Draw a simple sports court or field. Label its length and width, then calculate its perimeter.

_____

_____

9. Tournament Planner

A sports day has four teams. Each team must play every other team once.

SPORTS MATHS • GAME ON!

Scorecard / Data: How many different matches will take place?

1. If each match lasts 12 minutes, how many minutes of playing time are needed in total?

_____

2. If the event starts at 9:00 a.m. and matches are played one after another with no breaks, when will the matches finish?

_____

3. If a 5-minute break is added between each match, how many minutes will the event take altogether?

_____

4. How many matches will each team play?

_____

MINI CHALLENGE

Draw a fixture list showing each team playing every other team once. Check that no match is repeated.

_____

_____

10. Sports Statistics Detective

A volleyball player recorded the number of successful serves in six games.

SPORTS MATHS • GAME ON!

Scorecard / Data: Game 1 – 7; Game 2 – 9; Game 3 – 6; Game 4 – 8; Game 5 – 9; Game 6 – 11.

1. How many successful serves were recorded altogether?

_____

2. What was the highest number of successful serves in one game?

_____

3. What was the lowest number?

_____

4. What was the most common number of successful serves?

_____

5. Find the average number of successful serves per game.

_____

MINI CHALLENGE

Create a line graph or bar graph to show the six game results. Which graph communicates the data most clearly?

_____

_____

11. Angles in Action

Angles help players aim, pass and move. Think about the direction of movement in each situation.

SPORTS MATHS • GAME ON!

Scorecard / Data: A player turns one-quarter of a full turn. How many degrees is this?

1. A gymnast makes a half turn. How many degrees has the gymnast turned?

_____

2. A full turn is divided into 8 equal sections. How many degrees is each section?

_____

3. A player faces north and turns 90° clockwise. Which direction are they facing?

_____

4. A triangular sports pennant has angles of 50° and 60°. What is the third angle?

_____

MINI CHALLENGE

Draw a sports movement diagram and mark one right angle, one acute angle and one obtuse angle.

_____

_____

12. The Ultimate Sports Maths Challenge

Plan a mini sports event. Use the information to organise the activity and calculate the totals.

SPORTS MATHS • GAME ON!

Scorecard / Data: There are 6 teams. Each team has 8 players. How many players are taking part?

1. Each player receives 2 practice cones. How many cones are needed?

_____

2. The event has 5 matches, each lasting 18 minutes. What is the total playing time?

_____

3. A team scores 12, 9 and 15 points in three rounds. Find its total and average score.

_____

4. Write two pieces of data you would collect to decide which team performed most consistently.

_____

MINI CHALLENGE

Design a sports-day scorecard. Include a team name, rounds, scores, total points and a final result.

_____

_____

ANSWER KEY

Suggested answers are provided below. For graphs and planning activities, check that information is accurate, labels are clear and calculations match the data. Open-ended challenges will vary.

CHECK YOUR SCORE

1. The Big Scoreboard

1. Tigers

2. 197 points

3. 14 points

4. 14 points

5. 57 points

2. Race Against Time

1. Cara

2. Ben

3. 0.7 seconds

4. 14.5 s, 14.8 s, 15.0 s, 15.2 s

5. 14.2 seconds

3. Football League Table

1. 10 points

2. 8 points

3. 7 points

4. Lions

5. 5 matches each

4. Cricket Scorecard Challenge

1. 200 runs

2. 55 runs

3. 22 runs

4. 40 runs

5. 33 runs

5. The Practice Planner

1. 240 minutes

2. 4 hours

3. 30 minutes

4. 270 minutes

5. 48 minutes

6. How Fast Are They?

1. 18 km/h

2. 54 km

3. 5 hours

4. 24 km/h

5. Second cyclist, by 6 km/h

7. Shooting for Success

1. 30 successful shots

2. 40 attempts

3. 8/10 = 4/5 = 80%

4. 60%

5. Session D (87.5%)

8. Court & Field Geometry

1. 86 m

2. 420 m²

3. 64 m²

4. 2,000 m

5. 64 m

9. Tournament Planner

1. 6 matches

2. 72 minutes

3. 10:12 a.m.

4. 97 minutes (1 hour 37 minutes)

5. 3 matches per team

10. Sports Statistics Detective

1. 50

2. 11

3. 6

4. 9

5. 8■ (approximately 8.33)

11. Angles in Action

1. 90°

2. 180°

3. 45°

4. East

5. 70°

12. The Ultimate Sports Maths Challenge

1. 48 players

2. 96 cones

3. 90 minutes

4. 36 points; average 12 points per round

5. Answers vary; e.g. points scored per round and points conceded, or score difference across rounds.

GREAT PLAY, SPORTS MATHS CHAMPION!

You used maths to compare scores, calculate speed, explore geometry, analyse performance and plan a tournament. Every great game has numbers behind it—and every great mathematician knows how to play with them!