

Fluency

Woodlands Park Primary School

What is mental fluency?

Fluency in the new National Curriculum

- One of the three aims of the new curriculum states that pupils will: *become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.*

- Efficiency – children have strategies that they understand, that don't have too many steps, where they can keep track of their working etc.
- Accuracy – children can record carefully, use known facts correctly and check their answers.
- Flexibility – children can choose appropriate skills and strategies to solve problems

So fluency is more than memorising a single procedure or fact. Children need to understand *why* they are doing what they are doing and *know when it is appropriate* to use different methods.

Countdown

- Is this an example of fluency? Why?

Fluency in year groups

- Year 1: Counting 2, 5 and 10 and place value, number bonds for all numbers to 10 and then 20.
- Year 2: Counting 2, 3 and 5 and place value, number bonds for all numbers to 20 then relate this to multiples of 10 e.g. $2+3=5$ so $20+30=50$. Times tables 2, 5, 10.
- Year 3: Counting 4, 8, 50 and 100 and place value, apply use of number bonds. Times tables 3, 4, 8.
- Year 4: Counting 6, 7, 9, 25 and 1000, mental addition and subtraction. All times tables.
- Year 5: Counting forwards and backwards from any number up to 1,000,000. Use negative numbers. Develop fluency in mental calculations. All times tables.
- Year 6: understand numbers up to 10,000,000. Fluent in mental and formal methods for addition, subtraction, multiplication and division. All times tables.

KS2 SATs

- Paper 1:
- Q10: $50 \times 70 =$
- Q18: $122,456 - 11,999 =$
- Q21: $4 - 1.15 =$
- How would you do each of these? Why?
- How do you think the children who got them wrong might have answered and why?

How you can help

- Selective Attention - Apple Toss video
- Draw attention to links in maths – don't expect your child to spot them. e.g. Dad needs 3 buckets of water to wash the car if each bucket contains 5 litres how much water will Dad use. I'm going to use my 5 times table to work that out. Count in 5s.
- Play games from the examples given in class this morning.
- Play games which require rapid calculation – cards, snakes and ladders, monopoly.
- Involve the children in everyday problem solving.

Websites

- <http://www.educationcity.com/>
- <http://www.topmarks.co.uk/>
- <http://resources.woodlands.kent.sch.uk/maths/index.html>
- <http://www.mathsisfun.com/>
- <http://www.ictgames.com/resources.html>
- <http://mathszone.co.uk/>