

Tackling numbers | hint and tips sheet



Aviva Tackling Numbers programme is an innovative and engaging programme for Key Stage 2 children. It makes learning about numbers fun, exciting and rewarding. Delivered by the 12 Premiership Clubs across England, this rugby themed programme integrates interactive classroom maths sessions with practical, number-based rugby games. The programme aims to improve children's confidence in their number skills, increase children's appreciation of the importance of number skills and enhance children's uptake and enjoyment of physical activity. Moreover, by using rugby themed content that connects with real life experiences, Aviva Tackling Numbers puts in place foundations for financial literacy in later life.

Aviva has a long history of working with grassroots sports, and this is a natural extension of the work we've been doing. Time and again we've seen the importance of understanding financial matters in adult life. Through our partnership with Premiership Rugby, we can help children to be more confident in maths and increase their enjoyment of numeracy, and build their money skills. We see this as an investment in their future financial security.

1.) Be positive!

There's no mystery behind the maths! As a parent/guardian, you make dozens of calculations in your daily life; from checking your balance, deciding what is best value for money in the supermarket to working out how long it will take to get to the rugby ground. You can help your child at maths, even if it wasn't your best (or favourite) subject.

The way they teach maths might have changed since you were at school so this hints and tips sheet could clarify a few of the new techniques for you so you can feel even more confident about helping your child with maths if they ask.

2.) Every activity is an opportunity



Help your child to think out loud when making calculations every day and working real-life problems out for themselves will benefit them.

E.g.

- Measuring out ingredients when you're baking
- Getting your child to work out how many miles your next trip will take using a map
- What change you will get buying items in a shop
- How many years ago an old house was built
- How many minutes left/have gone in a rugby match
- Differences in rugby scores

The list is endless!

Please tweet us what you think @premrugby

3.) Talk to a teacher



Teachers often have ideas that you can use at home or books and resources that they would recommend for you.

4.) Help at school



This is a great way to finding out about how your child is taught maths. It will also give you more confidence!

In this leaflet are a few tips that will help you support your child with their mathematics at home.

PREMIERSHIP RUGBY



Number

a.) Addition & subtraction

Methods of adding and subtracting digits:

$$\begin{array}{r} 24 \\ + 19 \\ \hline \end{array}$$

$$\text{'chunking': } 24 + 10 \\ + 9$$

$$\text{'stepping': } 24 + 20 \\ - 1$$

Adding or subtracting money?

Ensure the decimal points 'line up' if using the column method,

$$\text{E.g. } \pounds 11.40 + \pounds 2.15 = \pounds 13.55$$

$$\begin{array}{r} 11.40 \\ + 2.15 \\ \hline 13.55 \end{array}$$

If adding or subtracting values such as £4.99, it is much simpler to use £5 then add on or subtract the extra 1p.

b.) Multiplication & division

The grid method splits values into tens and units (or larger when necessary):

$$\text{E.g. } 24 \times 4 = 96$$

	x	4
20		80
4		16

$$= 80 + 16 \\ = 96$$

The bus stop method is commonly used for short division:

$$\text{E.g. } 644 \div 7$$

$$\begin{array}{r} 0 \quad 9 \quad 2 \\ 7 \overline{) 6 \quad 4 \quad 4} \end{array}$$

Starting from left to right, this relies on a good understanding of multiplication tables. In this example, since $7 \times 1 = 7$, we start with a 'remainder' that is written beside the next value to make 64. $7 \times 9 = 63$, 9 is written above and the remainder of 1 is written beside the next value to make 14, we then continue in the same way.

c.) Fractions & decimals

Decimal equivalents:

$$\frac{1}{4} = 0.25$$

$$\frac{1}{2} = 0.5$$

$$\frac{3}{4} = 0.75$$

$$\frac{1}{10} = 0.1$$

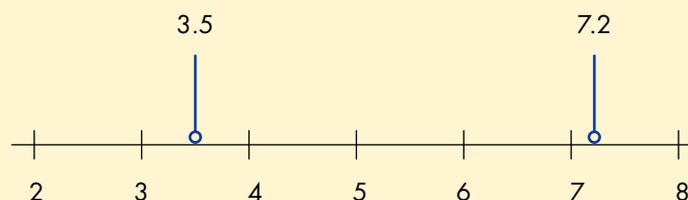
$$\frac{1}{5} = 0.2$$

Rounding decimals with one decimal place to the nearest whole number:

The 'magic' value is 5! 5 or more will round up, less than 5 rounds down.

E.g. 3.5 rounds up to 4 to the nearest whole number; 3.4 rounds down to 3 to the nearest whole number.

To make sense of this, imagine the value of a number line, the closest whole number it is to will be the number it will round to



Geometry

a.) Properties of shape

Definition: a polygon is a 2d shape with only straight sides.

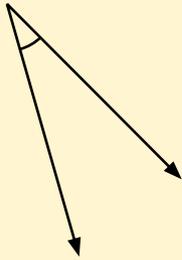
Special names:

Triangles: scalene, isosceles and equilateral

a common misconception: a 'right-angled' triangle - although this is a triangle it cannot be right-angled alone and is not a '4th name'. Triangles can be scalene and right-angled or isosceles and right-angled.

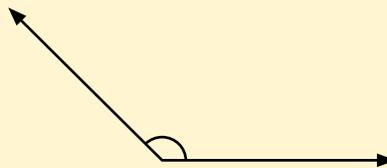
Quadrilaterals (four sides): square, rectangle, rhombus, parallelogram, kite, trapezium

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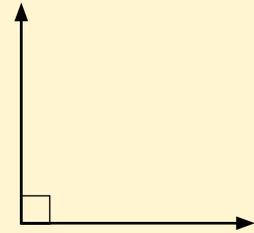
Acute angle

Acute angles are less than 90°



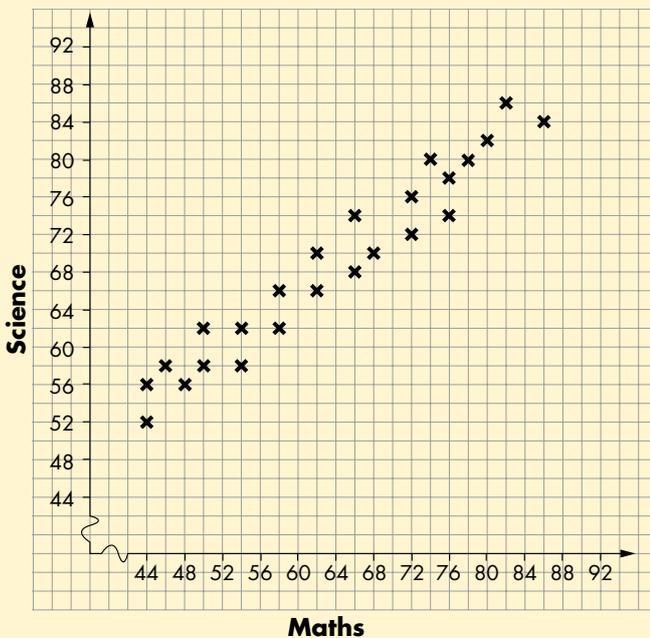
Obtuse angle

Obtuse angles are between 90° and 180°



Right angle

Right angles are exactly 90° and labelled with a square rather than the usual curve



b.) Position & direction

When drawing scatter diagrams, they can often have 'breaks' in as in this example. this is used when larger numbers are involved.

The usual rule for plotting points is 'along the corridor (\rightarrow) and up the stairs (\uparrow)'.

Scales are evenly spaced out and each axis should be labelled.

Measurement

Definitions:

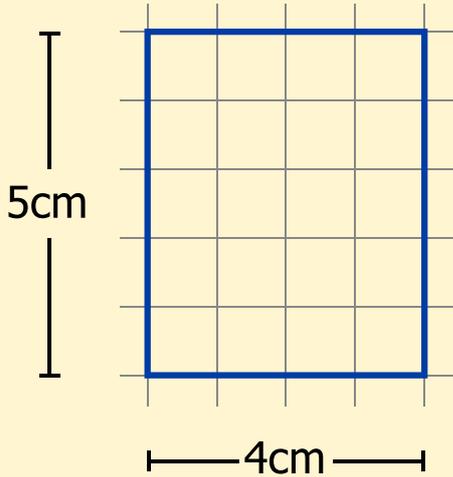
Perimeter – length/distance around the outside of a 2 dimensional shape

Area – space inside a 2 dimensional shape

Perimeter units of measurement: mm, cm, m, km, miles

Area units of measurement mm^2 , cm^2 , m^2 , km^2 , $miles^2$ (in words we would say 'metres squared' etc.)

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E.g. Perimeter = 18cm

Area = 20 cm^2

Possible methods to work out the perimeter and area of rectangles.

Perimeter = 2 × length + 2 × width

or 2 × (length + width)

Area = length × width

Statistics



a.) Tally charts:

Sport	Tally	Total
Rugby		
Football		
Swimming		

'Tallies' are grouped in fives (garden gate) I I I I. Tally charts are essential when collecting data and are usually created before making a chart.

b.) Bar charts: even gaps are needed between bars. Title and labels are also essential. Bars should be of equal widths. The vertical axis also has an evenly spaced scale.

c.) Pictograms: use a simple picture, keep it the same size, shape and colour. Approximately 7 pictures used per row. a key is essential and it should also have a title and labels.

A pictogram can also be drawn horizontally.

