Multiplication Monsters

-a parent's guide to

maths targets

at Grange Farm

Name:

Class:

Target starting point:

We are excited to announce that following the Easter break, a new maths target reward system will be put in place, for all children in Years 1-6 at Grange Farm: 'Multiplication Monsters!' This will be closely linked to our previous target system and will continue to have a focus on number bonds and times table/division facts but will be more challenging and intends to raise the profile further still! Please enjoy reading through the following information that will fill you in on our new system and give you some handy tips as to how you can support your child at home.

Rationale

It has been identified that there is a need to further develop our children's knowledge of times tables. National Curriculum expectations are that ALL children will know their times tables facts by the end of Year 4 and be fluent and confident in using and applying all of them throughout years 5 and 6.

The quick recall of times tables facts through knowing tables OFF BY HEART …

- gives confidence and develops self-esteem
- enables a 'can do' attitude in approaching more challenging maths
- is the building blocks for all multiplication, division, fraction, ratio and percentage work
- is a life skill that many adults still use every day
- can be satisfying, enjoyable and fun!

Grange Farm target procedure

Every week, children will be taught and given the opportunity to practise the number bonds/times tables appropriate to their year group, during maths lessons.

In most cases, children will be learning these number facts in the following year groups at Grange Farm (please note the importance of checking and practising the facts from previous years, as well as the tables to be learnt in that year group):

Year Group	**Teaching and Learning**	**Focus for checking and practice**
Year 1	Counting in 10s, 2s and 5s Number Bonds to 10	Counting in 1s
Year 2	Number bonds to 20 10, 2 and 5 times tables	Counting in 10s, 2s and 5s and number bonds to 10
Year 3	3,4, 8 and 6 times tables	Number bonds to 20 10, 2 and 5 times tables.
Year 4	7, 9, 11 and 12 times tables	10, 2, 5, 3, 4, 8 and 6 times tables
Year 5 and 6	All times tables to 12 x 12 checked, practised thoroughly and applied. Fill in gaps as applicable and then move on to bronze, silver, gold and platinum challenges (increased number of mixed questions including application for fractions and decimals).	

Over recent weeks, teachers have rigorously tested the children and will now have assigned them a target that they will start on (see front of pack). This assessment is based on rapid recall of the facts (including division for the times tables), as well as 'missing box' calculations where inverses are required (e.g. 3 x __ = 12 or 7+ __ = 20). These tests are timed. Children have 2 ½ minutes to answer up to 40 questions (on the focus target as well as a re-cap on previous targets).

Starting after Easter, children will be given a weekly timed test. An example of such a test is included in this pack. The aim is that children will improve their scores on the test, week by week, until they achieve 100% within the time limit. When your child achieves full marks in a test, they will be awarded a badge that they will wear on their school uniform, with pride! They will then move on to the next target (see grid above). When your child has been awarded four badges, they will be awarded a 'Times Table Champion' badge and certificate in assembly.

Children may be assigned a target that is above their year-group expectation but would not start on one below, with the aim that all children will have the opportunity to be exposed to their age-related times tables. Of course, as in all subjects, if your child finds times tables particularly tricky, additional opportunities will be put in place in help to track back and close that gap. This will be organised at the teacher's discretion and may vary from class to class depending on timetabling and staffing. All we ask at home is that you support your child, where possible, in practising their current target and re-capping previous tables, on a regular basis.

Like with the new AR reading system, target practice will be ongoing 'open-ended' homework. Although children will not be bringing home 'worksheets' or tests, the expectation is that children practice their number bonds and times tables, regularly, in the same way that they read regularly at home-see suggestions below. You will know when your child has achieved their target when they bring home their badge. As you can see from the grid above, this could take up to a term to achieve; the aim is that achieving the targets takes a 'quality not quantity' approach.

How can you support your child in earning badges?

1. Learn a little at a time. If you start a new times table, don't try and master it overnight. Start with 1 x 5, 2 x 5, then add more in when they are used to it.
2. Constant revision of all the tables is important, as they are easy to forget when you move onto a new set.
3. Demonstrate using real objects so children can see (e.g. 3 lots of 4 as 3 rows of 4 matchsticks).
4. Use real life situations to develop understanding of times tables. (E.g. If you save 3p every day, how much do you think you would have saved in a week?)

Understanding the links

It is very important that the children understand how the tables are compiled so that they can start to find their own tricks for speeding up:

1 x 5 = 5
This means there is 1 'lot of' 5.

2 x 5 = 10
This means that there are 2 'lots of 5' i.e. 5 plus another 5 (5 + 5 =10).

3 x 5 = 15
3 lots of 5
5 + 5 + 5 = 15

This knowledge is especially helpful for higher times tables. If a child does not know 7 x 7, they do not need to start at the beginning.

5 x 7 = 35
6 x 7 = 35 + 7 (6 lots of 7) = 42
7 x 7 = 42 +7 (7 lots of 7) = 49

This is the 'Distributive Law of Multiplication'
i.e. 7 x 7 = (5 x 7) + (2 x 7)

Understanding that multiplication is commutative

Commutative means that it doesn't matter which way around the numbers go, so 2 x 4 is the same as 4 x 2

2 x 4 = 4 x 2

This is the 'Commutative Law of Multiplication'
i.e. 2 x 4 = 4 x 2

You could also look at chocolate bars and look at the times table fact they show.

Using mnemonics to aid the memory

- I ate and ate till I was sick on the floor: 8 times 8 is 64!
- Wakey, wakey, rise and shine: seven 7's are 49.

Try and make up some of your own!

Talking the tables

- Count forwards and backwards in 2's, 3's, 4's etc.
- Put one finger up every time you move onto the next number in the sequence. This may help the children to remember which number they are up to.
- Chant the tables.
- Work on one table at a time, but say them out of order.
- Give them the answer and they work out the question.

Looking for patterns in the tables

2 x : All even numbers and pattern repeats in the last digit:
2, 4 ,6, 8, 10, 12, 14, 16, 18

3x : The numbers follow the pattern of odd, even, odd, even, odd – 3, 6, 9, 12 , 15 , 18...

4x : All of these are double the two times table:
2 4 6 8 10 (2x table)
4 8 12 16 20 (4x table)

5x : Any odd number times 5 ends in a 5. Any even number times 5 ends in a 0.

6x : These numbers double those in the 3 x table.
3 6 9 12 15 (3 x table)
6 12 18 24 30 (6 x table)

8x : These answers are all double the 4 x table
4 8 12 16 (4 x table)
8 16 24 32 (8 x table)

9 x : All the digits add up to 9. This even works for really high multiples of 9, but you need to keep going until there is only one digit (*called the 'digital root')*
9 x 4 = 36 3 + 6 = 9
82 x 9 = 738 7 + 3 + 8 = 18 1 + 8 = 9

10x : All numbers end in zero.
11x : Both digits are the same (for answers up to 100)
12x : If you have learnt all the other tables, there should only be one fact to learn 12 x 12.

Multiplication Square

This can be used to spot patterns and check answers or coloured in as each times table is learnt. It is also useful for finding division facts (using the inverse). For example, 'How many 3s make 12?'.

X	0	1	2	3	4	5	6	7	8	9	10	11	12
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10	11	12
2	0	2	4	6	8	10	12	14	16	18	20	22	24
3	0	3	6	9	12	15	18	21	24	27	30	33	36
4	0	4	8	12	16	20	24	28	32	36	40	44	48
5	0	5	10	15	20	25	30	35	40	45	50	55	60
6	0	6	12	18	24	30	36	42	48	54	60	66	72
7	0	7	14	21	28	35	42	49	56	63	70	77	84
8	0	8	16	24	32	40	48	56	64	72	80	88	96
9	0	9	18	27	36	45	54	63	72	81	90	99	108
10	0	10	20	30	40	50	60	70	80	90	100	110	120
11	0	11	22	33	44	55	66	77	88	99	110	121	132
12	0	12	24	36	48	60	72	84	96	108	120	132	144

Games

Bingo –

1. Each player selects five answers from one of the times tables.
2. Roll two die. Add the dots together.
3. Multiply that total by whichever table it is you are doing.
4. Then cross out that number if you have it.

Rock, paper, scissors-

1. Two players stand facing each other with hands behind their backs.
2. They say rock, paper, scissors (or similar) and show some fingers.
3. The players need to multiply the number of fingers with those of their partners.
4. The first to say the answer wins a point and play continues.

Times tables Table Tennis-

1. Each player holds an imaginary table tennis bat. One player starts with the first number in the times tables that they are learning.
2. Players try to build a rally by 'batting' the next number in the times table back to their partner.

Useful Websites

-www.topmarks.co.uk/maths-games/hit-the-button (speedy practice and available as app)

-timestables.me.uk (online tests and practice sheets)

-timestables.co.uk (lots of games and tests)

-oxfordowl.co.uk/for-home/advice-for-parents

-Kool Kidz videos on Youtube

-Mr DeMaio videos on Youtube

There are also numerous apps that can be downloaded for number bonds and times tables practice.

We hope that you find this pack useful and we look forward to watching the children's confidence grow as they enjoy earning badges!

Thank you for your ongoing support.

Kind regards,

Miss Pennington (maths lead)