Maths

Multiplication

Wednesday 7th June 2017

Warm up

Multiplication Dice Game

How to play:

1. Roll the dice.
2. Multiply your two numbers.
3. Colour your answer in on the grid.
4. the first person to colour four in a row wins!

18	12	24	8	10	24	6	15
36	30	12	9	2	5	4	18
4	24	4	8	6	8	15	3
10	12	25	15	20	6	16	8
36	12	12	30	5	12	5	30
10	25	1	9	5	6	10	20
18	20	9	10	16	15	4	3
1	30	4	20	2	3	6	15

Aims

- To become more familiar with how the teaching of multiplication progresses through the school.
- To take away some ideas to support your child at home.

Expectations – End of KS1

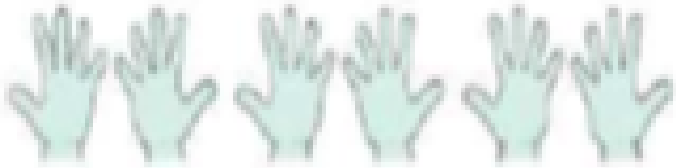
- recall and use multiplication facts for the 2, 5 and 10 multiplication tables.
- calculate mathematical statements for multiplication within the multiplication tables
- show that multiplication of two numbers can be done in any order (commutative)
- solve problems involving multiplication

Expectations – End of KS2

- multiply multi-digit numbers up to 4 digits by a two-digit whole number
- identify common factors, common multiples and prime numbers
- recall multiplication and division facts for multiplication tables up to 12 × 12
- multiply and divide whole numbers and those involving decimals by 10, 100 and 1000
- Solve a variety of problems.

Progression

- Grouping objects



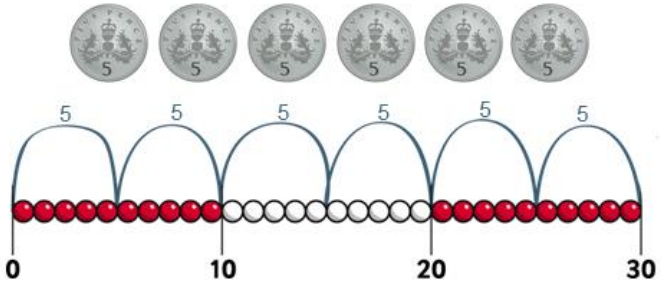
- Counting in steps

‘Clever Counting’

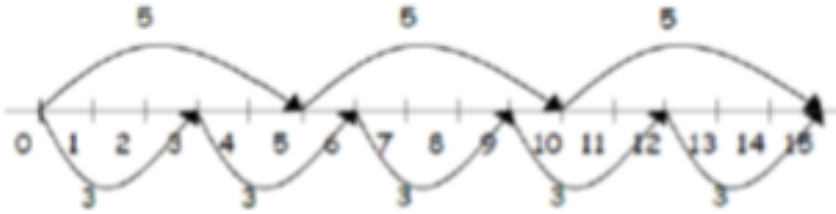
https://www.youtube.com/watch?v=0X620IeUkYE
https://www.youtube.com/watch?v=amxVL9KUmq8

Progression

- Repeated addition



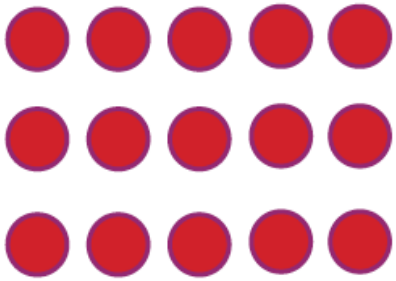
- Commutativity

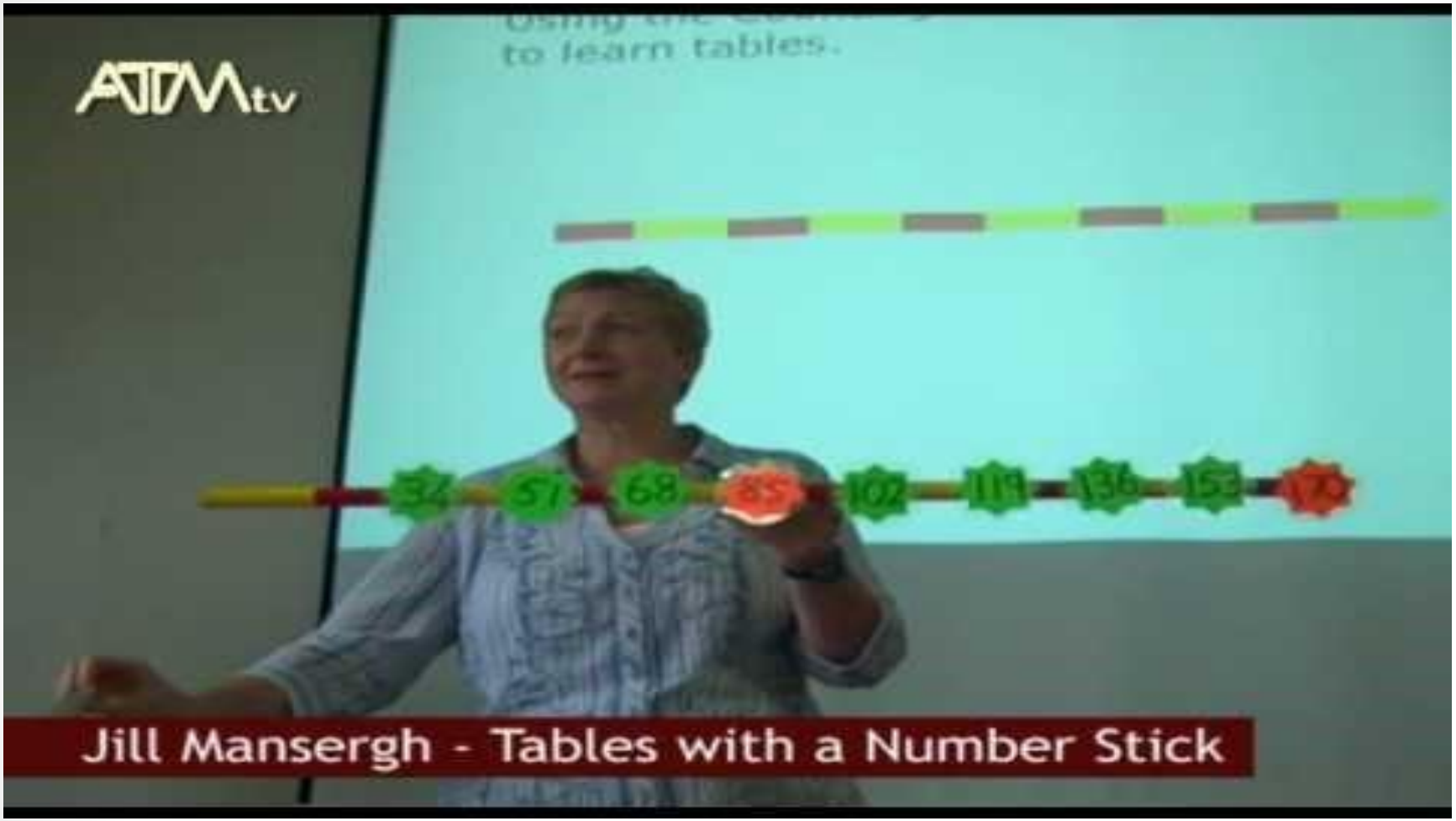


- Arrays

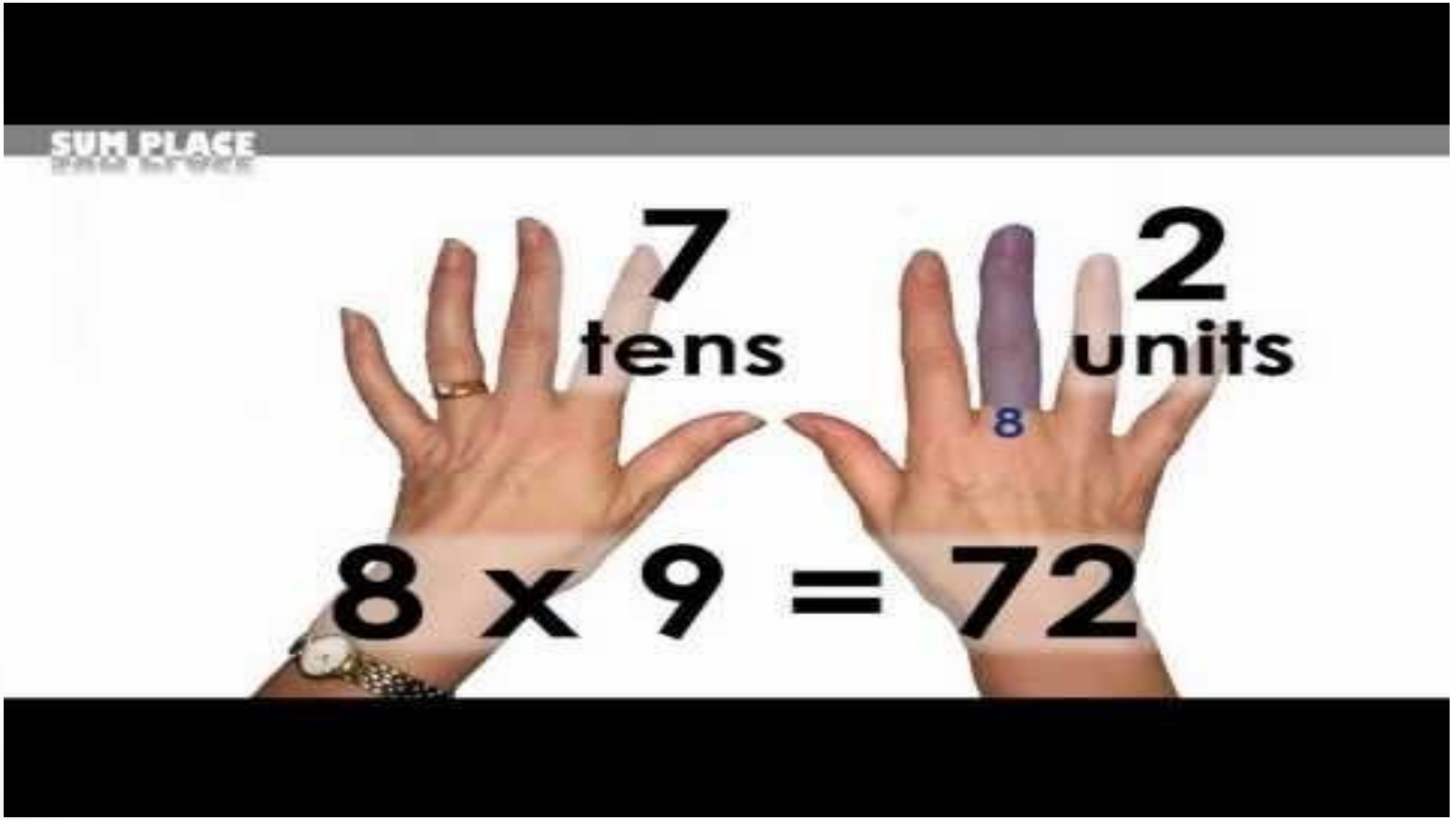
3 x 5

5 x 3




to learn tables.
34
51
68
85
102
119
136
153
Jill Mansergh - Tables with a Number Stick

Tables



Progression

- Grid Method

346 x 3 =

x	300	40	6
3	900	120	18

= 1038

- Expanded Method

```
  3 5 3
x     4
    1 2 ( 3 x 4)
  2 0 0 ( 50 x 4)
1 2 0 0 ( 300 x 4)
1 4 1 2
```

As the children become more confident they may omit writing each step of the calculation

- Short Method


MONSTER
QUIZ
START

Application – Mastery

Seagull Shocker!

A seagull has grabbed some numbers.
Can you work out what they are?

6□	8□	1□4
× 8	× □	× □
496	340	312

Example taken from Lower KS2

Application – Mastery

Seagull Shocker!

A seagull has grabbed some numbers.
Can you work out what they are?

6 2	8 5	1 0 4
× 8	× 4	× 3
4 9 6	3 4 0	3 1 2

Example taken from Lower KS2

Resources for support

- Existing school publications

- https://www.oxfordowl.co.uk/for-home/maths-owl/maths
- www.mathsframe.co.uk
- DK 10 minute times tables
- http://www.transum.org/iPad/Maths.asp
- www.topmarks.co.uk

Coming up: Fractions

Other examples of Mastery Activities

It's a Washout!

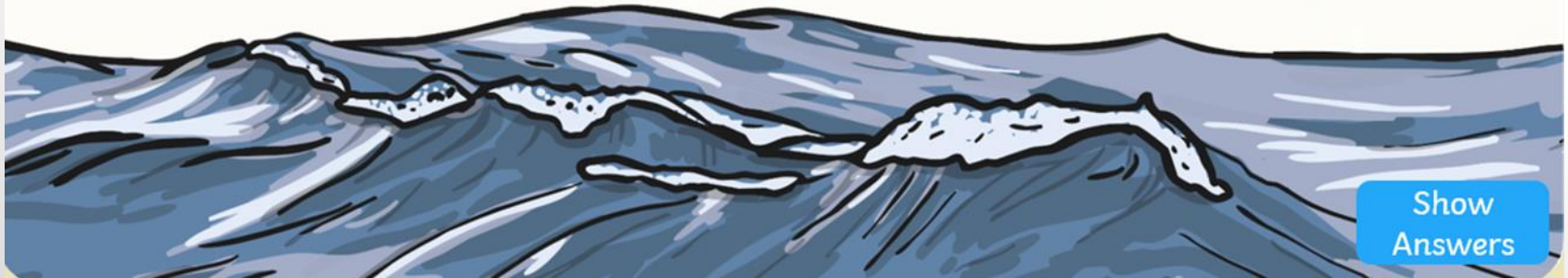
Some of the numbers have been washed away by the tide. Can you find the missing numbers?

The single digit in each row and column, when multiplied together, make the numbers at the end of those rows and columns.

All the numbers missing are 10 or less.

Which numbers are missing?

		24
		8
		50
160	60	



Show Answers

Maths Mastery - Multiplication and Division

7. Which of these number sentences is the odd one out? Explain your reasoning.

40 ÷ 2	4 × 5	20 × 0	2 × 10

Maths Mastery - Multiplication and Division

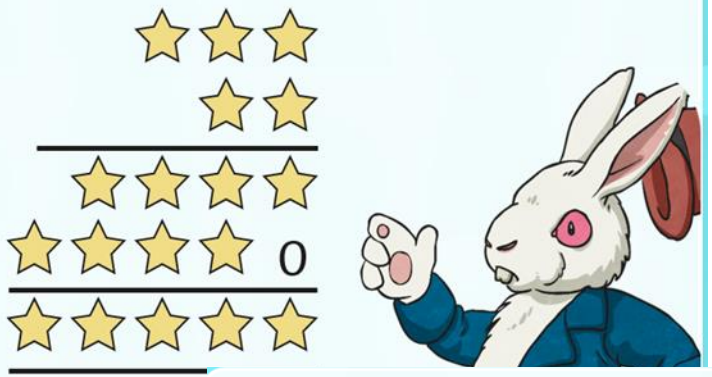
4. Two friends would like to buy some sweets from the shop but want to share them equally with none left over. Which bag of sweets should they buy? How do you know?

White Rabbit Puzzle

The White Rabbit has a puzzle.

A three-digit number is multiplied by a two-digit number and the calculation is written out.

Each star stands for one digit.
Apart from the zero shown, the only digits which occur are 2, 3, 5 and 7. what are the missing numbers?



He Says True, He Says False

They can't decide which is true and which is false. Can you help?

$7 \times 6 = 7 \times 3 \times 2$

$7 \times 6 = 7 \times 3 + 3$

$8 \times 2 = 8 \times 3 - 8$

$9 \times 4 = 6 \times 6$

Now find some of your own true and false multiplication statements.

Show Answers