



# **Mathematics Curriculum Story**

## **2022/23**

### **Vision**

Our vision is for all of our pupils to have a resilient and positive attitude towards mathematics and an understanding of the importance of this learning in real world contexts. We want our pupils to have confidence in mathematical knowledge, concepts and skills in order for them to be able to reason and solve problems logically and systematically. We wish for our pupils to leave primary school equipped with the knowledge and skills they need, to prepare them for their next step in education, and be enthusiastic about what they are yet to learn.

### **Mathematics at ST Mary's Hampton School**

- Children are expected to learn key Maths vocabulary as outlined in the National Curriculum. Our Curriculum documents also reflect this too
- Individualised half-termly maths coaching for teachers including observations, joint-planning, team-teaching and teaching model lessons
- Termly book monitoring outlining strengths and next steps for teachers
- Staff training delivered by the lead school improvement advisor for mathematics on reasoning and challenging more able learners
- Staff training delivered by maths lead on progression in reasoning/assessing reasoning
- Pupil voice carried out in each year group
- Questionnaire sent out to parents on maths workshops they are interested in for the next academic year
- New homework system rolled out for EYFS and KS1 (School Jam) and KS2 (Diagnostic Questions)
- Expectations for mathematics document created to be rolled out in September

10/11 KS1 pupils said they enjoy completing maths homework using School Jam

**SCHOOL JAM**



Reception Pupil Completing School Jam Home Learning

**School's Ofsted Target:** To ensure consistently high-quality opportunities for pupils in all year groups, especially the most able pupils, to apply their mathematical learning and improve their reasoning skills.

**More Able Maths Data (End of Year)**

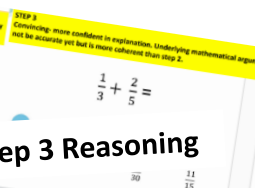
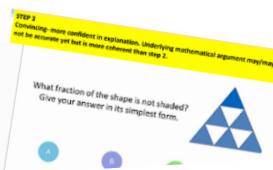
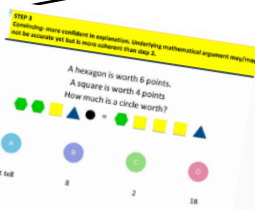
Year 1: 20%  
Year 2: 20%  
Year 3: 27%  
Year 4: 36%  
Year 5: 48%  
Year 6: Teacher Assessment - 33% SATs - 15%

"Comprehensive and highly beneficial coaching. The examples you gave contributed significantly to my understanding this year of how Power Maths works and the implementation of that model of teaching. I thought the use of the template lesson you gave was an especially excellent tool for professional development and continuous improvement.

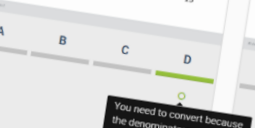
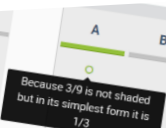
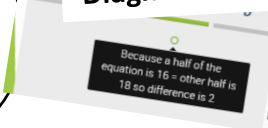
"For me it was being able to see the model of your lesson in year six which really made clear the importance of 'I do, we do, you do' to the process. I've picked up on the interactive to-and-fro that you have with the children – each part of the input clarified various aspects or answered questions on the topic they were learning about."

**Maths Coaching Feedback**

"Through observation I got a better understanding of the 'I do, we do, you do' approach and got better at ensuring the whole class were participating in the input. I also developed a range of AfL strategies to ensure that the whole class were ready for the main learning tasks before moving them on."



**Diagnostic Questions KS2 Homework Step 3 Reasoning**



**Staff Training on Progression/Assessing Reasoning**

**How can we assess reasoning?**

- STEP 1** Describing- simply what they did.
- STEP 2** Explaining- offers some reasons for what they did. May/may not be a correct explanation.
- STEP 3** Convincing- more confident in explanation. Underlying mathematical argument may/may not be accurate yet but is more coherent than step 2.
- STEP 4** Justifying- a correct logical argument and chain of reasoning. Words such as because, so, therefore may be used.
- STEP 5** Proving- a watertight argument that is mathematically sound often based on generalisations and underlying structure.

**Step 5 Reasoning Example by Year 6 Pupil on Diagnostic Questions KS2 Homework Platform**

Which of these fractions is not equivalent to 30%?

A  $\frac{30}{100}$  B  $\frac{30}{70}$  C  $\frac{120}{400}$  D  $\frac{3}{10}$

A B C D

Dilakshika Shanmuganathan - i think its B because percentages have to be out of 100 so its 30% and then question C is also 30% because 400 divided by 4 is 100 and 120 divided by 4 is 30 and D is also 30% because 10 times 10 is 100 and 3 times 10 is 30 and B is the only one that does not equal 30% so its 30/70

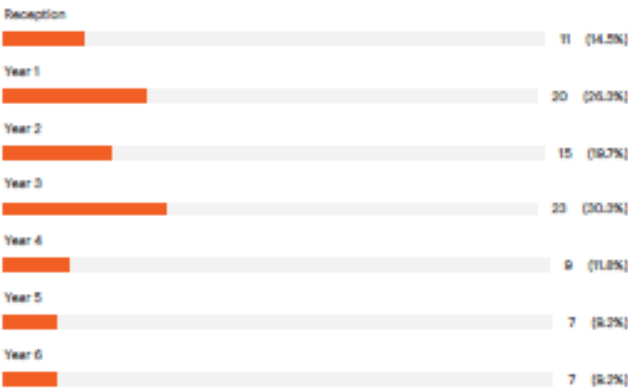
Maths Workshop Parent Survey Results

"Would you be interested in attending a workshop exploring how mathematics is taught at St Mary's in order to support your child with their maths learning at home?"



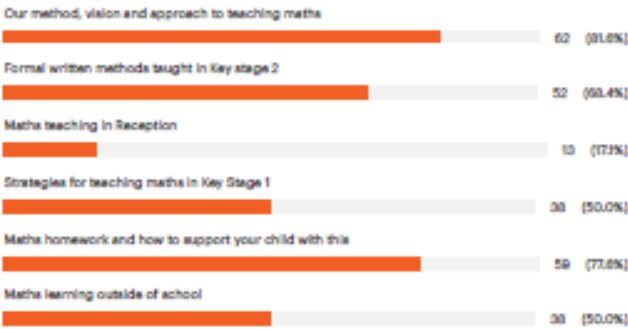
Question 2 has 76 answers (Checkboxes)

"Which year group(s) is your child in?"



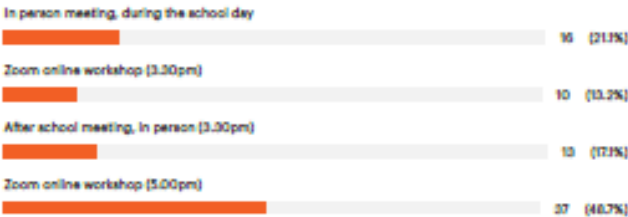
Question 3 has 76 answers (Checkboxes)

"Which of the following would you find useful?"

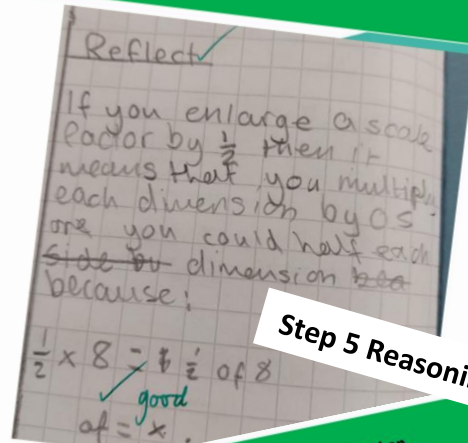


Question 4 has 76 answers (Radio Buttons)

"Which of the following would be most convenient?"

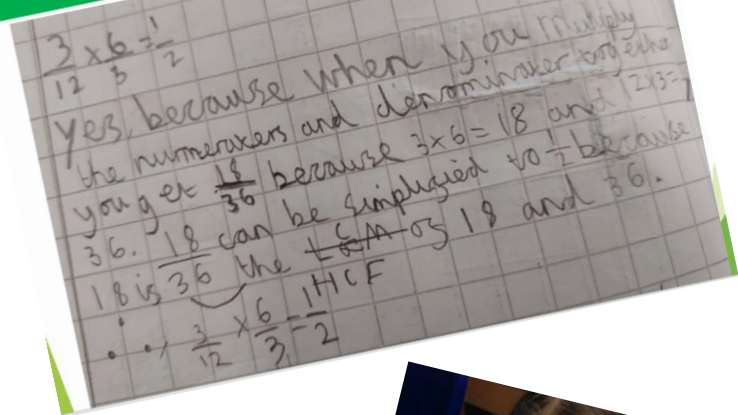


STEP 5  
Proving- a watertight argument that is mathematically sound often based on generalisations and underlying structure.

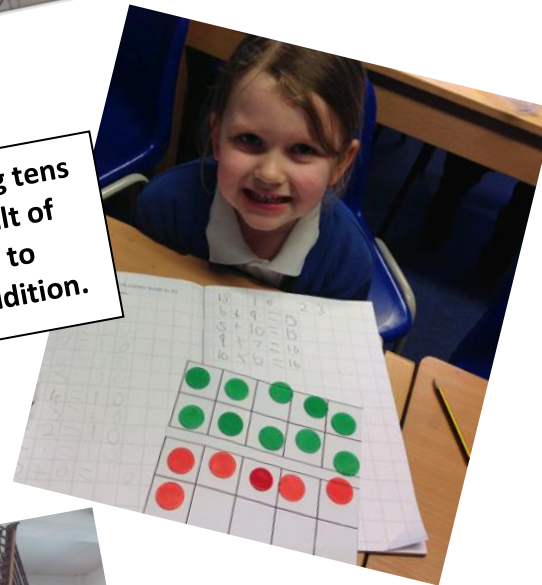


Step 5 Reasoning in Pupils' Books

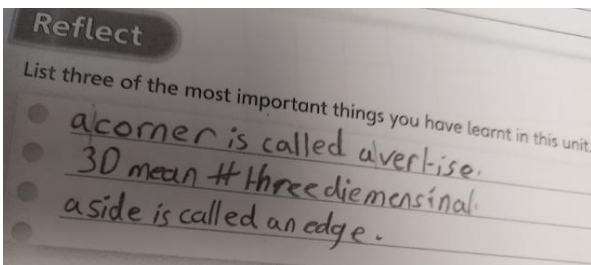
STEP 5  
Proving- a watertight argument that is mathematically sound often based on generalisations and underlying structure.



Year 1 pupil using tens frames, as a result of maths coaching, to support with addition.



Year 4 pupils in the Mathematician Gallery on a trip to the Science Museum



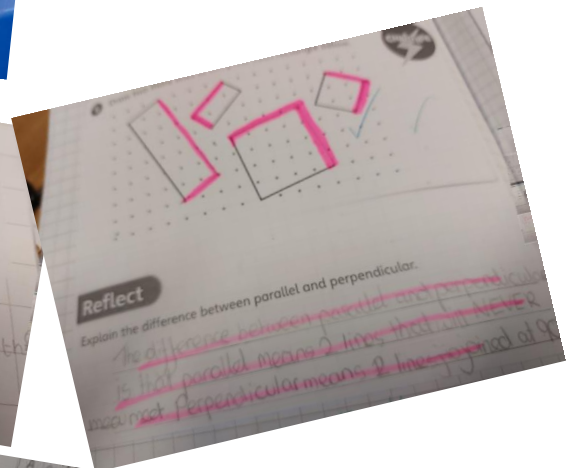
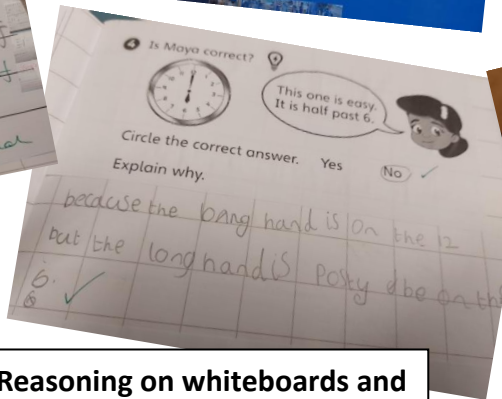
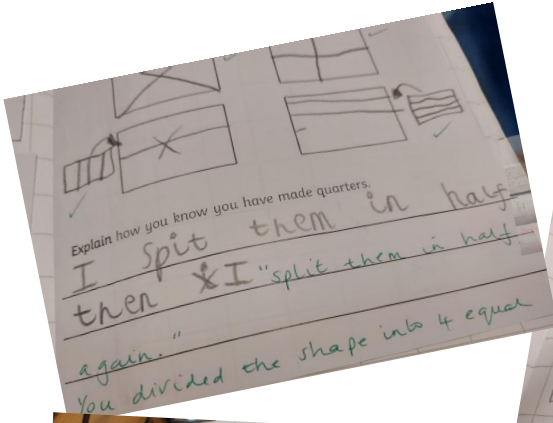
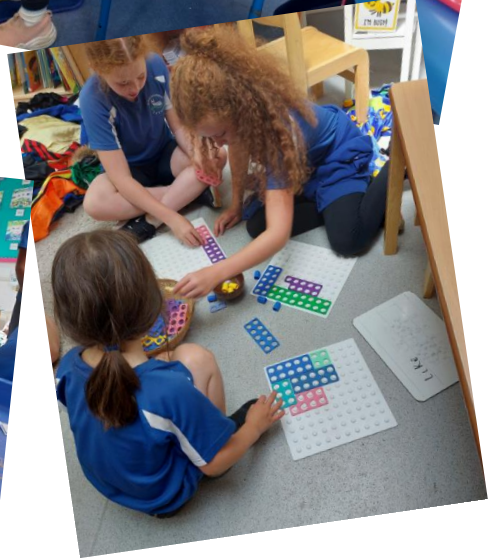


Collaborative 'maths through play' learning – Year 6 pupils and reception

"What is the long, blue hand pointing to?"

"Okay, you turn around and guess how many Cheerios I've used when I'm done – no peaking!"

"Count with me how many Cheerios there are: 1, 2, 3, 4, 5..."



Reasoning on whiteboards and in books across the school

