

Statistics

HERE'S THE MATHS

Your child is learning to find the mean of a set of numbers from data. To calculate the mean, first find the total and then divide by how many values there are in the data set, e.g. the mean netball score of a team scoring 4 goals, 9 goals and 8 goals is 7 goals ($\frac{21}{3} = 7$). When talking about goal average or average temperature, this is actually describing the mathematical mean.

ACTIVITY

What to do

- Turn over a card to give a tens digit.
- Toss the coin – heads means zero in the ones column, tails means five, so an 8 and heads would give 80.
- Repeat this 4 more times.
- Look at the five 2-digit numbers and both estimate the mean.
- Calculate the actual mean of the numbers.
- Score 10 points if you predicted the exact mean, 7 points if you were within +/- 2 of the mean and 5 points if you were within +/- 5 of the mean.
- Play for 10 minutes. The winner has the higher score.

You will need:

- 1–9 digit cards from a pack of playing cards
- coin
- pencil and paper

Variation

- Use two cards to give the hundreds and tens digits and the coin as before to decide the ones digit.

QUESTIONS TO ASK

How do you find the mean of a set of numbers?

What is the mean of 60, 80, 90 and 50?
(70)

What is the mean of 1.7, 2.3, 1.8 and 2.6?
(2.1)

The mean of four numbers is 12. Suggest possible values for the numbers.

The mean of three numbers is 2.6. Suggest possible values for the numbers.



Year 6 Maths Newsletter 12



Date: _____

Name: _____

MATHS TOPICS

These are the maths topics your child will be working on during the next three weeks:

- Multiplication and division
- Fractions, including decimals and percentages
- Statistics

KEY MATHEMATICAL IDEAS

During these three weeks your child will be learning to:

- identify common factors and common multiples
- use division to convert fractions to decimals
- calculate and interpret the mean as an average of a set of data.

TIPS FOR GOOD HOMEWORK HABITS

Reflect on the variety of maths tasks that you have practised together throughout the year. Try to decide which strategies have helped you to understand maths most easily.

Multiplication and division

HERE'S THE MATHS

Your child is strengthening their ability to identify common factors and common multiples. They are able to identify factors of large numbers using tests of divisibility. They know divisibility rules for 2, 3, 4, 5, 6, 8, 9, 10 and 25. Here are the less well-known tests. A number is divisible by:

- 3 if the sum of its digits is divisible by 3
- 4 if the tens and units digits are divisible by 4
- 6 if it is even and is also divisible by 3
- 8 if half of it is divisible by 4 or its last three digits are divisible by 8
- 9 if the sum of its digits is divisible by 9

ACTIVITY

What to do

- Turn over 4 cards to make a 4-digit number.
- Each write down as many factors that you can find in 30 seconds (or an agreed time). The factors do not necessarily have to be ones that you know a test for, e.g. 2715 is divisible by 5 and 3, so 15 will also be a factor.
- Score 2 points for every different factor that you find.
- Check each other's answers.
- Continue for 10 minutes.
- The person with the higher score is the winner.

You will need:

- 0–9 digit cards from a pack of playing cards (use Jack to represent zero)
- pencil and paper
- timer (or use mobile phone)

Variations

- To make this easier, use 3 cards to make a 3-digit number.
- To make this more challenging, use 5 cards to make a 5-digit number.

QUESTIONS TO ASK

When is the next leap year? Leap years are divisible by 4. (2016)

Is 424 divisible by 8? (Yes)

Tell me three 3-digit numbers that are divisible by 3 and 4. Will they be divisible by 12?

Is 666 exactly divisible by 18? How do you know?

Fractions, including decimals and percentages

HERE'S THE MATHS

Your child is learning to use division to convert fractions to decimals. The numerator is divided by the denominator. Your child already knows some equivalences, e.g. $\frac{1}{2} = 0.5$, $\frac{1}{4} = 0.25$. Some fractions do not ever divide exactly, e.g. $\frac{1}{3}$, which carries on as 0.3 for as long as you keep dividing. We write $\frac{1}{3} = 0.3$ and we say 'a third equals nought point three recurring'.

ACTIVITY

What to do

- Each person turns over the cards two at a time to make 5 different proper fractions, simplifying them where possible.
- Change them into decimals by dividing the numerator by the denominator (round to 2 decimal places where necessary).
- Check using a calculator.
- Mark the approximate positions of the decimals on a 0–1 number line.
- The winner is the person with the decimal closest to 1.

You will need:

- pencil and paper
- 1–9 digit cards from a pack of playing cards
- calculator (or use mobile phone)

Variation

- Use the cards to make five different 2-place decimals and write four fractions that are equivalent to each decimal.

QUESTIONS TO ASK

What is $\frac{1}{8}$ as a decimal? (0.125)

Which is bigger 80% or $\frac{3}{4}$? (80%)

Which is bigger 39% or $\frac{2}{5}$? ($\frac{2}{5}$)

What is left of a pizza if $\frac{1}{8}$, 25% and 0.375 is eaten? ($\frac{1}{4}$)

In the activity which fraction is the closest possible to 1? ($\frac{8}{9}$) Did anyone pick it in your game?