

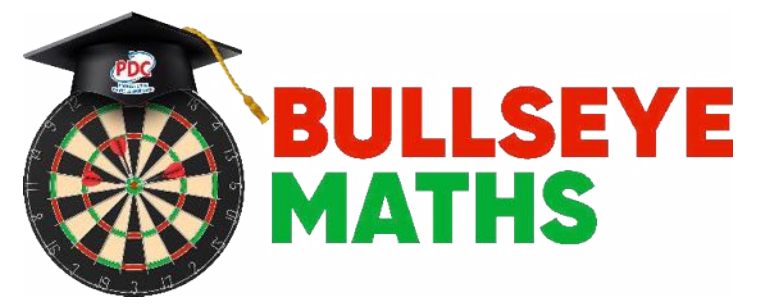


BULLSEYE MATHS

EDUCATIONAL STARTER PACK FOR FAMILIES AND SCHOOLS

pdc.tv/maths





Welcome to Bullseye Maths, a new & interactive way to practice and develop numeracy for the whole family, designed by the Professional Darts Corporation and supported by Maths on Toast, the family maths charity.

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1. ABOUT

Bullseye Maths was launched in 2022 by the Professional Darts Corporation (PDC) in conjunction with Room 180 Academy and GoDartsPro, and supported by Maths on Toast, the family maths charity.

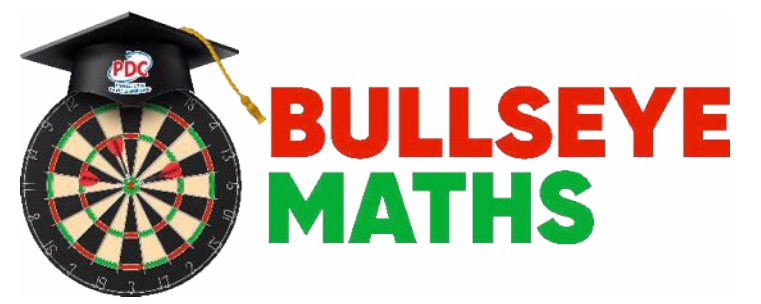
Research conducted during and following the Covid-19 pandemic showed how school closures had impacted young children's numeracy levels. As a sport that requires a degree of numerical ability, the PDC launched Bullseye Maths as a fun and engaging way for children to work on their maths through darts-based lessons and learning exercises.

Initially targeting children at the Key Stage 2 level, the initiative is designed to be used in schools and with the wider family at home or in local community environments.

The PDC website hosts an online learning portal at pdc.tv/maths which includes educational games and real-life stories from some of the biggest stars in the sport talking about their experiences of maths growing up.

A screenshot of the 'Darts Mathlete' game interface. The title 'Darts Mathlete' is at the top left. Below it, under 'Game options', there is a dropdown menu showing 'Start at 121'. Two buttons, 'START GAME' and 'SOUND', are visible. To the right, under 'Game rules', there is text explaining the game: 'We all know practice makes perfect and darts is no exception. Darts Mathlete is all about practice. You choose the darts checkout to start with and you will then be shown a series of numbers to solve it. If you select the correct answer to make up the checkout combination, you can proceed to the next checkout. You can try again from the start if you don't get it right first time.' At the bottom right is a logo featuring a graduation cap with a target in the center and the text 'DARTS MATHLETE' below it.

Try Darts Mathlete on the PDC website and visit godartspro.com for more fun interactive activities



Throughout 2022, the PDC has been visiting primary schools across the UK, holding darts-based maths classes led by staff from Nottingham College's Room 180 Academy. The 90-minute sessions feature a mixture of desk work and practical activities at the dartboard. Each session has included a visit from a professional darts player, including World Champion Peter Wright and Premier League stars Gerwyn Price, James Wade and Joe Cullen.

We plan to visit more schools next year, and details on how your child's school could get involved can be found in the How to Get Involved section. The activity sheets in this document, however, provide a great way to practice maths using darts at home, and have been approved by our charity partner, Maths on Toast, the family maths charity.

2. ABOUT DARTS AND THE PDC

Darts

Darts is a dramatic, exciting and fast-paced sport for all, and as well as being incredibly skilful, the players also have amazing maths ability.

The game was first played by English soldiers during the medieval times in the 1300s. It continued to grow in popularity over the years, and even King Henry VIII enjoyed playing with a set of darts given to him by his second wife, Anne Boleyn.

But, it wasn't until the 19th century when the game began to really gather momentum, and in 1896 a carpenter from Lancashire, named Brian Gamlin, invented the modern day numbering system used on dartboards.

The first organised darts championships began in the 1920s and was quickly followed by the creation of the National Darts Association in 1924.



The Professional Darts Corporation (PDC)

Today, the PDC organises a £15 million annual professional tour, with the sport's best players competing against each other in front of sell-out crowds internationally.

The PDC was formed in 1992 and its biggest tournament is the World Championship, which takes place annually at London's Alexandra Palace, lasting almost three weeks and featuring 96 men and women competing live on Sky Sports - with the winner receiving a huge £500,000!

To learn more about the PDC, [visit their website](#).



3. ABOUT OUR PARTNERS

- **Room 180 Academy**

Room 180 Academy has been running for over 6 years and looks at using the sport of darts to develop learning in the 3 focus areas of:

The Player, The Study Centre and Be-spoke learning packages.

Our resources are for school children, darts players, coaches, teachers, parents and mentors.

Gary Horsley and his team have over 27 years of experience working in Primary, Secondary, F.E., H.E. and community educational settings within and outside of the UK. Our Darts Education model is supported by the PDC, Winmau, JDC and Nottingham College. Education content includes a learning framework, DUAL Core learning, "The Brightside" resources, "on the oche" maths, "break the code" English and other exciting resources to help all learners "Find their Brightside".

[Click here to visit the Room 180 Academy website.](#)

- **GoDartsPro**

GoDartsPro is the worlds leading darts training platform with more than 100 practise games, challenges, and a Virtual Coach that will inspire the members to improve and perform on top of their current levels.

More than 32,000 members from 97 different countries has registered since the start 2017. There are games for all kinds of levels. Games that several well known PDC players regularly use as well as games intended for complete beginners.

There are also several darts maths games to develop the members numeracy skills. GoDartsPro is a proud partner with Winmau, JDC, and Scolia and has sponsored JDC with online tools for their academies and coaches since 2018.

[Click here to visit the GoDartsPro website.](#)

- **Maths on Toast**

Maths on Toast is the family maths charity on a mission to give all families and communities playful, hands-on, creative experiences of maths – they want everyone in the UK to enjoy and feel positive about maths!

[Click here to visit the Maths on Toast website.](#)



4. WHY IS DARTS GOOD FOR MATHS?

In a game of darts you start with a score of 501. You then get three throws to score as many points as possible. Your opponent then throws three darts before you throw again. The winner of a “leg” is the first person to get from 501 to 0 by finishing with a double (i.e. scoring 40 with double 20).

A dartboard contains 20 sections, numbered from 1-20. Depending on what section you hit, that is how many points you score. Each section does however have areas where you can score double and treble points.

Maths is therefore used throughout a game of darts, using the 2x and 3x tables, adding up your score after the three darts and then subtracting that from 501 or your score throughout the “leg”.

Exploring and working out all the different combinations of scores is a fantastic way to really understand how numbers work and fit together. Being confident and able to work things out in different ways is a key maths skill.

5. HOW TO GET INVOLVED

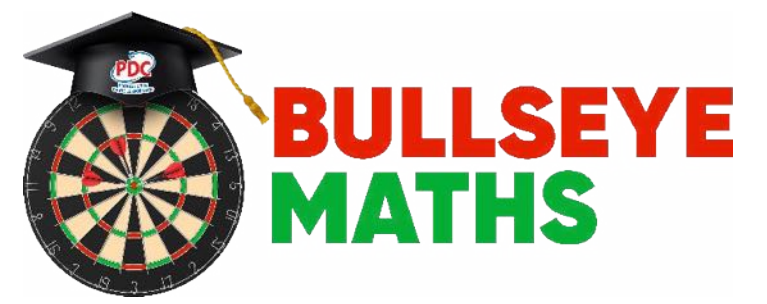
Try out our three activity sheets in the back of this document. These sheets can be printed off and used at home, with or without a dartboard.

You can also play *Mathlete*, an interactive game designed by GoDartsPro, on the Bullseye Maths portal at pdc.tv/maths.

If you would like to find out more about Bullseye Maths and how your school, club or community centre can take part in a Bullseye Maths session, please use the below email address:

thom@soapboxlondon.com





6. FEEDBACK

Adam Barnard, PE specialist, Lark Hall Primary School

"We always enjoy ways to make our lessons fun and engaging for the students, and the Bullseye Maths session was a fantastic experience for our 21 pupils taking part.

"You could see by how much they got involved with all aspects of the session, both the worksheets and the playing darts, that they loved it, and having the World Champion, Peter Wright passing on tips and talking about maths was something they will never forget."

Catherine Houghton, Early Years Leader at Park Spring Primary School

"This has been a really fun way for the children to learn maths. It's given them experience about another sport and they got to meet a sports star, as well as enjoying the Bullseye Maths session.

"Experiences like this help to raise childrens' aspirations for the future as well as improving their maths skills and love of learning."

Tracey Bailey, Assistant Head Teacher, Park Hill Primary School

"Thank you for the time spent with us exploring maths and darts. The staff said the children came back absolutely buzzing!"

"It would be fantastic if these resources were available as a teachers pack so that these activities could be incorporated into maths lessons in some way."

Catherine Brown, year 6 teacher, Broad Oak Community Primary

"Our children loved the session. Not only did they get the chance to try their hand at playing darts for the first time, but it also provided a rare opportunity to embed a variety of maths skills into a real-life context.

"It was a great way to build children's fluency without them even realising."

7. ACTIVITY SHEETS

1. Remember to take your time and explore the numbers.
2. Use the dart board to help you work out the scores and numbers.
3. Use counters or beads/draw dots to help you work out the doubles, triples and number combinations at first - it really helps!"



Scoring in Darts

SCORING: on a dartboard you can score **singles**, **doubles** and **trebles**.

The thin outer ring is worth **double** the number and the thin inner ring is worth **triple** the number. Everything else is worth **single** points.

The only exception is the **inner** and **outer bullseye** in the middle of the board. The outer bull is worth **25 points**, and the inner bull is worth **50 points**.

SINGLE



DOUBLE



TREBLE



BULLSEYE (50 POINTS)



OUTER BULLSEYE (25 POINTS)

For Example, If your dart lands in the **11 section** you score **11 points**.

If it lands in the **outer ring (double)** of the **11 section**, you score **22 points**
- because $11 \times 2 = 22$

If it lands in the **inner ring** of the **11 section** you score **33 points**
- because $11 \times 3 = 33$

ACTIVITY SHEET 1



Fill in all the different scores on a dartboard -

SINGLE	DOUBLE	TREBLE
20		
1		
18		
4		
13		
6		
10		
15		
2		
17		
3		
19		
7		
16		
8		
11		
14		
9		
12		
5		



123 DARTS = 9

Using your dartboard at home, throw up to three darts to score the numbers in the below table

Remember to use the double and treble sections on the dartboard for the really big scores!

SCORE - 39

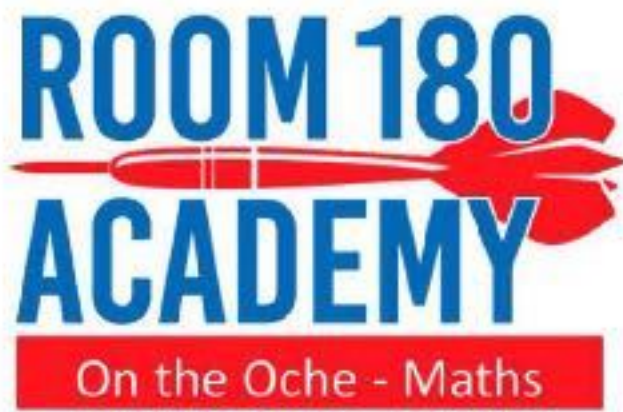


Exact number to hit	Completed in 1 dart	Completed in 2 darts	Completed in 3 darts
9			
18			
27			
36			
45			
54			
63	x		
72	x		
81	x		
90	x		
99	x		
108	x		
Total:			

ACTIVITY SHEET 3



**BULLSEYE
MATHS**



Can you score the below numbers using one dart?
Remember, you can score double the number using the outer ring and triple the number using the inner ring.

E.g. You can score 30 using one dart by throwing a double 15 or by throwing a treble 10.



Number : 51	Number : 17	Number : 27	Number : 23
Yes or No	Yes or No	Yes or No	Yes or No
How:	How:	How:	How:

NOW GO AND HIT THE BOARD!

Try to hit the number mentioned above in 1 / 2 or 3 darts



Answers

Number : 51	Number : 17	Number : 27	Number : 23
<input checked="" type="radio"/> Yes or No	<input checked="" type="radio"/> Yes or No	<input checked="" type="radio"/> Yes or No	Yes or <input checked="" type="radio"/> No
How: T17	How: S17	How: T9	How: Not Possible