Maths at St. Patricks KS2

Singapore maths

How has the curriculum changed?

The 2014 changes to the national curriculum in mathematics set out three main aims: to become fluent in the fundamentals of mathematics; to reason mathematically and to solve problems. The rationale for this change is that England is significantly underachieving in terms of developing mathematicians capable of success at GCSE and A-Level. The journey to this success begins at Primary level and recent research suggests that those groups identified as able mathematicians are simply allowed to progress through the curriculum at a faster pace. This promotes procedural learning at the expense of deep understanding.

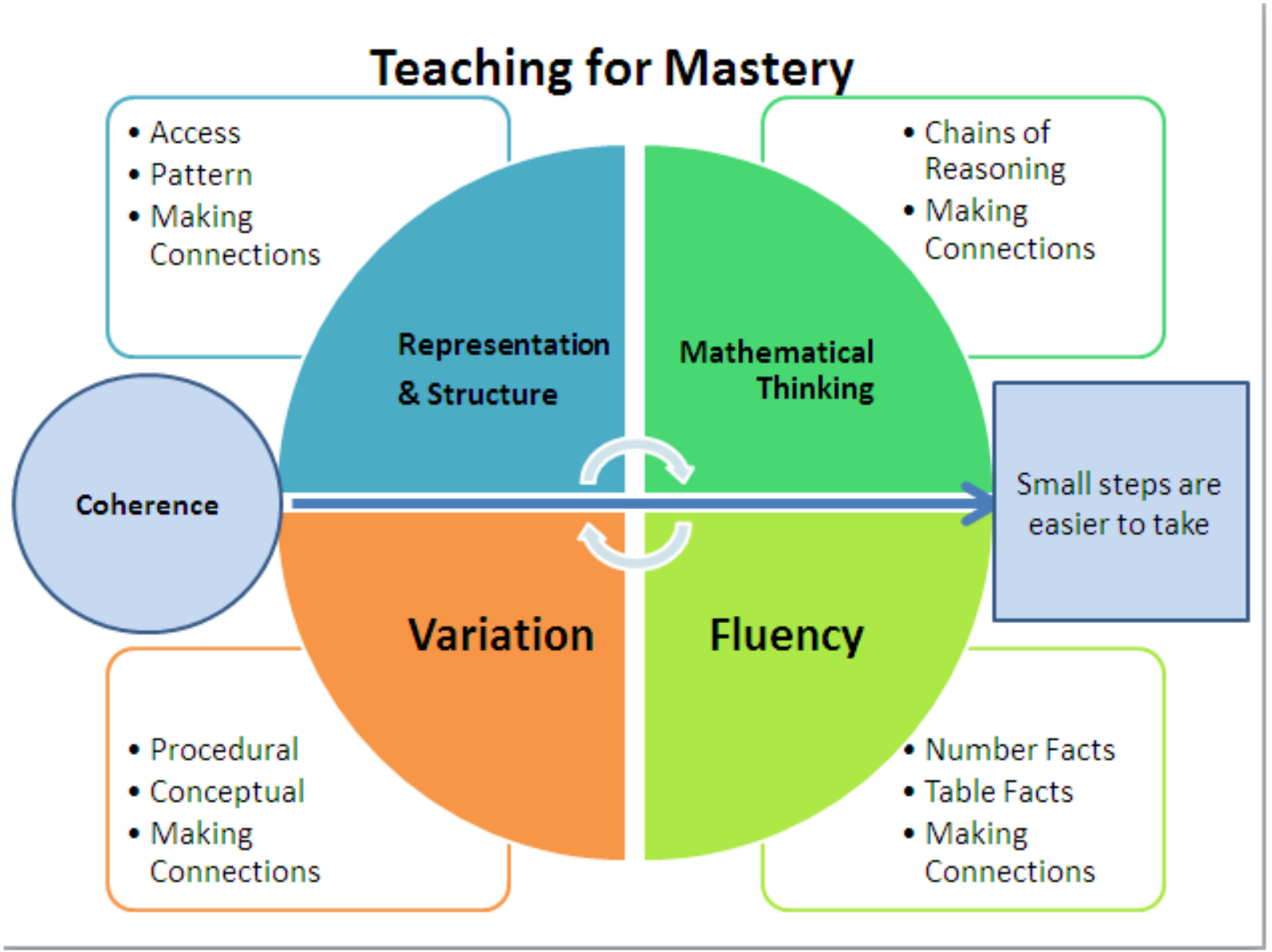
How do we get them there?

- Deep and sustainable learning for all children.

5 key principles:

- Representation and structure
- Variation
- Deep mathematical thinking and reasoning
- Fluency
- Cohesion

We are the start of our journey and so cannot focus on all five however focussing on two over the coming year will help up embed understanding.


Teaching for Mastery
• Access
• Pattern
• Making Connections
• Chains of Reasoning
• Making Connections
Representation & Structure
Mathematical Thinking
Coherence
Small steps are easier to take
Variation
Fluency
• Procedural
• Conceptual
• Making Connections
• Number Facts
• Table Facts
• Making Connections

St. Patricks moving forward…

- Maths programme – Singapore Maths years 1,3,4,5
  Year 2, 6 (2018)
- Development of maths lead – Bar modelling as a focus
- TA training
- Parent workshops
- Change in structure of lesson to enable ALL children achieve
- Maths pencil cases

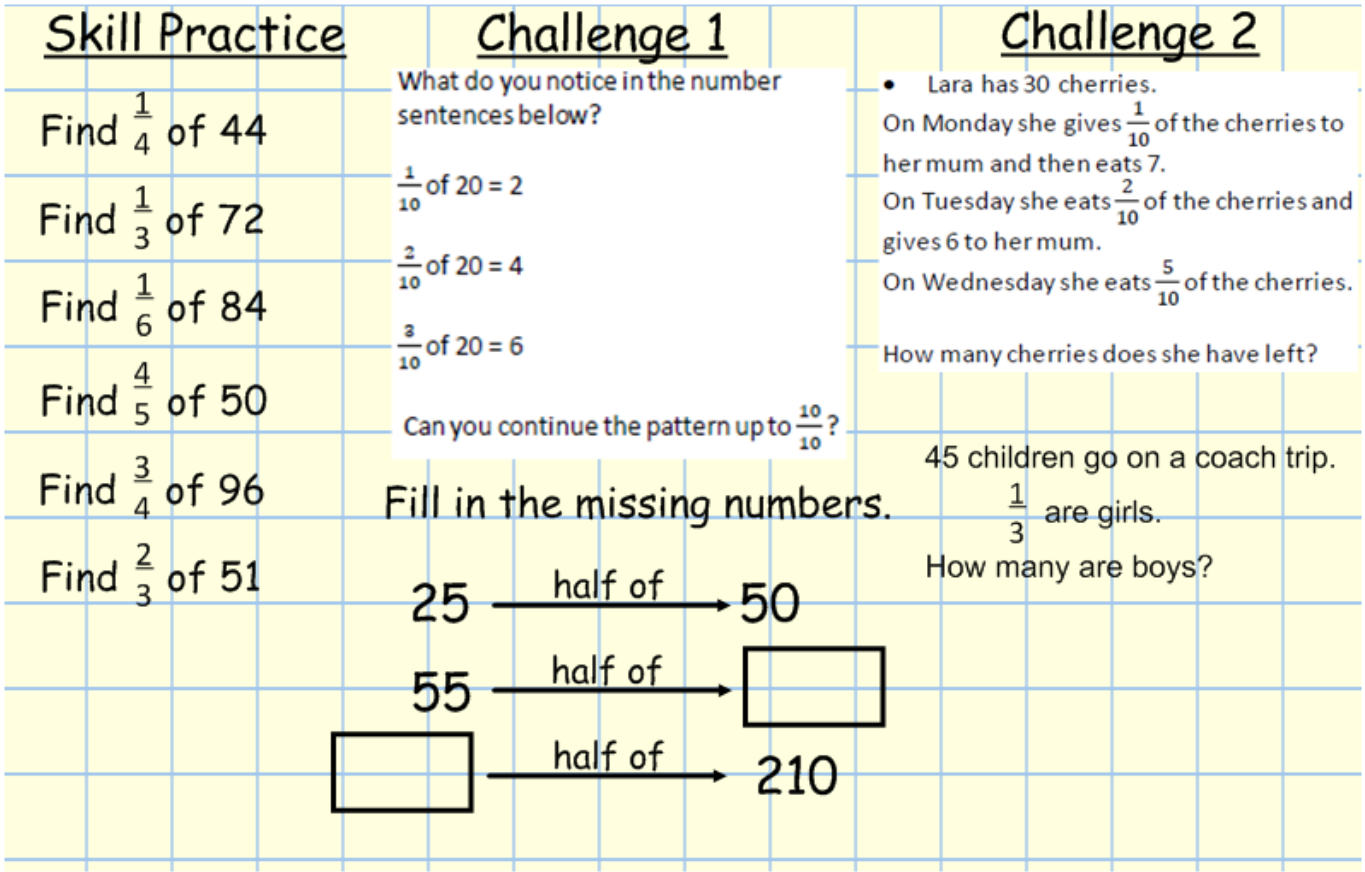
Maths No problem

- Teaching maths for mastery is a transformational approach to maths teaching which stems from high performing Asian nations such as Singapore. When taught to master maths, children develop their mathematical fluency without resorting to rote learning and are able to solve non-routine maths problems without having to memorise procedures.

Need To Know

- Evidence-based approach to teaching mathsHelps pupils develop a deep, long-term and adaptable understanding of mathsInclusive approach where all children achieveSlower pace which results in greater progressReflected in the 2014 English national curriculum for mathematicsEndorsed by the Department for Education, NCETM and OFSTED

Structure of lesson



Maths no problem…

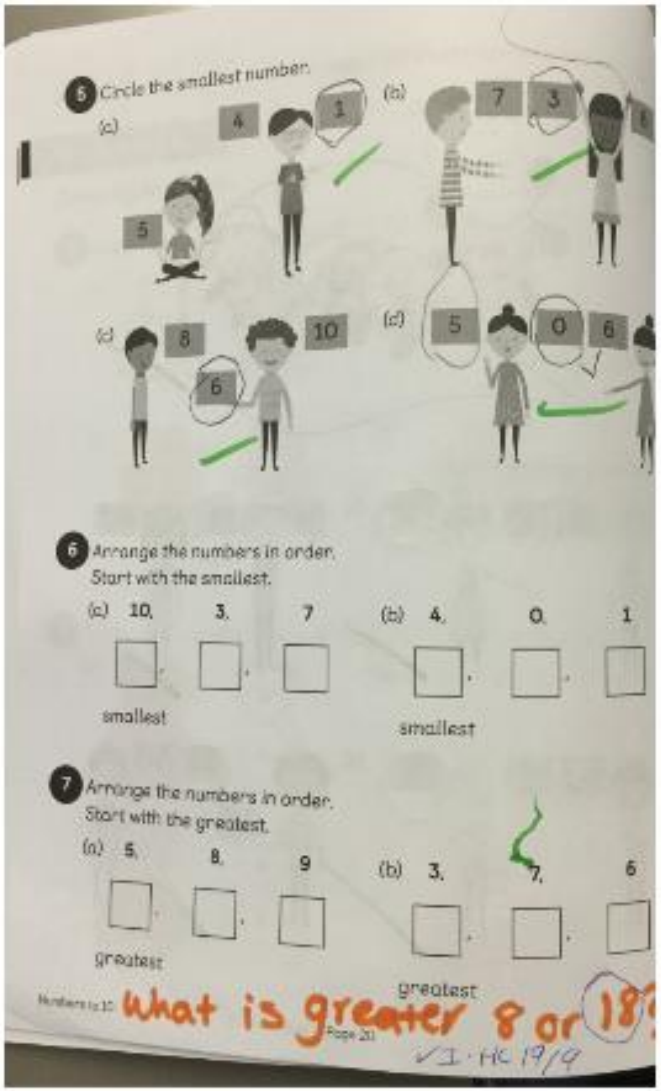
In Focus

Evergreen Primary School has 213 pupils.
There are 400 more pupils in Lakeside Primary School than in Evergreen Primary School.

How many pupils are there in Lakeside Primary School?

Marking

- Marking has also changed to help support your child
- Interactive session with mini feedback sessions
- Self marking
- Mastery links

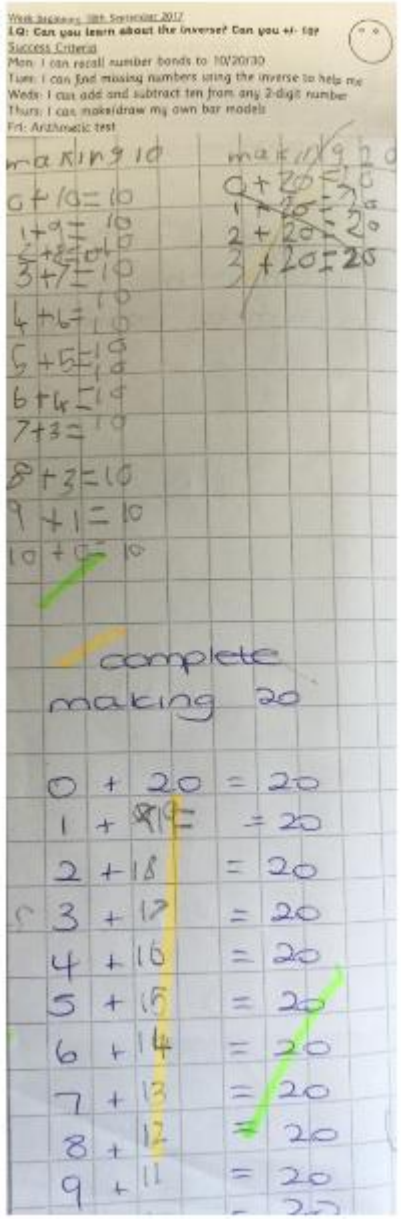


Green shows the children what they have achieved

Orange is next steps- Staff are now focussing on key phrases such as

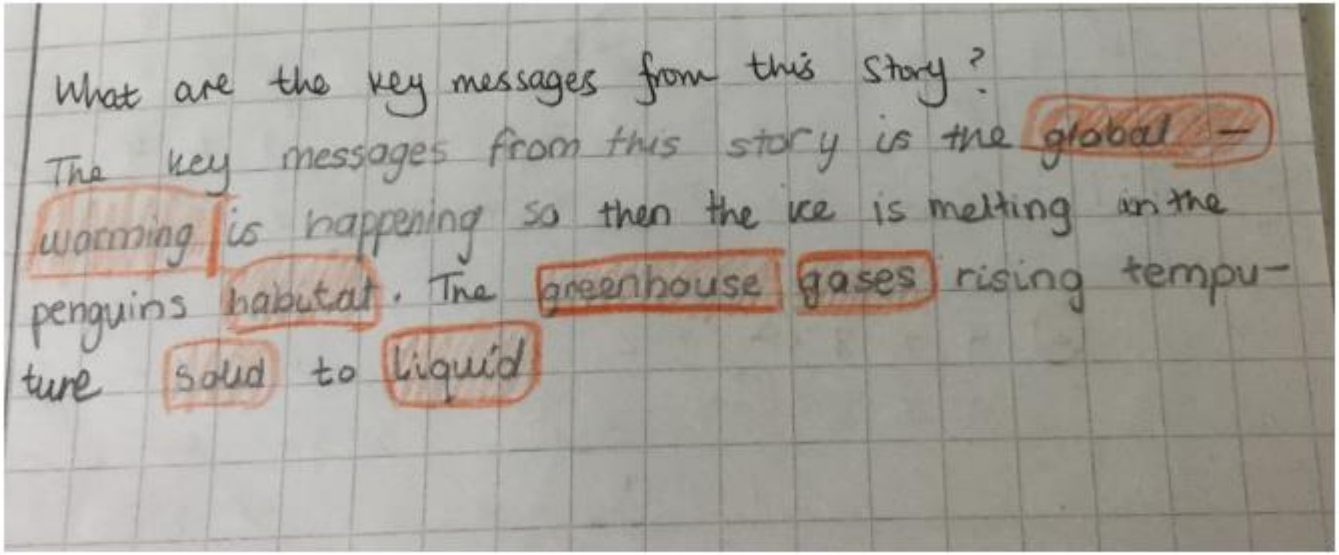
'explain this'
'show me another way'

'how else can you do this?'



Mastery- for all children…

- Skills - learning task 1.
- Challenge 1- independent.
- Challenge 2- Mastery books- Please train children- Date and lesson number.

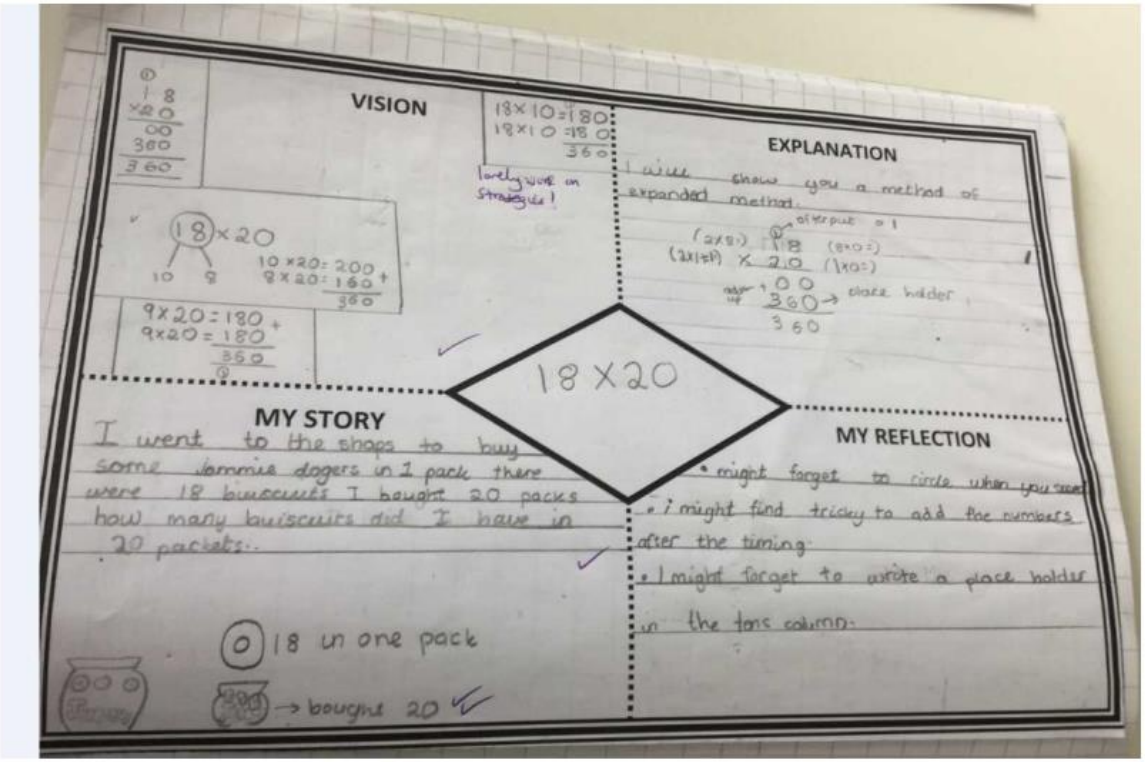


Developing the key skills

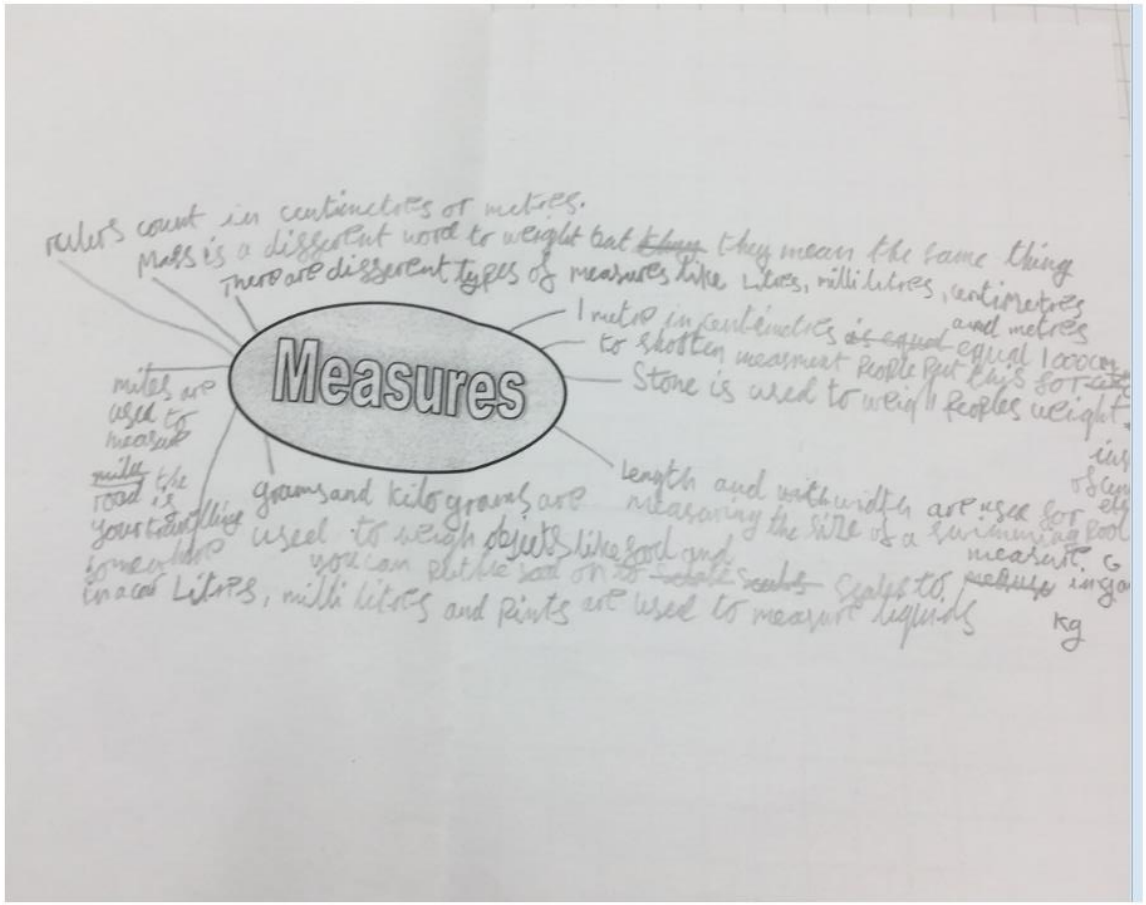
- Always ask children how they have worked something out.
- Praise thinking and methods rather than just the answer.
- Avoid saying the answer is right where possible – instead ask children if they all agree.
- Encourage children to find alternative methods of doing things.
- Use talk partners regularly.
- When counting above ten refer to tens and ones, not tens and units.
- Count actual objects or pictures of actual objects. Use of counters etc starts in year 1.
- Practise number bonds for all numbers.
- Encourage children to imagine how things might look before showing them.

Maths Journals 2 year process

- Date
- Lesson Number
- Lesson title



What do you know…



Using what you know

$$7 + 2 = 9$$

If you know this fact, what else do you know?

$10 + 10 = 20$

$(11-1) + 10 = 20$

$(11-1) + 10 = 2 \times 10$

$(11-1) + (5+5) = 2 \times 10$

$14 + 14 = 28$

$(18-4) + 14 = 28$

$(18-4) + 2 \times 7 = 28$

$(18-4) + 2 \times 7 = \frac{1}{2} \times 40$

$20 + 20 = 40$

$(40-20) + 20 = 40$

$(40-20) + 20 = \frac{1}{2} \times 80$

$(40-20) + \frac{1}{2} \times 40 = \frac{1}{2} \times 80$

$\frac{1}{2} \times 32 - \frac{1}{2} \times 8 = \frac{1}{4} \times 4$

$\frac{1}{2} \times \frac{1}{2} \times 16 = \frac{1}{2} \times 4$

$100 + 100 = 200$

$(\frac{1}{2} \times 200) + 100 = 200$

$(\frac{1}{2} \times 200) + 100 = \frac{1}{4} \times 800$

$(\frac{1}{2} \times 200) + \frac{1}{3} \times 300 = \frac{1}{2} \times 200$

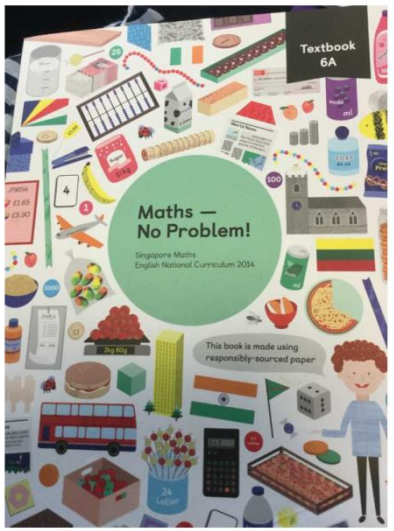
Finding time for practice of number facts

Identify times in the day

- 10 minute maths
- Transition periods
- Start/End lessons

28 + 29

How many ways can you solve?
Which is the quickest?
Write a similar question.

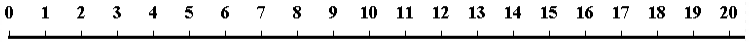


What do we teach in ks2 Maths?

- Time/Interpreting Timetables
- Four operations- Long multiplication, addition and division.
- Measurement (mass, length, capacity, temperature, perimeter, area, volume, imperial unit of measure)
- Money- budgeting
- Problem solving-words problems
- Ratio and Proportion-Year 6 only
- Statistics
- Geometry -Shape and space, Angles
- Geometry-Co-ordinates
- Alegbra

Resources

- Number line



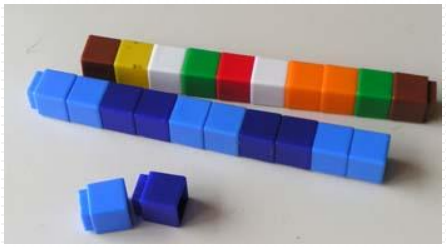
- Counters
- Online games

Number square

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

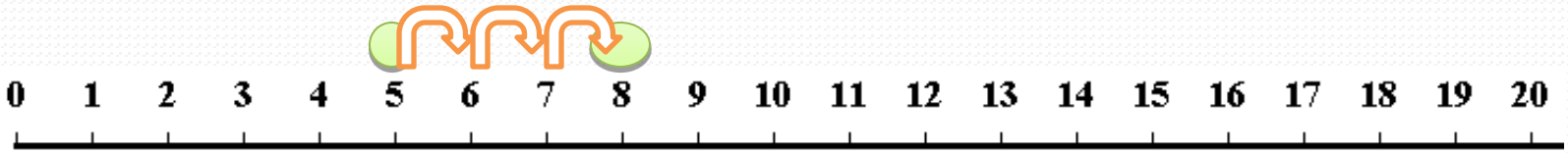
Place value cards

- Unifix sticks

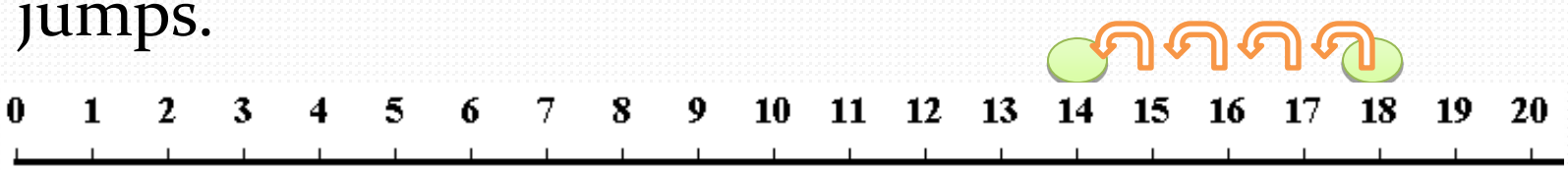


Using a Number Line

- Adding 5 + 3 = 8
- Step 1 start on the biggest number and count on in jumps.

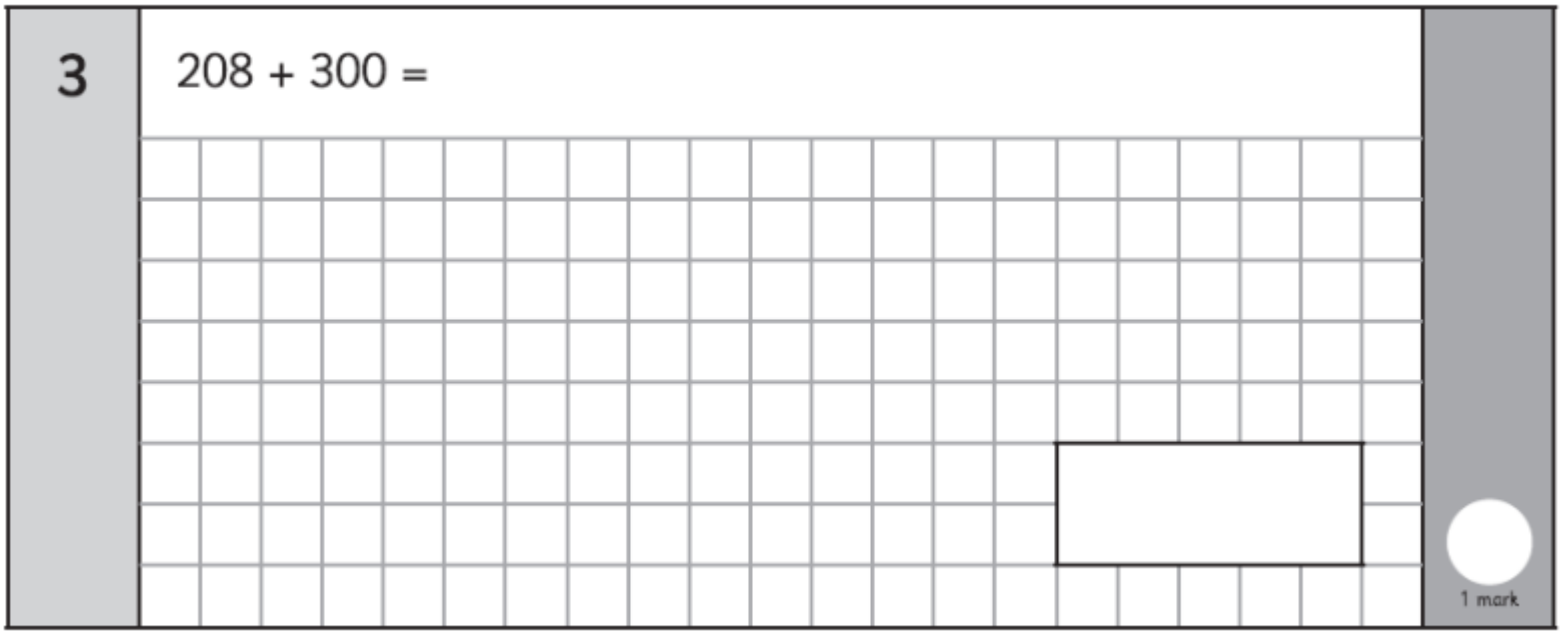


- Subtracting 18- 4=
- Step 1: start on the biggest number and count back in jumps.



Examples of test questions…

- Arithmetic



Examples of test questions

1. Continue these sequences.

a)

24	32	40	48			

b)

350	300	250	200			

How can you help?

Talk about *how* you do maths

Be positive

Give praise and encouragement

Ask your child to explain

TIMES TABLES!!!

2,5,10,4,8

Online games

Children love games to engage their learning. Try some of these site links.

Starship

5-7 yrs
Nash's Adventures

Math DicTioNary

The Little Animals Activity Centre

Any questions?

- Thank you for coming, your support is appreciated . Please fill out an evaluation form at the back and take the ‘helpful hints’ handout.