Poldark and Levant Maths Distance Learning week beginning 11th May

**Learning Objectives;**

**Poldark**; I am aiming to revise time tables and division facts (1x , 2x, 3x, 4x, 5x, 8x, 10x)

**Levant;** I am aiming to revise all times tables and division facts (to 12 x 12)

**Notes to parents**; There is no right or wrong way to learning multiplication tables as long as recall is instant.

An easy way for children to feel successful is by doubling.

They all know 1 x table. 2 x table is double 1 , 4x is double 2, 8x is double 4

Learn 3x , then 6 is double 3x, 12 is double 6x

Learn 5 (pattern multiples end in 5 or 0) then 10 is double 5 ( multiples always end in 0)

The only ones left are 7 and 9.

9 has lots of patterns to help. Add both digits up to total 9, in order the T column will increase by 10 each time, the O column will decrease by 1 each time. ( times can also be learnt on fingers. 4x9 fold 4th finger down, 3 fingers in front are tens and 6 after are ones so answer 36.

7s = if all other table facts learnt, only 7 x 7 to learn.

Other tricks- 8x 8 =64, I ate and I ate, I was sick on the floor, eight x eight = sixty four

56=7x8 5 6 7 8

**Teaching Input**; Show children ‘Partially completed multiplication grid 1’ (*see resources*). Remind them how to use the grid.

* Note that the grid has different times tables, but with lots of blank spaces for the 1, 2, 3, 4, 5, 8 and 10 times tables. Can they fill as many blanks as possible?
* Point out how we can use facts we know to find other facts, such as 7 × 5 to find 5 × 7.
* Point to the number 21. *How many threes are in 21?* Help children interpret the rows and columns on the grid to find the answer (7).
* *How can we write number sentences to describe the relationship between the numbers 3, 7 and 21?*
* Scribe the two multiplications: *7 × 3 = 21; 3 × 7 = 21*, followed by the two divisions: *21 ÷ 3 =7; 21 ÷ 7 =3.*
* Repeat for 4x6 5 x3 2 x8 and 4x10

**Applying Knowledge and understanding;**

**Poldark** – Multiplication Grid Sheet 1

**Levant** – Multiplication Grid Sheet 4

**Learning Objectives**;

**Poldark**; I am aiming to revise factors and multiples

**Levant;** I am aiming to revise factors and use them to aid mental multiplication

**Notes to parents;**

*20 is a* ***multiple*** *of 1, 2, 4, 5, 10 and 20. These numbers are called its* ***factors***.

*Factors come in pairs, all multiples have an even number of factors except square numbers*.

*E*.g. 16. 1 and 16, 2 and 8, 4

*Encourage children to think systematically*. Halving or doubling one of the factors to find more

*E*.g. Factors of 36

*1 and 36 2 and 18 4 and 9 3 and 12 6*

**Teaching input;**

* Display 20 counters/pennies/ pebbles ( any small objects) in a 5 × 4 array. *What other arrays might be possible using 20 counters.*
* Ask each child to sketch an array .
* Share ideas, drawing out 10 by 2 and 20 by 1 as well as 5 by 4.

*So, 20 is a* ***multiple*** *of 1, 2, 4, 5, 10 and 20. These numbers are called its* ***factors***.

* *Find all of the factors of 24*.

It is easier to think of factors in pairs;

1 and 24 2 and 12 3 and 8 4 and 6

* *Are there any numbers that are factors of both 20 and 24* (i.e. 1 and 4)*?* Explain that these are called ***common factors*** of 20 and 24.
* Repeat with 16 and 18. *What common factors do these numbers have?*

**Levant only;**

* Write: 20 × 36. *How could we calculate the answer?* Agree that we can multiply 36 by 2, then by 10 (or vice versa). Explain that when we do this, we are using the factors of 20 (2 and 10).
* *How else could we multiply by 20?* Suggest children multiply 36 by 4 (doubling twice) and then by 5. Do they get the same answer?
* *Which way did you find quicker or made more sense?*

Ask children to list the pairs of factors of 14. Ask them to use these factors to calculate 14 × 52 (e.g. 7 × 52, then double).

**Applying knowledge and understanding**

**Poldark**- Finding Factors sheet 1 – draw arrays to help if needed

**Levant**- using factors sheet 2

Challenge yourself to complete 12 x 12 table quicker each time you do it over a week

Pick a multiplication table you feel insecure with, be an expert by the end of the week.

**Problem solving and reasoning Challenges;**

**Poldark**

* Write the missing numbers:  
  ☐ × 8 = 32  
  6 × ☐ = 48  
  9 = 36 ÷ ☐  
  ☐ × 4 = 48  
  5 = ☐ ÷ 8
* Write 8 × 6 = 48 in the middle of a space and circle it. Draw 8 spider legs out from it. Write 8 related number sentences using this central fact.
* Always true, sometimes true or never true?  
  -- 6 × 8 is the same as 4 × 12;  
  -- Dividing a number by 3 gives an odd answer;  
  -- Even numbers divide by 8 to leave no remainder.

**Levant**

* Find three different multiplication facts that you can multiply by 10 to give an answer of 400.
* Use doubling to help you solve:  
  23 x 4 18 x 8 141 x 4
* How could you use the factors of 12 to help multiply a number by 12?  
  Try this to find:  
  16 x 12 23 x 12 34 x 12
* Use and explain a mental method to find:  
  8 x 13 7 x 16 12 x 13

Answers for Parents

Poldark

Write the missing numbers:  
 4 x 8 = 32

6 x 8 = 48

9 = 36 ÷ 4

12 x 4 = 48

5 = 40 ÷ 8

Are children applying known times tables facts to solve divisions?

Write 8 × 6 = 48 in the middle of a space and circle it. Draw 8 spider legs out from it. Write 8 related number sentences using this central fact.

e.g. 6 x 8 = 48; 80 x 6 = 480; 8 x 60 = 480; 800 x 6 = 4800; 8 x 600 = 4800; 80 x 60 = 4800; 48 ÷ 6 = 8; 48 ÷ 8 = 6; 4 x 6 = 24; 6 x 4 = 24;

9 x 6 = 54….

* Always true, sometimes true or never true?  
  -- 6 × 8 is the same as 4 × 12; True, both equal 48.  
  -- Dividing a number by 3 gives an odd answer; Sometimes, when the number itself is odd e.g. 9 ÷ 3 = 3, 15 ÷ 3 = 5.   
  -- Even numbers divide by 8 to leave no remainder. Sometimes, e.g. multiples of 8 such as 16, 24 or 32; but other even numbers will leave a remainder, e.g. 12, 20, or 22.

**Levant**

* Find three different multiplication facts that you can multiply by 10 to give an answer of 400.

Any of 1 × 40, 2 × 20, 4 × 10, 5 × 8. i.e. the factor pairs of 40.

* Use doubling to help you solve: 23 x 4 18 x 8 141 x 4

23 × 2 = 46; 46 × 2 = **92**

18 × 2 = 36; 36 × 2 = 72;72 × 2 = **144** (Or9 × 8 = 72;2 × 72 = **144)**

141 × 2 = 282; 282 × 2 =**564**

Errors may occur when children are working mentally but do not jot down the part completed solutions; some errors also possible when doubling if double the 1s digit is greater than 10, e.g. 46 × 2 = 82 or 812.

* How could you use the factors of 12 to help multiply a number by 12? Multiply by 3, then by 2, then by 2 again – this could be in any order.

Try this to find:  
16 x 12 192 23 x 12 276 34 x 12 408

* Use and explain a mental method to find:  
  8 x 13 7 x 16 12 x 13

8 x 13 = 104, e.g. double 13 three times.

7 x 16 = 112, e.g. 7 x 8 = 56, then double 56.

12 x 13 = 156, e.g. 3 x 13 = 39, then double twice.

Other methods are possible. The important thing is a) getting the right answer, and b) children being able to explain their strategy.