Unit 2 Module 3 Session 4

Problem String-Ten Facts and More Problems and Investigations-Multiplication Table, Part 2

Getting Ready-

- ™T2 Grid Paper
- SB 57 Multiplication Table
- Student Math Journals
- Green, Blue, Purple, and Light Blue Colored Pencils (class set)

VOCABULARY

Equation

Commutative property of multiplication

Multiple

Product

Factor



- Interpret products of whole numbers
- Multiply using the commutative property
- Fluently multiply with products to 100 using strategies
- Identify patterns among multiplication facts and explain them using properties of operations



Problem String: Tens Facts and More Today's Date:

1) 4 × 10

2) 4×5

3) 4×6

4) 4×9

5) 7x10

Sample Strategies

6) 7x5

Sample Strategies

7) 7x6

Sample Strategies

8) 7x9

We will color the Half Ten facts (x5) **green**

Multiplication Table

×	0	1	2	3	4	5	6	7	8	9	10
en e	0×0	0 × 1	0×2	0×3	0 × 4	0×5	0×6	0×7	0×8	0 × 9	0 × 10
0	0	0	0	0	0	0	0	0	0	0	0
- 3	1×0	1×1	1×2	1×3	1×4	1×5	1×6	1×7	1×8	1×9	1 × 10
1	0	1	2	3	4	5	6	7	8	9	10
25	2×0	2×1	2×2	2×3	2×4	2×5	2×6	2×7	2×8	2×9	2 × 10
2	0	2	4	6	8	10	12	14	16	18	20
- 51	3×0	3×1	3×2	3×3	3×4	3×5	3×6	3×7	3×8	3×9	3 × 10
3	0	3	6	9	12	15	18	21	24	27	30
- Si	4×0	4×1	4×2	4×3	4×4	4×5	4×6	4×7	4×8	4×9	4 × 10
4	0	4	8	12	16	20	24	28	32	36	40
20	5×0	5×1	5×2	.5×3	5 × 4	5×5	5×6	5×7	3.40	5×9	5 x 10
5	0	5	10	15	20	25	30	35	40	45	50
- 17	6×0	6×1	6×2	6×3	6×4	6×5	6×6	6×7	6×8	6×9	6×10
6	0	6	12	18	24	30	36	42	48	54	60
01	7×0	7×1	7×2	7×3	7×4	7×5	7×6	7×7	7×8	7×9	7 × 10
7	0	7	14	21	28	35	42	49	56	63	70
	8×0	8 × 1	8×2	8×3	8×4	8×5	8×6	8×7	8×8	8×9	8 × 10
8	0	8	16	24	32	40	48	56	64	72	80
- 1	9×0	9×1	9×2	9×3	9×4	9×5	9×6	9×7	9×8	9×9	9×10
9	0	9	18	27	36	45	54	63	72	81	90
374	10×0	10×1	10 × 2	10 × 3	10×4	10 × 5	10×6	10×7	10×8	10×9	10 × 10
10	0	10	20	30	40	50	60	70	80	90	100

Zero facts (× 0)

Ones facts (x 1)

Doubles facts (× 2)

Doubles Plus One Set facts (× 3)

Double-Doubles facts (× 4)

Half-Tens facts (× 5)

Half-Tens Plus One Set facts (× 6)

Double-Doubles facts (× 8)

Tens Minus One Set facts (× 9)

Tens facts (× 10)

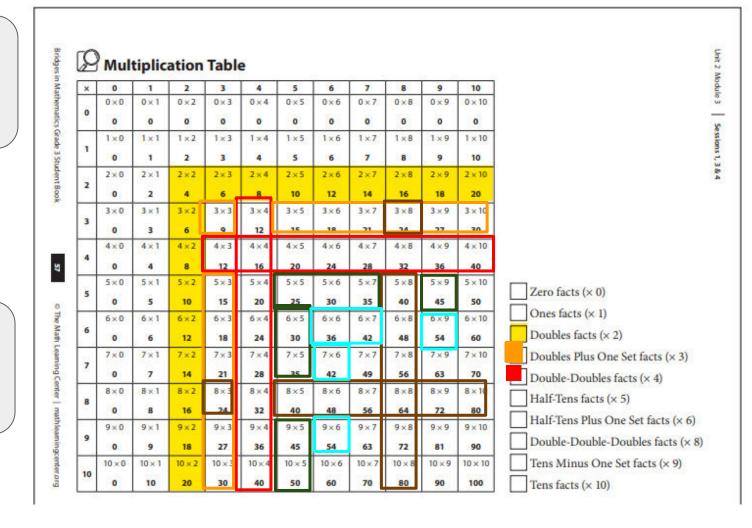
We will color the Half Tens facts (x5) **green**

We will color the Half Tens Plus One facts (x6) light blue

0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	×	0	1	2	3	4	5	6	7	8	9	10	
1x0 1x1 1x2 1x3 1x4 1x5 1x6 1x7 1x8 1x9 1x10 0 1 2 3 4 5 6 7 8 9 10 2x0 2x1 2x2 2x3 2x4 2x5 2x6 2x7 2x8 2x9 2x10 0 2 4 6 8 10 12 14 16 18 20 3x0 3x1 3x2 3x3 3x4 3x5 3x6 3x7 3x8 3x9 3x10 0 3 6 9 12 1x 18 21 3x3 3x4 3x5 3x6 3x7 3x8 3x9 3x10 4x0 4x1 4x2 4x3 4x4 4x5 4x6 4x7 4x8 4x9 4x10 5x0 5x1 5x2 5x3 5x4 5x5 5x6 5x7 5x8 5x9 5x10 6x0 6x1 6x2 6x3 6x4 6x5 6x6 6x7 <td>725</td> <td>0×0</td> <td>0 × 1</td> <td>0×2</td> <td>0×3</td> <td>0×4</td> <td>0×5</td> <td>0×6</td> <td>0×7</td> <td>0×8</td> <td>0×9</td> <td>0 × 10</td> <td></td>	725	0×0	0 × 1	0×2	0×3	0×4	0×5	0×6	0×7	0×8	0×9	0 × 10	
0 1 2 3 4 5 6 7 8 9 10 2×0 2×1 2×2 2×3 2×4 2×5 2×6 2×7 2×8 2×9 2×10 0 2 4 6 8 10 12 14 16 18 20 3×0 3×1 3×2 3×3 3×4 3×5 3×6 3×7 3×8 3×9 3×10 0 3 6 9 12 15 19 31 34 37 36 4×0 4×1 4×2 4×3 4×4 4×5 4×6 4×7 4×8 4×9 4×10 0 4 8 12 16 20 24 28 32 36 40 5×0 5×1 5×2 5×3 5×4 5×5 5×6 5×7 5×8 5×9 5×10 0 5 10 15 20 25 30 35 40 45 50 0 6 12 18 24 30 36 42 48 54 60 7×0 7×1 7×2 7×3 7×4 7×5 7×6 7×7 7×8 7×9 7×10 0 7 14 21 28 35 42 49 56 63 70 8×0 8×1 8×2 8×3 8×4 8×5 8×6 8×7 8×8 8×9 8×10 0 8 16 24 32 9×3 9×4 9×5 9×6 9×7 9×8 9×9 9×10 Powble Doubles facts (× 4) Half-Tens facts (× 5) Half-Tens Plus One Set facts (× 6) Doubles Doubles facts (× 6) Half-Tens Plus One Set facts (× 6) Doubles Doubles facts (× 6) Half-Tens Plus One Set facts (× 6) Doubles Doubles facts (× 6)	0	0	0	0	0	0	0	0	0	0	0	0	
2×0 2×1 2×2 2×3 2×4 2×5 2×6 2×7 2×8 2×9 2×10 0 2 4 6 8 10 12 14 16 18 20 3×0 3×1 3×2 3×3 3×4 3×5 3×6 3×7 3×8 3×9 3×10 0 3 6 9 12 15 18 21 24 28 3×9 3×10 0 4 8 12 16 20 24 28 3×9 4×10 0 4 8 12 16 20 24 28 3×9 5×10 5×0 5×1 5×2 5×3 5×4 5×5 5×6 5×7 5×8 5×9 5×10 0 5 10 15 20 25 30 35 40 45 50 0 6×1 6×2 6×3 6×4		1×0	1×1	1 × 2	1×3	1×4	1×5	1×6	1×7	1×8	1 × 9	1 × 10	
0 2 4 6 8 10 12 14 16 18 20 3×0 3×1 3×2 3×3 3×4 3×5 3×6 3×7 3×8 3×9 3×10 0 3 6 9 12 15 19 21 24 28 3×7 20 4×0 4×1 4×2 4×3 4×4 4×5 4×6 4×7 4×8 4×9 4×10 0 4 8 12 16 20 24 28 32 36 40 5×0 5×1 5×2 5×3 5×4 5×5 5×6 5×7 5×8 5×9 5×10 0 5 10 15 20 25 30 35 40 45 50 0 6×1 6×2 6×3 6×4 6×5 6×6 6×7 6×8 6×9 6×10 0 7 14	1	0	. 1	2	3	4	5	6	7	8	9	10	
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5×0 5×1 5×2 5×3 5×4 5×5 5×6 5×7 5×8 5×9 5×10 0 5 10 15 20 25 30 35 40 45 50 6×0 6×1 6×2 6×3 6×4 6×5 6×6 6×7 6×8 6×9 6×10 0 6 12 18 24 30 36 42 48 54 60 Doubles facts (× 2) 7×0 7×1 7×2 7×3 7×4 7×5 7×6 7×7 7×8 7×9 7×10 Doubles Plus One Set facts (× 4) 8×0 8×1 8×2 8×3 8×4 8×5 8×6 8×7 8×8 8×9 8×10 Half-Tens facts (× 5) 9×0 9×1 9×2 9×3 9×4 9×5 9×6 9×7 9×8 9×9 9×10 Double Doubles facts (× 5)	4	4×0	4×1	4×2	4×3	4×4	4×5	4×6	4×7	4×8	4×9	4×10	
0 5 10 15 20 25 30 35 40 45 50 Zero facts (× 0) Ones facts (× 0) 6×0 6×1 6×2 6×3 6×4 6×5 6×6 6×7 6×8 6×9 6×10 0 6 12 18 24 30 36 42 48 54 60 Doubles facts (× 2) 7×0 7×1 7×2 7×3 7×4 7×5 7×6 7×7 7×8 7×9 7×10 Doubles Plus One Set facts (× 2) 8×0 8×1 8×2 8×3 8×4 8×5 8×6 8×7 8×8 8×9 8×10 9×0 9×1 9×2 9×3 9×4 9×5 9×6 9×7 9×8 9×9 9×10 Zero facts (× 0) Ones facts (× 1) Doubles facts (× 2) Doubles facts (× 2) Doubles facts (× 2) Doubles Plus One Set facts (× 4) Half-Tens facts (× 5) Half-Tens Plus One Set facts (× 4) Doubles facts (× 4) Doubles facts (× 4) Half-Tens Plus One Set facts (× 4) Doubles facts (× 5) Half-Tens Plus One Set facts (× 4) Doubles facts (× 5) The facts (× 1) Doubles facts (× 2) Doubles facts (*	0	4	8	12	16	20	24	28	32	36	40	
0 5 10 15 20 25 30 35 40 45 50 6×0 6×1 6×2 6×3 6×4 6×5 6×6 6×7 6×8 6×9 6×10 0 6 12 18 24 30 36 42 48 54 60 Doubles facts (× 2) 7×0 7×1 7×2 7×3 7×4 7×5 7×6 7×7 7×8 7×9 7×10 Doubles Plus One Set facts (× 0 7 14 21 28 35 42 49 56 63 70 Double-Doubles facts (× 4) 8×0 8×1 8×2 8×3 8×4 8×5 8×6 8×7 8×8 8×9 8×10 Half-Tens facts (× 5) 9×0 9×1 9×2 9×3 9×4 9×5 9×6 9×7 9×8 9×9 9×10	5	5×0	5×1	5×2	5×3	5 × 4	5×5	5×6	5×7	5×8	5×9	5 × 10	Zero facts (x 0)
0 6 12 18 24 30 36 42 48 54 60 Doubles facts (× 2) 7×0 7×1 7×2 7×3 7×4 7×5 7×6 7×7 7×8 7×9 7×10 0 7 14 21 28 35 42 49 56 63 70 8×0 8×1 8×2 8×3 8×4 8×5 8×6 8×7 8×8 8×9 8×10 0 8 16 24 32 40 48 56 64 72 80 9×0 9×1 9×2 9×3 9×4 9×5 9×6 9×7 9×8 9×9 9×10 Doubles facts (×2) Doubles Plus One Set facts (×4) Half-Tens facts (×5) Half-Tens Plus One Set facts (×5) Doubles Plus One Set facts (×5) Doubles Plus One Set facts (×6) Doubles Plus One Set facts (×6) Doubles Plus One Set facts (×7) Doubles Plus One Set facts (×8) Doubles Plus One Set facts	ី	0	5	10	15	20	25	30	35	40	45	50	
7×0 7×1 7×2 7×3 7×4 7×5 7×6 7×7 7×8 7×9 7×10 Doubles Plus One Set facts (× 0 7 14 21 28 25 42 49 56 63 70 Doubles Plus One Set facts (× 4) 8×0 8×1 8×2 8×3 8×4 8×5 8×6 8×7 8×8 8×9 8×10 Half-Tens facts (× 5) 9×0 9×1 9×2 9×3 9×4 9×5 9×6 9×7 9×8 9×9 9×10 Doubles Plus One Set facts (× 4)	6	6×0	6×1	6×2	6×3	6×4	6×5	6×6	6×7	6×8	6×9	6 × 10	
0 7 14 21 28 25 42 49 56 63 70 Double-Doubles facts (× 4) 8×0 8×1 8×2 8×3 8×4 8×5 8×6 8×7 8×8 8×9 8×10 0 8 16 24 32 40 48 56 64 72 80 9×0 9×1 9×2 9×3 9×4 9×5 9×6 9×7 9×8 9×9 9×10 Double-Doubles facts (× 5) Half-Tens Plus One Set facts	•	0	6	12	18	24	30	36	42	48	54	60	Doubles facts (× 2)
8×0 8×1 8×2 8×3 8×4 8×5 8×6 8×7 8×8 8×9 8×10 0 8 16 24 32 40 48 56 64 72 80 9×0 9×1 9×2 9×3 9×4 9×5 9×6 9×7 9×8 9×9 9×10 Double-Doubles facts (× 4) Half-Tens facts (× 5) Half-Tens Plus One Set facts	7	7×0	7×1	7×2	7×3	7×4	7×5	7×6	7×7	7×8	7×9	7 × 10	Doubles Plus One Set facts (×
8×0 8×1 8×2 8×3 8×4 8×5 8×6 8×7 8×8 8×9 8×10 0 8 16 24 32 40 48 56 64 72 80 9×0 9×1 9×2 9×3 9×4 9×5 9×6 9×7 9×8 9×9 9×10 Half-Tens facts (× 5) Half-Tens Plus One Set facts	đ.	0	7	100		28	35	42	49	56	63	70	Double-Doubles facts (× 4)
0 8 16 24 32 40 48 56 64 72 80 9×0 9×1 9×2 9×3 9×4 9×5 9×6 9×7 9×8 9×9 9×10 Half-Tens Plus One Set facts	8	8×0	8 x 1	8×2	8×3	8×4	8×5	8×6	8×7	8×8	8×9	8 × 10	
9×0 9×1 9×2 9×3 9×4 9×5 9×6 9×7 9×8 9×9 9×10 Double Double fact	Ĭ	0	8		-	32	40	48	-		72		=
0 9 18 27 36 45 54 63 72 81 90 Double-Double-Doubles facts	9	9×0	9×1	9×2	9×3	9×4	9×5	9×6	9×7	9×8	9×9	9×10	
	-	0	9	18	27	36	45	54	63	72	81	90	Double-Double-Doubles facts Tens Minus One Set facts (× 9
	10	0	10	20	30	40	50	60	70	80	90	100	Tens facts (× 10)

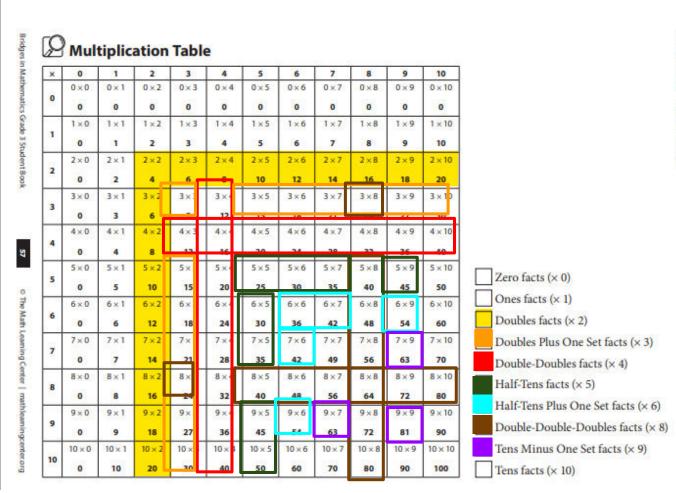
We will color the Half Tens Plus One facts (x6) light blue

We will color the Tens Minus One fact (x9) purple

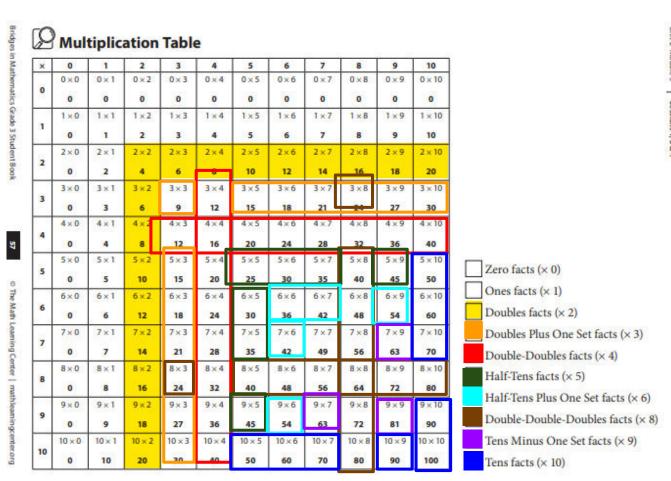


We will color the Tens Minus One facts (x9) purple

We will color the Tens facts (x9) blue



We will color the Tens facts (x9) blue



Zero facts (× 0)
Ones facts (× 1)
Doubles facts (× 2)

Tens facts (x 10)

Doubles Plus One Set facts (× 3)

Double-Doubles facts (× 4)

Half-Tens facts (× 5)

Half-Tens Plus One Set facts (× 6) Double-Double-Doubles facts (× 8) Tens Minus One Set facts (× 9)

Multiplication Table

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×	0	. 1	2	3	4	5	6	7	8	9	10
52	0 × 0	0 × 1	0 × 2	0 × 3	0×4	0×5	0×6	0 x 7	0×8	0×9	0 × 10
0	0	0	0	0	0	0	0	0	0	0	0
	1×0	1×1	1 × 2	1×3	1×4	1×5	1×6	1×7	1×8	1×9	1 × 10
1	0	1	2	3	4	5	6	7	8	9	10
	2×0	2×1	2×2	2×3	2×4	2×5	2×6	2×7	2×8	2×9	2 × 10
2	0	2	4	6	8	10	12	14	16	18	20
93	3×0	3×1	3×2	3×3	3×4	3×5	3×6	3×7	3×8	3×9	3×10
3	0	3	6	9	12	15	18	21	24	27	30
	4×0	4×1	4×2	4×3	4×4	4×5	4×6	4×7	4×8	4×9	4 × 10
4	0	4	8	12	16	20	24	28	32	36	40
co.	5×0	5×1	5×2	5×3	5×4	5×5	5×6	5×7	5×8	5×9	5 × 10
5	0	5	10	15	20	25	30	35	40	45	50
	6×0	6×1	6×2	6×3	5×4	6×5	6×6	6×7	6×8	6×9	6 × 10
6	0	6	12	18	24	30	36	42	48	54	60
10	7×0	7×1	7×2	7×3	7.x.4	7×5	7×6	7×7	7×8	7×9	7 × 10
7	0	7	14	21	28	35	42	49	56	63	70
- 1	8×0	8×1	8×2	8×3	8×4	8×5	8×6	8×7	8×8	8×9	8 × 10
8	0	8	16	24	32	40	48	56	64	72	80
XO.	9×0	9×1	9×2	9×3	9.×4	9×5	9×6	9×7	9×8	9×9	9×10
9	0	9	18	27	36	45	54	63	72	81	90
	10×0	10 × 1	10 × 2	10 × 3	10 × 4	10 = 5	10×6	10 × 7	10×8	10 × 9	10 × 10
10	0	10	20	30	40	50	60	70	80	90	100

Work Places

1F Rabbit Tracks

1G Target One Hundred

1H Anything But Five

2A Loops and Groups

2B Frog Jump Multiplication

2C Cover Up

Daily Practice

SB 62 Multiplication Patterns