MathShed

Using MathShed for engaging and effective Year 6 SATs preparation

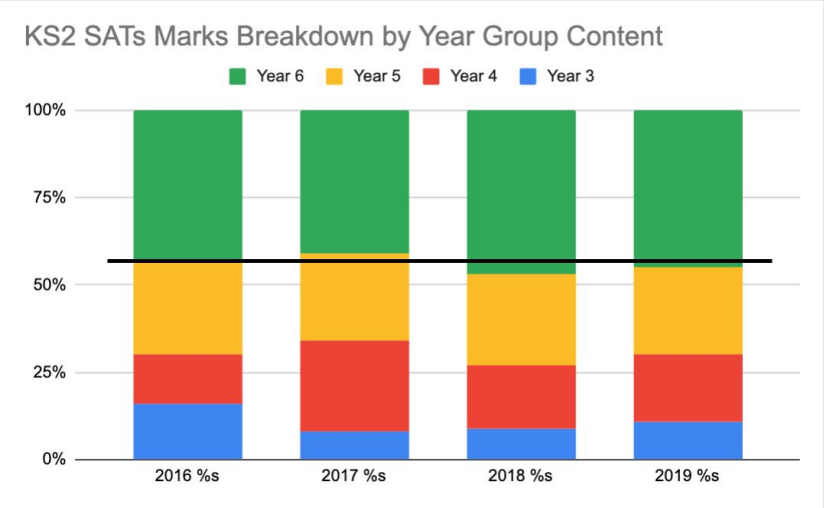
Engaging and effective Year 6 SATs preparation

Importance of consolidating prior learning:

As the chart shows, in some years (2016 and 2017), children can meet the National Standard for age-related expectations (ARE) in their KS2 SATs without answering a single question from the Year 6 curriculum correctly.

In 2018 and 2019 where Year 6 content factors into meeting the National Standard, it is a matter of a few marks.

So, it is really important to plug any gaps from Years 3 to 5.



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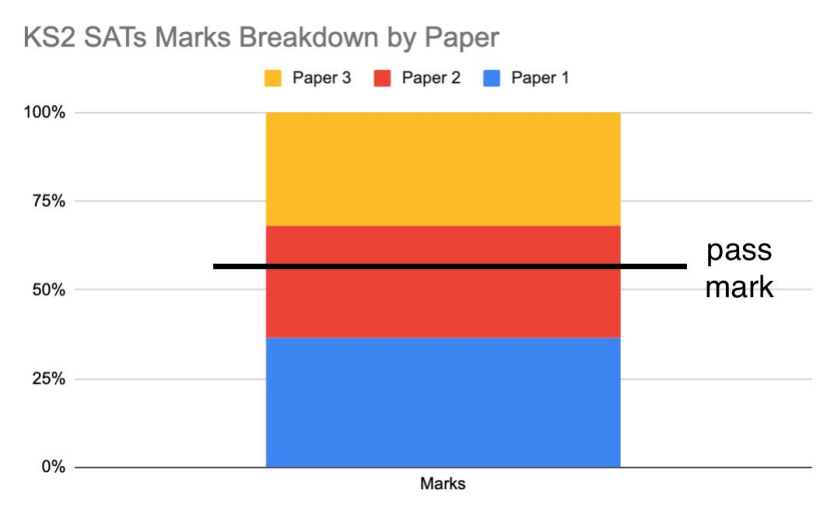
Importance of arithmetic fluency:

To meet the National Standard in Maths children need between **56 and 60 marks out of 110** in total across all three papers, which is **51-54%**.

Paper 1, Arithmetic by itself is **40 marks**.

Also, these skills with conceptual variation are covered heavily in the reasoning papers, Paper 2 and Paper 3.

As the bar chart shows, a good score of 90+% of marks from Paper 1 alone will get children over halfway towards meeting the National Standard.



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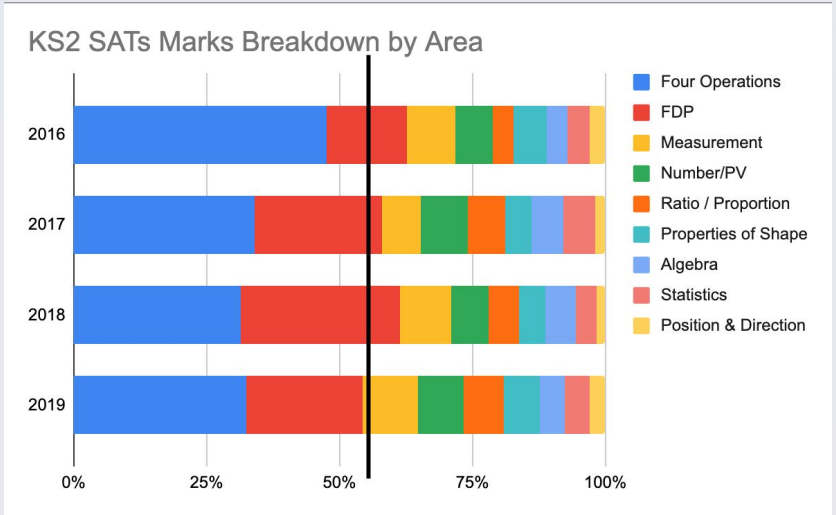
Marks by block/unit of learning:

Four Operations tend to make up a mean of about 33% of all marks across three papers, together with Number and Place Value it is closer to 45% of marks.

Fractions, Decimals and Percentages on average make up a further ~20% of marks.

Followed by Measurement, Ratio & Proportion, Geometry which make up between 5% and 10% of marks each.

Then, Algebra, Statistics and Position & Direction with each of these areas of maths make up less than 5% of total marks.



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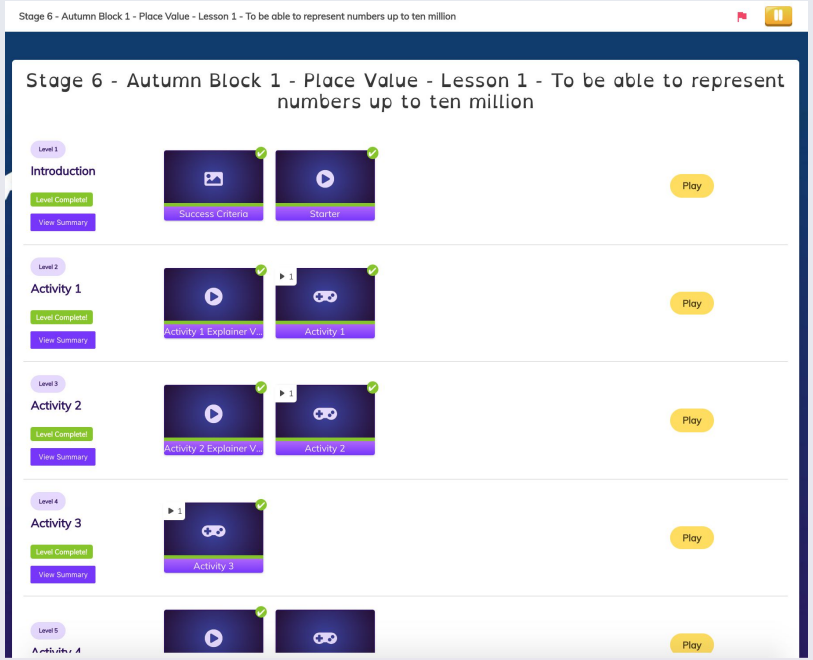
Examples of Lessons to prioritise based on scoring for SATs success:

1. Problem solving using addition and subtraction (shed.ly/LYSDWZI)

2. Number & place value up to 10 million (shed.ly/LNYNPHT - FREE)

3. Problem solving involving Money - mixed domain involving decimals, +/- and place value (shed.ly/LYKQHTZ)

4. If you still have any children who are struggling with any of their times tables knowledge, that is a key fix.



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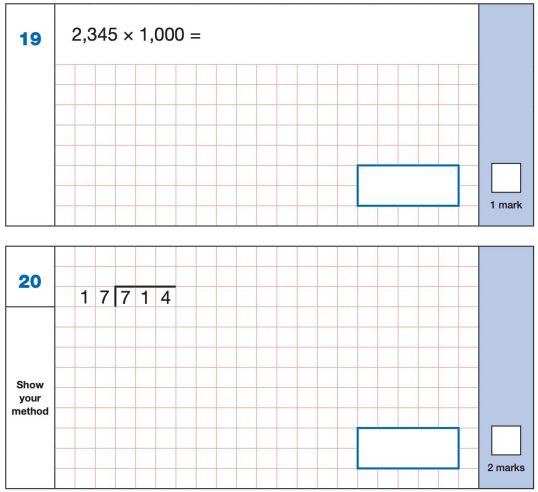
Using MathShed's Quick Maths to support the learning of key skills for addition, subtraction, multiplication and division:

Quick Maths, is our daily arithmetic fluency scheme, for all years from Year 1 to 6.

All of the Year 6 Quick Maths weeks in the Spring and Summer terms, in the run-up to the SATs, are based on past papers. (Free sample)

Year 6 | Quick Maths | Spring | Week 1 | Day 2 | Answers

1	6,788 – 789 = 5,999	/1
2	$\frac{48}{100} - \frac{24}{100} = \frac{24}{100}$ or $\frac{6}{25}$	/1
3	8,899 – 500 = 8,399	/1
4	36 ÷ (3 × 4) = 3	/1
5	$\frac{1}{6} + \frac{6}{12} = \frac{2}{3}$ or eq.	/1
6	30 × 70 = 2,100	/1
7	1,100 ÷ 11 = 100	/1
8	0.09 ÷ 10 = 0.009	/1
9	3,887 × 1,000 = 3,887,000	/1
10	817 ÷ 19 = 43	/1



2017 Key Stage 2 Mathematics Paper 1: Arithmetic, Questions 19 & 20

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MathShed's Quick Maths provides spaced repetition for rapid recall:

From our experience, it is best to do this when children are settling into the school day in the morning or after break or lunchtime. Try to have the questions up on the board and give each child scrap paper or jotters to do their arithmetic practice.

If you do so, children will benefit from covering similar questions each week.

Year 6 | Quick Maths | Spring | Week 1 | Day 3

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1	$7 - 4.37 =$ _____	/1	6	$\frac{1}{2} + \frac{1}{3} + \frac{1}{6} =$	/1
2	$2{,}788 \times 37 =$ _____	/1	7	$\frac{21}{7} \div 7 =$	/1
3	$\frac{12}{12} + \frac{3}{7} =$	/1	8	$\frac{3}{7} \div 4 =$	/1
4	$417 \times 17 =$ _____	/1	9	65% of 880 =	/1
5	$87.7 - 35.653 =$ _____	/1	10	$4\frac{3}{4} + \frac{5}{12} =$	/1

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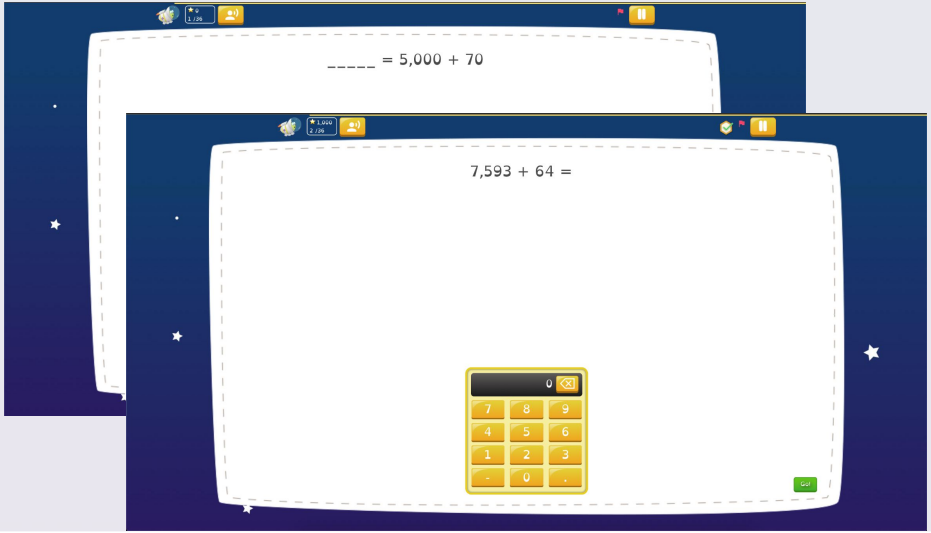
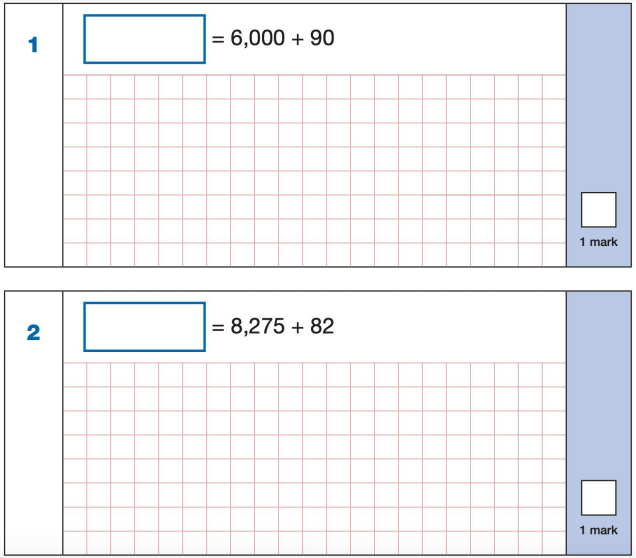
Self-marking past paper-inspired Question Sets, in-class or at home:

We also have practice Paper 1 question sets based on each of the sample and past papers that can be either produced as PDFs and completed on paper or completed online, that way it is self-marking and the data feeds into our curriculum competency reporting dashboard. (Example based on 2019 paper)





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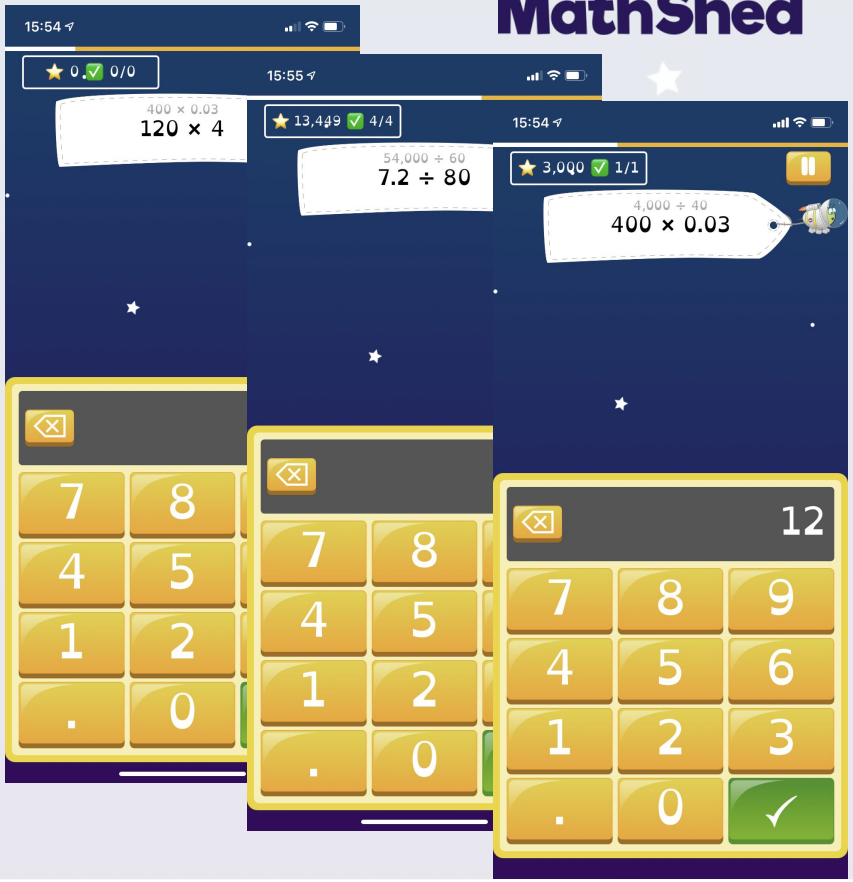
MathShed's arithmetic fluency games:

If you identify weakness with times tables, number bond recall or mental addition and subtraction, you could use our abstract fluency games.

If you find that there are particular questions children struggle with you could then set them the corresponding Lesson or question set on MathShed.

If there are many gaps, refer back to prioritised list of objectives to cover based on historical allocation of marks in SATs papers.



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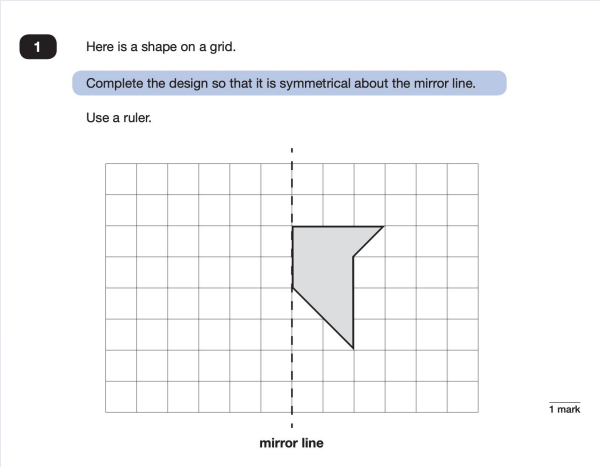
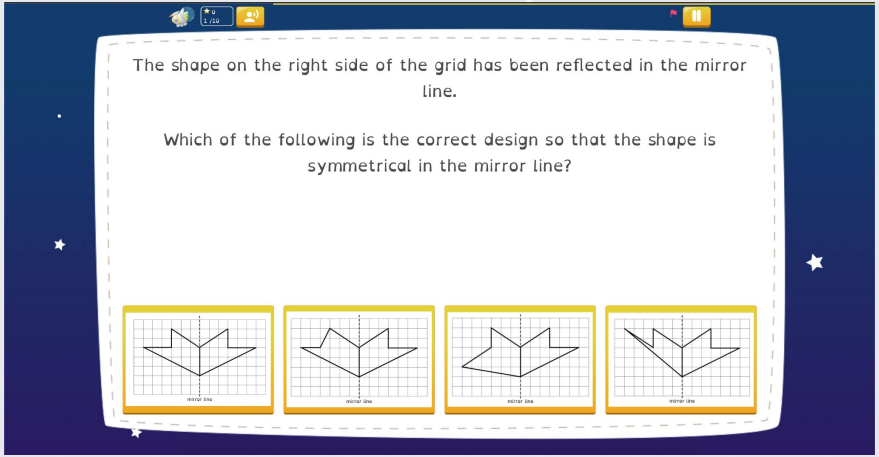
How can you use MathShed to support problem solving and reasoning for Papers 2 and 3?

As with Paper 1, we also have practice Paper 2 and Paper 3 question sets modelled on each of the sample and past papers that can be either produced as PDFs and completed on paper or completed online, that way it is self-marking and the data feeds into our curriculum competency reporting dashboard. (Paper 2, 2018-inspired)





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How can you use MathShed to support problem solving and reasoning for Papers 2 and 3?

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For reference:

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1. Competence grid demo
2. Any questions?