

Year 5 Maths Challenge

History and Format

The Year 5 Maths Challenge was first created and launched in 2002.

Teams of up to four children from Year 5 are invited to attend regional heats held at venues across the county of Cambridgeshire in the summer term.

The winning team from each heat, along with some of the highest scoring runners up from across the county, are invited to take part in the final.

The format and content of the competition has evolved over the years but remains a fun event where teams of children work together to solve a range of challenges using skills and knowledge that they might typically encounter within Year 5 classroom maths activities.

Teachers and other school staff, along with parents and carers, are welcome to spectate and support their teams at each event.

Year 5 Maths Challenge

Rounds and Content

The heats and final have similar rounds and content areas.

Children work together as a team; there are no individual questions.

Typical content covers:

- Team Round
- Extra Thinks
- Estimation Round
- Memory Round

Children are allowed to make jottings to help them during the rounds and all resources required are provided by the Cambs Maths Team.

Year 5 Maths Challenge

Sample Past Questions – Team Round

The following sample of past questions are from the Team Round.

Children work together to answer questions and record these on the answer sheet provided.

Questions are presented one at a time and read aloud.

Children are allowed to make jottings and continue working on previously presented team round questions until the end of the round.

No marks are deducted for incorrect answers.

To celebrate 25 years of the Year 5 Maths Challenge, a free weekly resource is available providing past Team Round questions with solutions, prompts and adapted content to support the development of skills for children in UKS2, LKS2 and KS1.

Find this weekly on <https://www.facebook.com/cambsmathsteam/> from Autumn 2026.

Team Round Question from 2019

Chen, Fran and Kristof each have some money.

In total they have £105.

Kristof has double the amount that Chen has.

Fran has double the amount that Kristof has.

How much money does each person have?

Team Round Question from 2018

Always, sometimes or never true?

- a. Pyramids have an even number of edges.
- b. When you multiply 2 numbers, the answer is bigger than both the numbers you started with.

Team Round Question from 2018

Use ***all*** of the digits 1, 5, 7 and 8 once only to write a number that is greater than 50 but less than 60.

1

5

7

8

Team Round Question from 2021

Meg drew some heptagons and hexagons.

Altogether, she drew 104 sides.

If she drew 8 heptagons, how many hexagons did she draw?

Team Round Question from 2022

Most of the numbers are missing from this number grid.

The numbers you can see are in the correct places.

Which numbers should be in squares **A**, **B**, **C** and **D**?

				5					A
								18	
			B			23		21	
30									
									40
				54					
				65					
							77		
									C
					D				

Team Round Question from 2025



Ingredients (makes 24 biscuits)

125g unsalted butter

55g caster sugar

180g plain flour

Sam needs to make 60 shortbread biscuits for the school fair.

- a) How much plain flour will he need?
- b) He has 100g of caster sugar. How much more will he need?
- c) If each biscuit is sold for 35p and all biscuits are sold, how much money will be made in total?

Year 5 Maths Challenge

Sample Past Questions – Extra Thinks

The following sample of past questions are from the Extra Thinks activity.

Children work together to answer questions and record these on the answer sheet provided.

Extra Thinks questions are completed at the same time as Team Round 1.

Questions are provided within the double-sided answer sheet.

Children are allowed to make jottings and continue working on all of the questions until the end of the round.

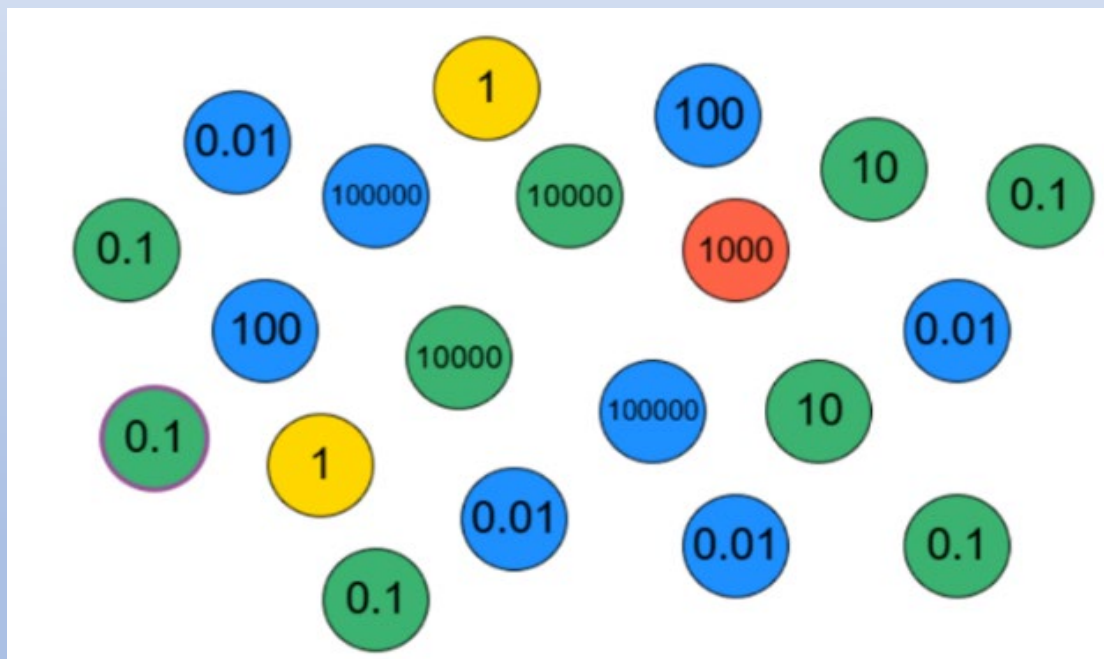
No marks are deducted for incorrect answers.

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Extra Thinks Question from 2026

Hannah has made the following number using place value counters



1. Round the number to the nearest 10,000

2. Round the number to the nearest 10

3. Round the number to the nearest whole number

Extra Thinks Question from 2018

I have three different 2-digit numbers.

Can you work out what they are from the information below?

- a. Number 1 = the sum of its digits is 9, the difference between the digits is 7.
- b. Number 2 = the product of its digits is 21, the number is above 50.
- c. Number 3 = the number is prime, the number is above 60 & the difference between the digits is 1.

Extra Thinks Question from 2017

July 13th 2017 is on a Thursday.

Use that fact to answer the following questions:-

- a. Which date is going to be a fortnight later?
- b. What is the date 168 hours later?
- c. August the 30th will be on which day of the week?
- d. What is the date 100 days later?

Extra Thinks Question from 2024



Using each digit card only **once** can you make the following five **2** digit numbers:-

- An even number where the digits add up to 7.
- A multiple of 9.
- A prime number.
- An even number over 50 where the digits have a difference of 3.
- A multiple of 12 and 15.

Extra Thinks Question from 2023

True or false?

- a) 20kg is equivalent to 2000g. _____
- b) A rectangle is a parallelogram. _____
- c) A square number cannot be prime. _____
- d) A right angle is acute. _____
- e) There are one hundred thousand tenths in 1,000. _____
- f) To convert km into cm you need to multiply by 100,000. _____

Extra Thinks Question from 2026

Luke has a £10 note and 2 coins in his pocket. How much money in total could he have? 1 mark for each correct combination of coins and total.

(Record each total using decimal notation)

Year 5 Maths Challenge

Sample Past Questions – Estimation Round

The following sample of past questions are from the Estimation Round.

Children work together to answer questions and record these on the whiteboard provided.

All resources needed, including any physical objects, are provided.

All teams display and share their estimates at the same time.

Marks are awarded on a sliding scale – the closer to the actual value an estimate is, the more marks that are awarded.

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Estimation Round Question from 2018

On your table you have a water bottle.
There are 50 beads in the bottle.

Estimate **how many beads** it would take to
fill the bottle to the top.

Assume the beads are all identical.



Estimation Round Question from 2019

On your table you have a bag containing two pieces of wool.

One of the pieces is 30cm long.

Estimate the length of the other piece of wool.



Estimation Round Question from 2017

Estimate the mass of the bar of soap.



Estimation Round Question from 2025

- 1) Estimate the perimeter of the cloth when folded in half.
- 2) Estimate the area of the entire cloth.



Estimation Round Question from 2023

1) Estimate:

a) The length of the toothbrush

b) The mass of the toothbrush

2) Estimate the total number of bristles on the head of the toothbrush.



Estimation Round Question from 2025

- 1) Estimate the mass of the bottle, lid and contents.
- 2) Estimate the amount of water in the bottle.
- 3) Estimate the amount of additional water required to fill the bottle.



Year 5 Maths Challenge

Similar Component Images – Memory Round

The following images are similar to the component parts found in past Memory Rounds.

Children work together in two pairs – observers and drawers.

The observers take turns to see a mathematical image and then both see it together. They describe what they have seen to the drawers.

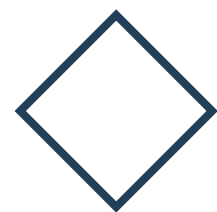
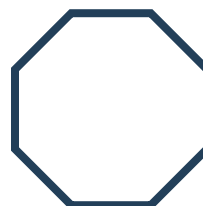
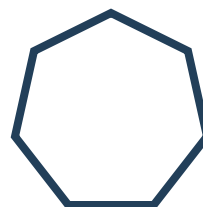
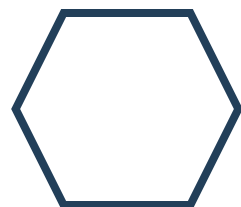
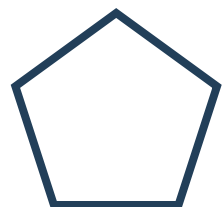
The drawers do not see the hidden mathematical image. They draw what the observers describe to them. The drawers can ask the observers questions if they wish.

The aim is to recreate a drawing of the hidden image using precise mathematical language and vocabulary.

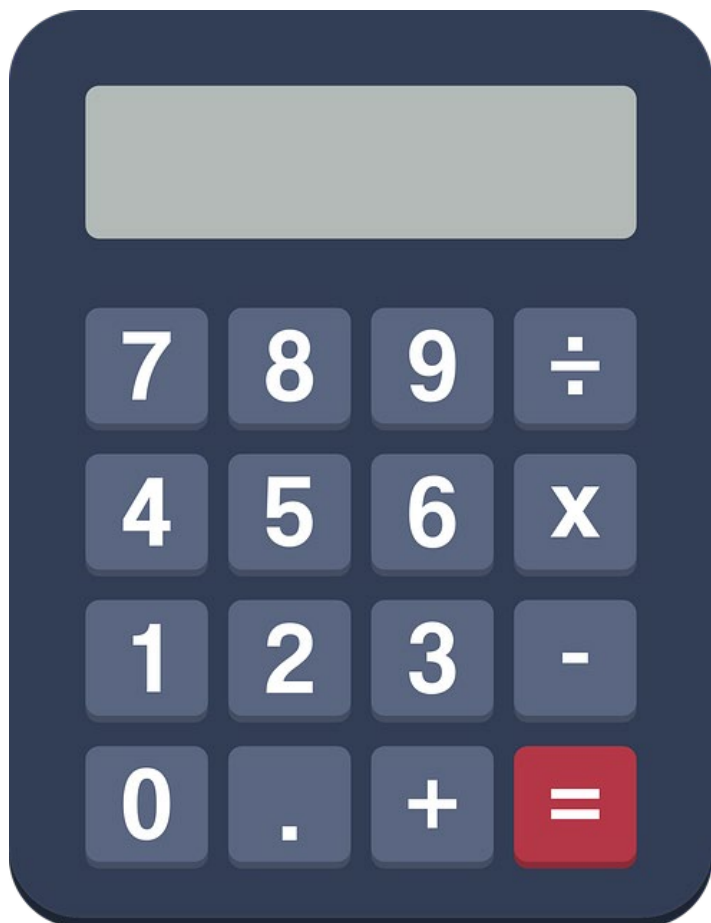
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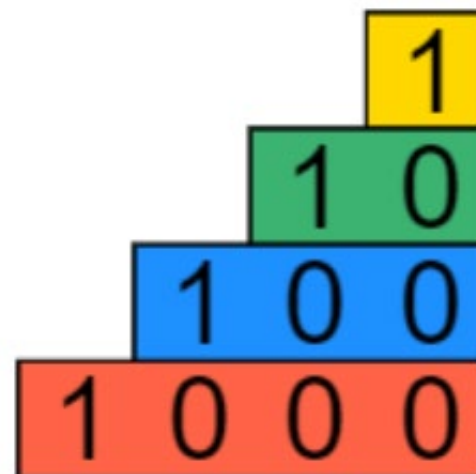
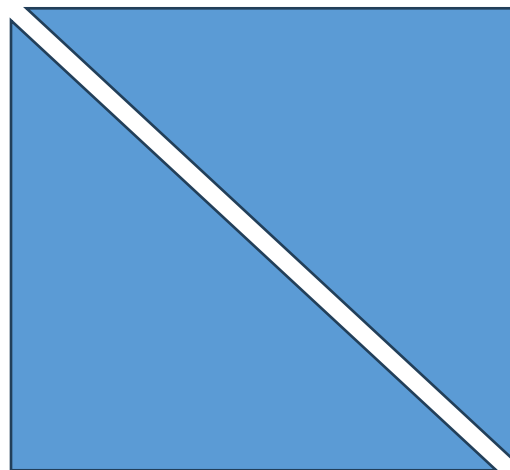
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Similar Component Images: Memory Round



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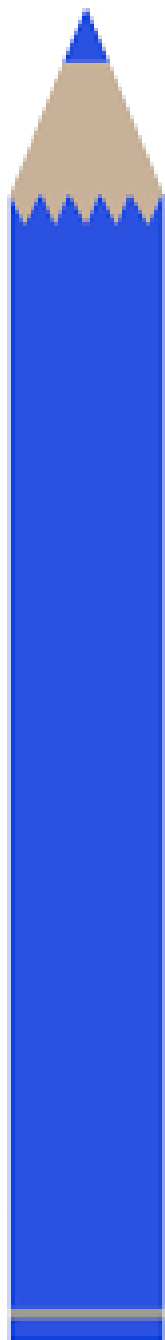
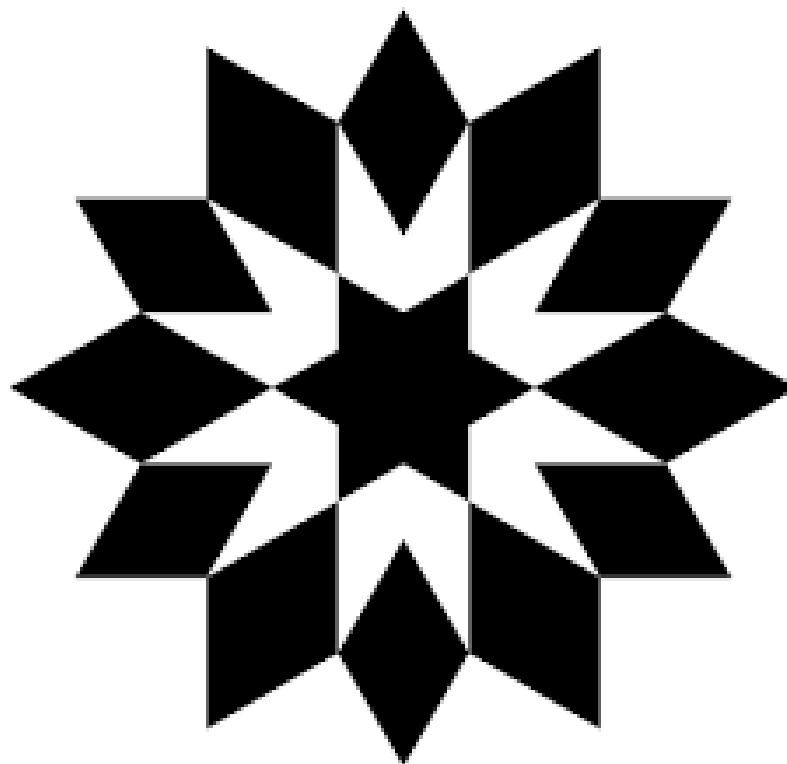




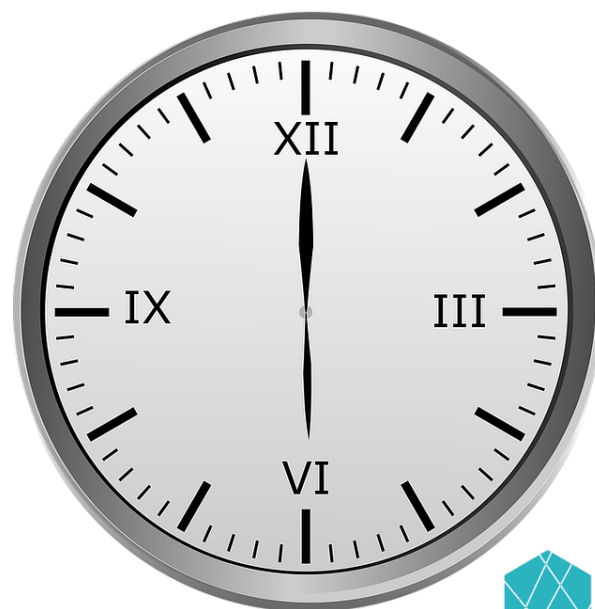
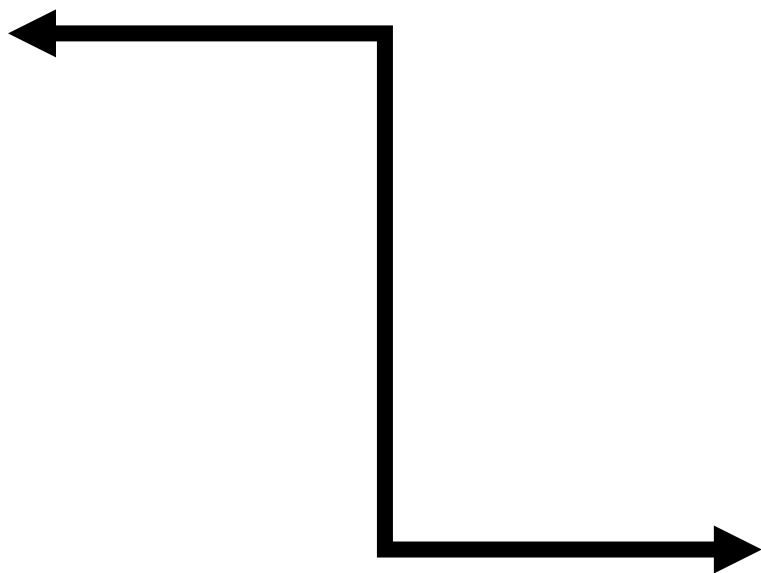
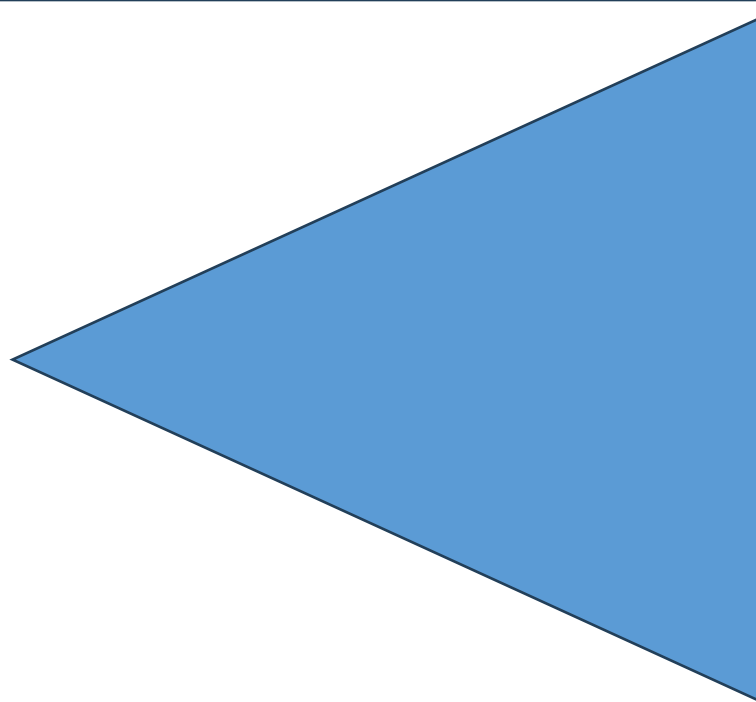
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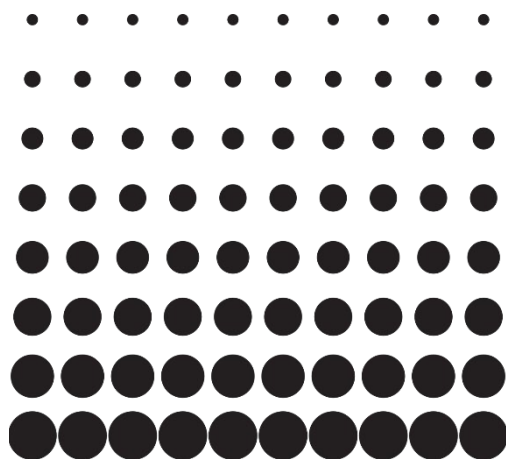
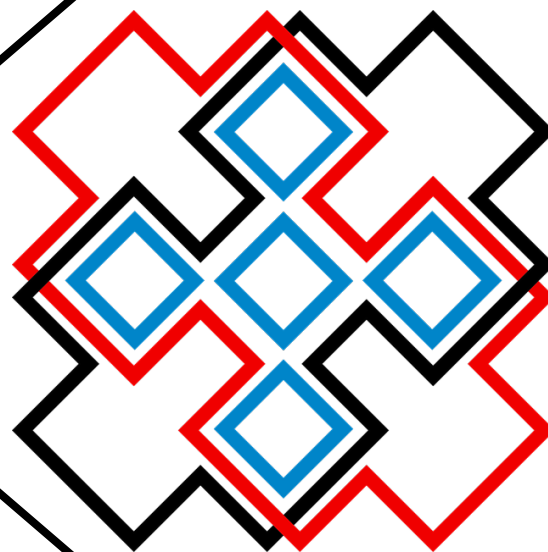
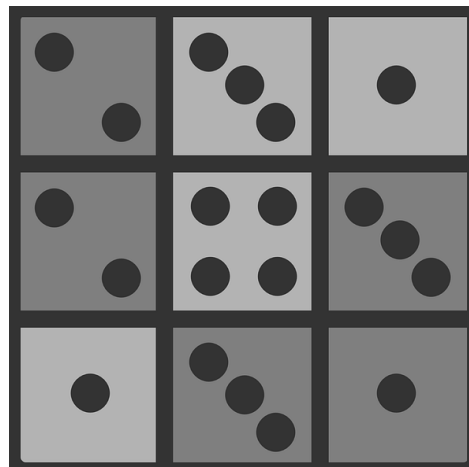
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Find our free weekly resource celebrating
25 years of the Year 5 Maths Challenge

with past questions, solutions, prompts and adapted content to support the development of skills for children in UKS2, LKS2 and KS1 at:

<https://www.facebook.com/cambsmathsteam/>



Tell us how you are using our resources, or ask us if you have any questions, at

maths.team@cambridgeshire.gov.uk



Find more free resources in our
Cambridgeshire Maths Team Knowledge Hub Group at
<https://khub.net/group/cambridgeshire-maths-team>

