

Good Mathematics Questions for Grades 3 – 4 Students

Money

- I bought an item at a shop and got 35 cents change. What did I buy and how much did it cost?
- I gave change of \$1.00 using quarters, dimes, and nickels. What might the change have looked like?
- How could I spend exactly \$20.00 at the supermarket? (Use a supermarket advertisement and a calculator to help.)
- In my pocket I have \$36.00. What bills might I have?
- I spent \$60.00 on six tickets to the theater. How many adults and children are there and how much are the tickets?
- When I was in a music shop I saw that a CD cost about \$ 22.00 and a tape about \$15. What might have been the price tag on the CD and the tape?
- A number sentence uses three of the following amounts or numbers: \$1.50, 2, \$3.75, 50 cents, 6, \$3.00, 75 cents. What might the number sentence be?
- My friends awe each got \$1.20. How much money was there and how many friends might I have?
- I bought something and paid for it with three coins. What might it have been and how much did it cost?
- I went to get \$100 out of the bank. What are the different ways I can ask for this amount of bills?

Fractions

- How many different designs can you make that are $\frac{3}{4}$ red and $\frac{1}{4}$ yellow?
- One-third of a class orders lunches from the cafeteria each day. How many students might be in the class and how many of them order lunches each day?
- My aunt said that when she was half her age she could touch her toes. How old might she be now and how old was she when she could touch her toes?
- I picked up a handful of M&M's. One-third of them were red. What might a drawing of the M&M's look like?

- I had some pizzas that I cut into quarters. How many pizzas might I have had, and how many quarters might I have after cutting them?
- How many different ways can you show $\frac{2}{3}$?
- I folded an origami square to show a fraction. How did I fold it and what might the fraction have been?
- A friend of mine put these fractions into two groups: $\frac{3}{4}, \frac{2}{5}, \frac{1}{3}, \frac{6}{10}, \frac{1}{10}$. What might the two groups be?

Decimals

- A decimal number has been rounded off to 6. What might the number be?
- I am thinking of some decimal numbers between 1 and 2. What might they be? Give at least 15 answers.
- My big sister says that the 100-yard record at her school is between 12 and 13 seconds. What might the record be?
- Using only these keys on your calculator (5, ., 4, +, =), what numbers can you make the calculator show?
- Represent 1.4 with materials in at least five different ways.
- I added three decimal numbers together to make exactly 4. What might the three numbers be?
- If I use a flat to represent one whole, a long to represent tenths, and a unit to represent hundredths what numbers can I represent using exactly ten pieces?
- In this number sentence, what might the missing digits be? $2 < \underline{\quad}$?

Place Value

- A number has been rounded off to 1,200. What might the number be?
- How many numbers can you write with 8 in the hundreds place?
- How many numbers can you make using the digits 1, 2, 3, and 4? You can only use each digit once in each number.
- How many article/items can you find in a catalog with prices that have 1 in the units place and a 9 in the tenths place?

- How many ways can you rename 1,265 as the sum of smaller numbers?
- Two numbers multiply to make 360. One of them has a zero on the end. What might the two numbers be?
- An easy way to add 9 is to add 10 and take away 1. Using a similar strategy what other numbers might I add or subtract in this way?
- I wrote down a number with one zero in it, but I cannot remember what it was. I know it was between 500 and 800. What might it have been?

Counting and Ordering

- Which number in this group does not belong? Why?
- What do you know and what can you find out about the multiples of 3—3, 6, 9, 12, 15, 18, 21 ...?
- Create skip-counting pattern starting at 91 that someone else can continue.
- I doubled a number and kept doubling so that the original number was doubled four times. What might the answer be?
- Starting at zero, what numbers can I skip count by and land on one hundred?
- My father is double my age. How old might I be?
- My dog is half as old as me. How old might I be and how old is the dog?
- My dog is half as old as me. My mother is double my age. How old might we each be?

Operations

- Make up some different ways to add 9 to 23 in your head. In how many ways can you do it?
- Five numbers added together make an odd number. What do you know about the numbers?
- What might the missing numbers be?
- The faces of this cube are numbered consecutively. What might the sum of the faces be?
- I have some marbles. I give some away to my friends and am left with fifteen. How many marbles might I have started with and how many might I have given away?
- Eighteen people said they wanted to do folk dances. The teacher said they must dance in groups, but no one must be left out. How many different types of groups can you make?

Weight

- Can you find two objects that have the same size but different weights?
- Can you find two objects that have the same weight but different size?
- I can see an object that weighs more than 1 pound but less than 2 pounds. What might the object be?
- One each side of a balance scale I have some different coins. They balance exactly. What might the coins be?
- I weighed one item and found that it was between $\frac{3}{4}$ pound and 1 pound. What might the item have been?

Volume and Capacity

- Design some box-shaped buildings using exactly twenty-four cubes.
- Show the class a cup and a jug with the capacity of one of them obviously greater than the other. Ask, “Can you find a container with a capacity between this cup and this jug?”
- I packed sixteen little raisin boxes into a box so that they fit snugly. What might the box look like?
- Can you find some containers that have the same capacity but a different shape?
- Make a mark that would show when these drink containers are half full.
- At the supermarket Mom bought exactly 8 quarts of drink. She bought milk, some soft drinks, and some fruit juice. What might she have bought?

Area

- Using twelve square tiles, how many different rectangles can you make?
- I am thinking of a shape with an area of thirty square tiles. What might the shape look like?
- I used twenty objects (all the same) to cover my table with no gaps. What might the objects be?
- Sara covered approximately sixty-five squares on a centimeter grid. What object might she have used to cover the squares?

- My grandmother bought a square rug and each side measured 2 yards. When she got it home it would not fit into the hallway so she cut the rug up and joined the pieces together again to make a shape that would fit. What might her rug look like now?
- Can you find some things that have a greater area than your desk top but not much greater?
- Can you find some things that have a smaller area than your desk top but not much smaller?
- A teddy bear left a footprint on grid paper. It measured eight squares. What might the footprint look like?
- A footprint was drawn on grid paper. Maggie said its area was twenty square units. Tony said that it was nineteen square units. How could this happen?

Time

- There is something you do after you get out of bed and before you go to school that takes approximately four minutes. What might it be?
- In the summer, we are going on vacation for sixteen days. On what date might we leave on our vacation and on what date might we return?
- I left home and arrived at school forty-five minutes later. When might I have left home and when might I have arrived at school?
- The hands of a clock make an angle that is less than a quarter of a turn. What time might it be?
- I am a month with thirty-one days. Which month might I be?
- The hour hand is on the 7. The calendar says it is Tuesday. What might be on TV?
- Richard took exactly thirty seconds to do each of three things. What might the three things have been?
- I went on a vacation and made a snowman. What month of the year might it have been?
- What is something you can do about one hundred times in one minute?
- Some workers started work exactly on the half-hour and worked for six-and-a-quarter hours before stopping. When might they have started and when might they have stopped?

Length and Perimeter

- What could we use a yard stick or meter stick to measure?
- What in this room is longer than 1 foot but less than 2 feet?

- Can you find something that is about twice as long as it is high? What is the length of each?
- Give children a piece of string. Say, "this string is the distance around some objects. What might some of those objects be?"
- What can you find that has a perimeter of 30 cm?
- How many things can you find that are 1 inch long? One foot long?
- How many things can you find that are 1 cm long? 10 cm long?
- Can you find anyone with the same foot length as yours? With the same foot perimeter?

Space: Location and Position

- I walked from one place to another I took three steps forward, turned left took another three steps forward, and turned left again. Where might I have started and where would I finish?
- Paula took ten steps to the north, turned right and walked east for twenty steps. Where might she have started her journey and where might she have finished?
- What are some things that are south of where you are now?
- Ask your parents to help you draw a plan or map of the outside walls of your house. Draw in the rooms by yourself.
- When Mrs. Smith leaves her home she travels in a westerly direction to get to work. What suburb might she live?

Two-Dimensional Shapes

- Write down everything you know and everything you can find out about this square.
- On a page draw five lines, no two of which are parallel.
- I am thinking of a shape. It tessellates, which means many of them fit together like tiles, with no spaces. What might the shape be?
- Using four triangles from the pattern blocks, how many different shapes can you make? Draw them.
- I was watching television and I noticed that the hands of a clock made an acute angle. What program might I have been watching?

- I drew a shape with four sides but none of the four sides were the same length. Draw what my shape might have looked like.
- Bart made five squares on his Geoboard, all of which were different sizes. What might Bart's Geoboard have looked like?

Three-Dimensional Shapes

- What do you know and what can find out about a pyramid?
- When I looked at a photograph taken from an airplane I saw rectangular and circular shapes. What might these shapes be?
- At the supermarket Mom bought a container shaped like a rectangular prism but the label came off. What might have been in the container?
- Jack and David built a building using thirty bricks. What might their building look like?

Chance

- Madeline threw two dice and when they landed she subtracted one number from the other and wrote down the answer 1. What might the numbers on each have been?
- In a bag there are some tiles. I draw out one tile and it is red. I put it back and draw again. This time the tile is blue. I put it back. After ten draws, I have drawn out three reds and seven blues. How many tiles might there be in the bag and how many might be blue?
- My brother was complaining that it always rained on his birthday and spoiled the activities that had been planned. When might his birthday be?
- My older sister was talking to Dad and asked him a question. His reply was, "It is more likely than unlikely." What might the question be?
- Design a board game where it is easier for you to win than your opponent.