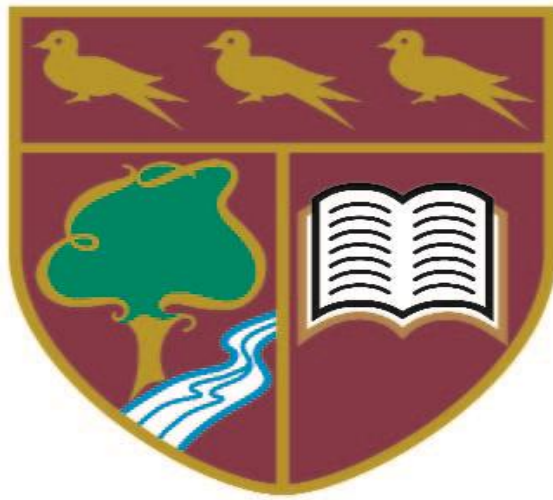# Times Tables
A Parent Booklet

Pound Hill Junior School

Aims of this booklet:

- To increase understanding of the Times Tables expectations of the National Curriculum
- To familiarise yourself with methods and strategies to support learning Times Tables at home.

National Curriculum: Maths Programmes of Study:

Year 4:
Pupils should be taught to:
- recall multiplication and division facts for multiplication tables up to 12 × 12

The following areas of the Year 5 Curriculum statements outline the importance of having a secure knowledge of all times tables. When children have an 'automatic' access to times table facts (including division), they are able to access a breadth of further learning in other areas of the National Curriculum:

In Year 5, children are expected to learn:
- identify multiples and factors
- Understand prime numbers, prime factors and composite (non-prime) numbers
- multiply larger numbers using a formal written method
- multiply and divide numbers mentally
- divide numbers up to 4 digits by a one-digit number using the formal written method
- multiply and divide whole numbers and those involving decimals by 10, 100 and 1000

Not only do times tables link to multiplication and division directly, a secure understanding also allows children to access other areas of the curriculum, such as

- Fractions
- Time
- Area
- Measurement and Scale

Mr Ferguson's Top Tips for times table practise at home!
Don't SIGH...
Set small, easily achievable goals
Ignore distractions
Give yourself enough time
Have fun and be positive!

120 Times Tables

Every month, the children will complete a test with 120 times table questions with increasing difficulty- A being the easiest and D being the hardest! Children really enjoy the challenge of beating their score from the previous month and moving on to the next test. The best way of doing this is for children to concentrate on a few calculations or a whole times table that they generally struggle with. Below is an example of one test, and a list of the times tables that generally come up in each test. Please see the end of this booklet for strategies to tackle tables above 12x!

A test- 0, 1, 2, 3, 4, 5, 10 times table
B test- all tables to 12x
C test- all tables to 12x, 13, 14 15 times table
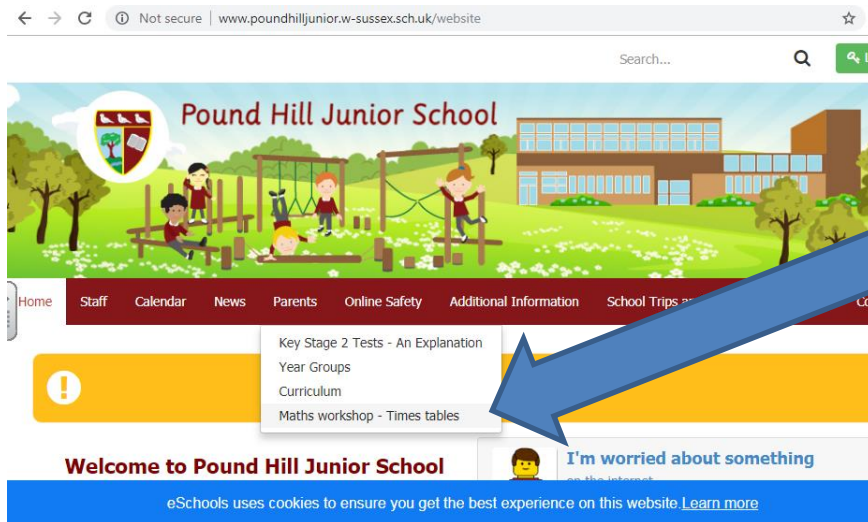D test all tables up to 20x

120 Times Tables Test

C

April

Name _____

10 minutes allowed

3 X 3 =	7 X 7 =	8 X 7 =	10 X 12 =
10 X 9 =	5 X 2 =	2 X 11 =	6 X 8 =
2 X 5 =	4 X 6 =	2 X 12 =	11 X 7 =
6 X 3 =	3 X 15 =	8 X 3 =	10 X 13 =
7 X 4 =	5 X 8 =	12 X 12 =	6 X 15 =
2 X 8 =	9 X 3 =	8 X 9 =	8 X 2 =
10 X 6 =	8 X 6 =	5 X 4 =	2 X 14 =
7 X 11 =	11 X 11 =	2 X 15 =	7 X 8 =
9 X 5 =	3 X 6 =	6 X 12 =	5 X 14 =
2 X 13 =	12 X 2 =	9 X 9 =	4 X 7 =
3 X 14 =	7 X 9 =	10 X 7 =	11 X 4 =
9 X 2 =	8 X 12 =	8 X 15 =	9 X 15 =
10 X 10 =	5 X 3 =	6 X 13 =	7 X 14 =
12 X 3 =	9 X 7 =	10 X 3 =	11 X 8 =
11 X 11 =	5 X 11 =	9 X 4 =	6 X 2 =
5 X 5 =	6 X 6 =	12 X 11 =	10 X 5 =
11 X 6 =	7 X 6 =	6 X 9 =	6 X 4 =
11 X 15 =	8 X 4 =	7 X 2 =	10 X 15 =
7 X 13 =	3 X 12 =	9 X 13 =	6 X 6 =
11 X 14 =	9 X 9 =	11 X 5 =	12 X 8 =
11 X 12 =	8 X 8 =	7 X 7 =	5 X 6 =
2 X 9 =	4 X 4 =	10 X 2 =	4 X 3 =
7 X 12 =	12 X 9 =	4 X 12 =	9 X 12 =
8 X 8 =	4 X 11 =	5 X 7 =	10 X 11 =
7 X 5 =	2 X 2 =	3 X 11 =	7 X 15 =
5 X 12 =	6 X 7 =	9 X 8 =	5 X 13 =
11 X 2 =	8 X 5 =	3 X 9 =	9 X 6 =
11 X 3 =	12 X 7 =	12 X 4 =	8 X 11 =
6 X 5 =	2 X 7 =	7 X 3 =	11 X 9 =
9 X 14 =	5 X 9 =	4 X 13 =	6 X 14 =

Times Tables Websites

Although they have not been fully implemented yet, there is a strong likelihood that the government times table tests will be administered on computer. Therefore, we would like the children to get used to typing numbers on a keyboard so we encourage the children to practise their times tables on a computer as well as written down or verbally.

In order to access websites and apps that support this, you can head to the school website, following the 'Parents' tab and then 'Maths workshop- Times Tables'.

Click here

Alternatively the links to the websites are as follows:

https://www.topmarks.co.uk/maths-games/hit-the-button

https://www.nationwideeducation.co.uk/www/flash/bso/bso-flash/index.html

https://play.ttrockstars.com/

https://www.mathsisfun.com/numbers/math-trainer-multiply.html

Apps – Search for these in the App Store

- Squeebles
- Times Table Quiz
- 2 x 2 =4

These are but a few that are available. There are plenty of other times table apps that the children can use by searching through the app store.

The rest of the booklet will contain games, activities and strategies from the workshop. Please feel free to ask your child's teacher for any advice on how to complete any of the following.

Board games	Times table race
Create your own board game where you have to answer questions correctly to move on.	In threes, one person asks questions for the other two people to race to the answer.
Snap	'Rock, Paper, Scissors'
Create your own card games with questions and answers. Play with friends and family. Two players can draw a card each and the first to shout the answer gets a point	Put your hands behind your back. Just like in rock, paper, scissors count to three and then both players reveal a number using their fingers. A player wins by correctly multiplying both numbers the fastest.

Buy one, get three free

When we know a times table fact, we can **derive facts** from this fact

For example, if we know 3 x 4 = 12, then we know that

12 = 4 x 3

12 ÷ 3 = 4

12 ÷ 4 = 3

It is really useful to practise this, as division comes up a lot in tests to try to trick children out, when all we need to know is one times table fact!

This also helps us with fractions:

$\frac{1}{3}$ of 12 = 4

$\frac{1}{4}$ of 12 = 3

Why not create a single times table fact using cards or dice and see if you can write 4 number sentences?

Challenge yourself or a partner to an arithmetic race. Once you are used to the rules, create your own versions of the game, but make sure the numbers work when dividing.

Player A	Player B
3	x 3
+ 1	x 5
÷ 10	x 4
÷ 5	÷ 2
x 8	-6

Player A	Player B
4	+ 6
x 4	÷ 8
x 7	÷ 7
+ 15	x 3
-25	÷ 7

Player A	Player B
100	-10
÷ 9	x 4
-8	÷ 2
+ 9	-16
x 2	+ 3

Player A	Player B
1	+ 3
x 8	-8
÷ 3	x 5
-4	÷ 9
x 4	x 4

Times table grids are a good way of practising times tables systematically. Set a time limit and try to beat your best time.

http://www.mental-arithmetic.co.uk/multiplication-grids-pdf-generator.htm is a great website to create your own grids (Google: custom times table grids)

Fill in the gaps...

×	1	2	3	4	5	6	7	8	9	10
1	1	2								
2			6							
3		6		12				24		
4								32	36	
5									45	
6							42	48	54	
7										
8				32	40				72	80
9			27		45	54		72	81	
10	10	20	30	40						

X	1	2	3	4	5	6	7	8	9	10	11	12
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												

For a challenge, complete times tables grids with the numbers mixed up! (Google: blank/mixed times table grids)

X	5	4	12	1	11	3	6	10	2	9	7	8
4												
11												
3												
1												
9												
6												
2												
8												
7												
10												
5												
12												

Name _____

Start

Multiplication Race

Take the number in the circle below and multiply it by the number on the outside of the track. Write your answers as you go and see how long it takes you to finish the race!

Multiply:

Track numbers: 2, 6, 10, 1, 3, 8, 5, 7, 4, 9, 3, 6, 8, 12, 5, 7, 11, 9, 6, 4, 10, 8, 2, 7

Noughts and Crosses

Play this game with a partner. One chooses noughts and the other chooses crosses. Take it in turns to answer a question in the box and then put in either a naught or a cross if you answer correctly. Who can make a line or noughts or a line or crosses first? Lines can be vertical, horizontal or diagonal.

5 x 4 =	9 x 4 =	8 x 4 =
7 x 4 =	12 x 4 =	3 x 4 =
4 x 4 =	6 x 4 =	10 x 4 =

Times tables can be used to find the area of rectangles. Fill in the missing lengths and multiply to find the area. You could measure shapes at home to find their area.

cm

_____ cm

_____ cm²

m

___ m

_____ m²

mm

_____ mm

_____ mm²

km
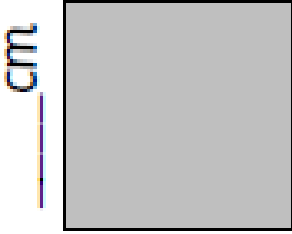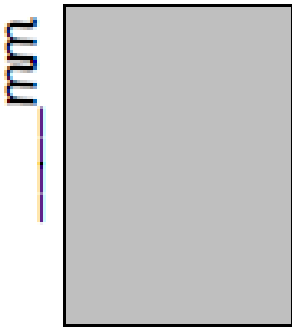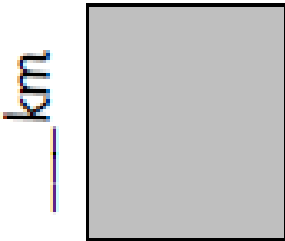
___ km

_____ km²

Factors and Multiples Game

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

1. Decide which colour you will use for a factor or multiple.
2. Roll a dice to find the starting number. Shade in.
3. The next player shades in either a factor or multiple of the previous number. For example, if the previous number was 20 they could shade in 40, 60, 80 or 100 as a multiple or 1, 2, 4, 5, or 10 as a factor.
4. The loser is the player who can't shade in any more squares.

This is a great game to find prime numbers!

Can you make your own Times Table board game?

<u>Strategies for learning larger time tables (11-20)</u>

<u>Even numbers (12, 14, 16, 18 and 20)</u>

Use factor pairs!

Eg- for 14x, we know that 14 = 7 x 2

So if we have to multiply 14 by another number, we can multiply the number by 7 and then double (x2).

14 x 8 =

7 x 2 x 8 =

8 x 7 x 2 =

56 x 2 = 112

It takes some practise but we can become very quick and fluent once we have the mental process in place! Also, these times tables come up on 120 times table C and D tests so worth learning.

<u>2 digit numbers, including odd (11-19)</u>

Use partitioning!

This strategy can get the same result as factor pairs, either strategy can be used depending on which one you prefer.

Eg- for 15x, we know our 10x table and 5x well, so if we mentally split 15 into these times tables, multiply a number separately, and put the answers back together, we can get the original answer very quickly.

15 x 6 =

(10 x 6) + (5 x 6) =

60   +   30   =   90

Again, with practise, this strategy can be used to multiply much larger numbers mentally, but requires a rapid recall of times tables.