Parent notes

Stick with Maths puzzles

General guidance for parents/carers doing the Stick with Maths puzzles (Yrs 5-6, children aged 9-11).

These puzzles are intended to be fun challenges to develop children's awareness of Maths in the real world. You can help them build positive attitudes by:

- Showing enthusiasm
- Reinforcing that making mistakes is part of learning
- Asking questions such as 'Why do you think that?' 'What if we try this?'
- Praise effort rather than just a successful answer
- Encourage them to keep trying to develop resilience and perseverance
- Talk about real life scenarios highlighting the importance of Maths and how maths we use it
- Value their thinking 'That's a really good idea' or 'I like the way you thought about that'
- Talk about the values football players have: 'Sometimes things are hard but that's when we learn most' or 'we don't know it ...yet!'
- Allow them to be the 'teacher' – this will build their self-esteem and confidence
- Talk about your own thinking process if they struggle
- Above all, have fun together!

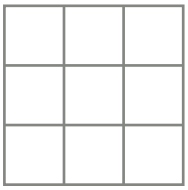
Logical Positions

The Maths:

- Problem-solving
- Working systematically.

Key terms:

- Square number – a number multiplied by itself to form a square – for example: 3 x 3 = 9.

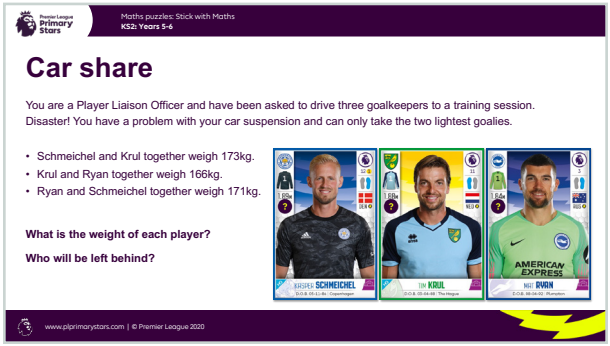


Parent notes
Stick with Maths puzzles

Tips:

- This puzzle is easiest when it can be manipulated so draw the required statistics (player, club, weight, height, shirt number, date of birth) on paper and cut them out. Alternatively, print out the pictures
- Work methodically – first identify which players match the clues
- Once you have a list of your possible players, work through the clues with each of these players.

Car Share



The Maths:

- Addition of weights
- Average.

Key terms:

- Average – if two weights are added together and then divided by 2, this will give the average weight.
  For example:
  Person 1 – weighs 64kg
  Person 2 – weighs 76kg
  64+76=140
  140 divided by 2 = 70
  The average weight would be 70kg.
  If you are working out the average for 4 numbers, you would add them up and divide by 4.

Tips:

- Work methodically
- Each player has a different weight
- Finding the average of each pair will give an idea of the possible weight of each, as a starting point.

Successful Shots

The Maths:

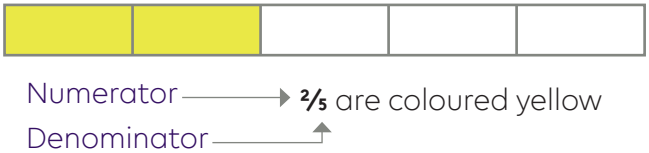
- Calculating percentages, fractions and decimals
- Comparing percentages.

Key terms:

- Percentage – out of 100
- Fractions – parts shown by a numerator and a denominator

Parent notes
Stick with Maths puzzles

- The denominator shows how many equal parts the whole is split into
- The numerator shows how many of those parts there are
- For example:
  ⅖ shows the whole is spilt into 5 equal parts and the 2 shows there are 2 of those parts.



Tips

- To find ½ divide by 2: to find ¼ divide by 4 or divide by 2 and then 2 again
- To find ⅖, divide by 5 and multiply by 2
- A decimal such as 0.75 is $^{75}/_{100}$ – equivalent to 75%
- To find 40%, find 10% and multiply by 4
- Work out the number of successful shots for each player but is this the best performance? (consider the percentage of success from the total shots taken by each player)

Player Mascots

The Maths:

- Calculating half of weight and height measurements
- Calculating half of a whole number when it results in a decimal or fraction answer.
  For example, half of 9 = 4.5 or 4 ½.

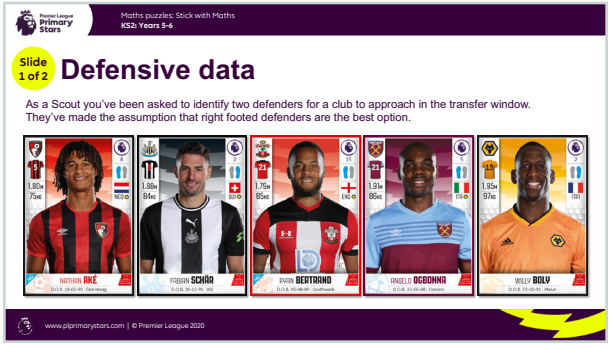
Key terms:

- Mass = weight.

Tips

- Convert heights to cms first
- Calculate the height and weight of each mascot
- Work methodically through the clues to eliminate mascots until one is left to fit the shirt.

Defensive Data



The Maths:

- Conversion between fractions and percentages.

Key terms:

- See 'Successful shots' puzzle above.

Parent notes
Stick with Maths puzzles

Tips:

- Convert each player's tackle success rates to percentages. For example:

  Fractions:

  Divide the fraction and then multiply by 100.

  ⁴⁄₈ as a percent:

  4 divided by 8 = 0.5

  0.5 x 100 = 50

  50%

  Decimals:

  Multiply the number by 100 so the digits move two places to the right

  0.45 x 100 = 45%

tens	ones	decimal point	tenths	hundredths
	0	.	4	5
4	5	.	0	

- Place them in order – highest first
- Look at whether the players are right or left-footed
- Are the right-footed players the best choices in this context?