



Extending Pupil Achievement in Mathematics Questions to Develop Thinking Skills

These questions have been developed by teachers to help children to develop their thinking skills. Most of the questions are open-ended and are designed for you to discuss with your child. For example you could ask your child 'What else would I need to find out so that I can answer this question?' There are two groups of questions, with the second group being more challenging.

Number:

- How many paper towels does a class/a year group/the school use in a day?
- How many times will the Tooth Fairy have to visit the children in our class this year?
- How much will the Tooth Fairy have to spend?
- How many children have a drink of water during the school day?
- How many books does a class read in a week/term/year?
- Roughly how many potatoes would you need to make 10 portions of chips?
- How many Smarties are there in a tube? What are the chances of picking a yellow one?
- The answer is 50, what is the question?
- How many hours do you spend doing Numeracy in a week/month/year?
- The dinner lady has 10 packets of sausages. Can she feed the whole school?
- Jane bought a bag of food for the class hamster? Will it last until the end of the week?
- What is the favourite colour of the class?
- Do more children have blue eyes than brown eyes?

Shape and Space:

- If five more children came into our class, how many different ways could we arrange the tables?
- How many times can you fold a piece of paper in half?

- Calculate how many lunchbox trolleys the school needs.
- Could the whole school fit into your classroom?
- Describe a shape to an alien.
- What's the difference between 2-D and 3-D shapes?
- How many drink cartons can you fit in your lunchbox?
- The answer is 'square'. What is the question?

Measures:

- Could you do 60 star jumps in one minute?
- How many hours of children's TV does a class watch in a day?
- Could you fit all of Year 6 into the staff room?
- How many times could you write your name in one minute?
- If you grow 1cm each month, how tall will you be when you're 11?
- How much money could I fit in my hand?
- Is the tallest person also the oldest?
- How many people could you feed with a box of cereal?

More challenging questions

- What is maths?

Number:

- How many school dinners will be cooked in a month?
- How many times does your heart beat in a day?
- The answer is 5.7. What is the question?
- Whole school picnic:
 - How many lemonade bottles would we need?
 - How many slices/loaves of bread would we need for sandwiches?
- How does the ratio of sandwich to school dinners vary between year groups?
- Could you fit the total number of tennis balls used at Wimbledon in one year into the PE shed?
- How many pieces of fruit do you eat in a month?

- How many times do you go up and down stairs in a week?
- Estimate how many leaves there are on a tree.
- How many chairs/adults/tables/computers are there in our school?
- Estimate how many times you breathe in and out in a day.
- How many fingers/toes/thumbs are there in the class/school?
- How many dogs are there in the UK?
- Roughly how many hairs are there on your head?
- How many bricks are there in the school building?
- What is the average number of words on the page of a book?
- Roughly how many goals have been scored in Premiership football since 2000?
- How many spectators watch Arsenal during a season?
- How many English cricketers do you need to beat Australia?
- Would one box of light bulbs keep a classroom lit for a year?

Shape and Space:

- What is the best size and shape packaging for 10 tennis balls?
- What proportion of school equipment is spherical?
- Would a school-year's supply of pencils fill a shoebox?
- How many chocolate bars would fill the playground?
- How many children could you fit into your classroom?
- Could you fit all the eggs from a chicken house into one fridge?
- How many children could lie down in the hall?
- Can you fit more Smarties or M and M's in a tube?

Measures:

- How many minutes have you been alive?
- How many hours have you slept since you were born?
- How many hours until the summer holidays?
- How many hours do you spend watching television in a week?
- How far could you walk/run/swim in one/two/three hours?
- How long would it take to fly to the moon and back?

- Could you read three books in one day?
- Roughly how many people would it take to hug the world?
- How long does it take to build a 30cm tower?
- If the population of London stood hand to hand, how far would they stretch?
- If you put all the lunchboxes in the school end to end around the school, how long would the line be?
- If the classroom were to be made into an aquarium, how much water would be needed?
- How far do you walk in a week?
- Will it rain at the weekend?
- How long is a piece of string?
- Could you walk to London? In one day?
- How far could you hit a ball?
- Would 12 sheep weigh more than an elephant?
- Does a year's supply of paper weigh more than a computer?
- Could you buy 10 pieces of fruit with £1?
- How big is the classroom?
- If I filled my car with petrol in Margate, would I be able to drive to Scotland?
- If you had a bath full of water, how many bucket loads/cups/teaspoons would this be?
- Roughly, how much water is used in your home each week? Could you save any?
- Could all the school children surround the school field?