

Y3/4 Multiplication and division Unit 1 (34254)

Additional teacher instructions for practice sheets

These notes indicate which practice sheets are most appropriate for which groups.

Day 1 Y3 Multiples of 2, 5 and 10 Sheet 1

Working towards ARE / Working at ARE

Day 1 Y3 Multiples of 2, 5 and 10 Sheet 2

Greater Depth

Day 1 Y4 Times table function machines Sheet 3

Working towards ARE

Day 1 Y4 Times table function machines Sheet 4

Working at ARE

Day 1 Y4 Times table function machines Sheet 5

Greater Depth

Day 2 Y3 3x table Sheet 1

Working towards ARE / Working at ARE / Greater Depth

Working towards ARE complete as many of the Bronze questions as they can in 10 minutes, then look at Silver and do some of these.

Working at ARE start with Silver and complete these in 10 minutes, then start the Gold.

Greater Depth try to complete the Bronze and Silver in 10 minutes, then complete the Gold.

Day 2 Y4 3 times table, 6 times table Sheet 2

Working towards ARE / Working at ARE / Greater Depth

Working towards ARE start at Bronze and complete as many as they can.

Working at ARE start at Silver and complete as many as they can.

Greater Depth do every other question of Bronze and Silver, then work through Gold.

Day 3 Y3 4x table Sheet 1

Working towards ARE / Working at ARE / Greater Depth

Working towards ARE complete as many of the Bronze questions as they can in 10 minutes, then look at Silver and do some of these.

Working at ARE start with Silver and complete these in 10 minutes, then start the Gold.

Greater Depth try to complete the Bronze and Silver in 10 minutes, then complete the Gold.

Day 3 Y4 4 and 8 times table facts Sheet 2

Working towards ARE / Working at ARE / Greater Depth

Working towards ARE complete Bronze and Silver.

Working at ARE complete Bronze and Gold.

Greater Depth complete Silver and Gold.

Multiples of 2, 5 and 10

Sheet 1

Shade multiples of 2.

Draw a circle around multiples of 5.

Draw a cross on multiples of 10.

24

11

45

25

35

33

62

20

33

14

28

15

16

12

50

44

30

56

60

Challenge

How many numbers between (and including) 50 and 100 are multiples of both 2 and 5?

Multiples of 2, 5, and 10

Sheet 2

You are given the first digit of a number. Write the second digit so that...

- a) The number is a multiple of 2
- b) The number is a multiple of 5
- c) The number is a multiple of 10

1.	a)	<table border="1"><tr><td>2</td><td></td></tr></table>	2		b)	<table border="1"><tr><td>2</td><td></td></tr></table>	2		c)	<table border="1"><tr><td>2</td><td></td></tr></table>	2	
2												
2												
2												
2.	a)	<table border="1"><tr><td>3</td><td></td></tr></table>	3		b)	<table border="1"><tr><td>3</td><td></td></tr></table>	3		c)	<table border="1"><tr><td>3</td><td></td></tr></table>	3	
3												
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3												
3.	a)	<table border="1"><tr><td>4</td><td></td></tr></table>	4		b)	<table border="1"><tr><td>4</td><td></td></tr></table>	4		c)	<table border="1"><tr><td>4</td><td></td></tr></table>	4	
4												
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4												
4.	a)	<table border="1"><tr><td>6</td><td></td></tr></table>	6		b)	<table border="1"><tr><td>6</td><td></td></tr></table>	6		c)	<table border="1"><tr><td>6</td><td></td></tr></table>	6	
6												
6												
6												
5.	a)	<table border="1"><tr><td>5</td><td></td></tr></table>	5		b)	<table border="1"><tr><td>5</td><td></td></tr></table>	5		c)	<table border="1"><tr><td>5</td><td></td></tr></table>	5	
5												
5												
5												

6. Write five multiples of 2 not written above.

7. Write four multiples of 5 not written above.

Challenge

Repeat the above, but write 3-digit numbers which are multiples of 2, then 5.

Times table function machines

Sheet 3

3	x 3	
5		

8	x 10	
3		

4	x 4	
5		

2	x 2	
4		

6	x 5	
4		

	x 5	40
		25

	x 5	15
		40

	x 3	24
		33

Challenge

What is the function in this case?

3	?	24
5		40

Times table function machines

Sheet 4

7	$\times 5$	
5		

	$\div 10$	5
		9

	$\div 3$	9
		6

8	$\times 10$	
9		

6		24
7		28

96	$\div 8$	
64		

	$\times 4$	48
		24

	$\div 5$	20
		30

Challenge

What is the function in this case?

3	$\times (\square) + (\square)$	13
5		21

Make up your own function machine where you multiply then add.

Times table function machines

Sheet 5

36	$\div 6$	
54		

44		11
28		7

8	$\times 3$	
12		

	$\times 6$	42
		48

	$\div 8$	12
		6

		45
		35

	$\times 8$	32
		72

15		45
13		39

Challenge

What is the function in this case?

3	$\times (\square) + (\square)$	14
5		22

Make up your own function machine where you multiply then add.

3 x table

Sheet 1

Work against the clock to complete these calculations.

Bronze	Silver	Gold
$1 \times 3 =$	$6 \times 3 =$	$1 \times 3 =$
$2 \times 3 =$	$2 \times 3 =$	$3 \times 5 =$
$3 \times 3 =$	$10 \times 3 =$	$3 \times 3 =$
$4 \times 3 =$	$9 \times 3 =$	$12 \times 3 =$
$5 \times 3 =$	$12 \times 3 =$	$3 \times 2 =$
$6 \times 3 =$	$1 \times 3 =$	$6 \times 3 =$
$7 \times 3 =$	$7 \times 3 =$	$3 \times 10 =$
$8 \times 3 =$	$8 \times 3 =$	$11 \times 3 =$
$9 \times 3 =$	$4 \times 3 =$	$9 \times 3 =$
$10 \times 3 =$	$3 \times 3 =$	$3 \times 4 =$
$11 \times 3 =$	$11 \times 3 =$	$8 \times 3 =$
$12 \times 3 =$	$5 \times 3 =$	$3 \times 7 =$

Challenge

$$13 \times 3 = \bigcirc \quad 20 \times 3 = \bigcirc, \text{ so } 19 \times 3 = \bigcirc$$

Can you suggest some 3-digit numbers between 120 and 240 that are divisible by 3? How can you tell?

3 times table, 6 times table

Sheet 2

Double your answers for the 3 times table to help you find the answers to the 6 times tables.



$3 \times 10 = \square$

$6 \times 10 = \square$

$3 \times \square = 15$

$6 \times \square = 30$

$3 \times 3 = \square$

$6 \times 3 = \square$

$3 \times 1 = \square$

$6 \times 1 = \square$

$3 \times \square = 6$

$6 \times \square = 12$

$3 \times \square = 12$

$6 \times \square = 24$



$3 \times \square = 21$

$6 \times \square = 42$

$3 \times 4 = \square$

$6 \times 4 = \square$

$3 \times 5 = \square$

$6 \times 5 = \square$

$3 \times \square = 18$

$6 \times \square = 36$

$3 \times \square = 9$

$6 \times \square = 18$

$3 \times 8 = \square$

$6 \times 8 = \square$



$3 \times 7 = \square$

$6 \times 7 = \square$

$3 \times 0 = \square$

$6 \times 0 = \square$

$3 \times \square = 33$

$6 \times \square = 66$

$3 \times 9 = \square$

$6 \times 9 = \square$

$3 \times \square = 24$

$6 \times \square = 48$

$3 \times \square = 36$

$6 \times \square = 72$

Challenge

Write the multiples of 3. Add the digits of each multiple. If you get a 2-digit total, add the digits of that number. Repeat for the multiples of 6. Compare the two sequences.

4 x table

Sheet 1

Work against the clock to complete these calculations.

Bronze	Silver	Gold
$1 \times 4 =$	$6 \times 4 =$	$1 \times 4 =$
$2 \times 4 =$	$2 \times 4 =$	$4 \times 5 =$
$3 \times 4 =$	$10 \times 4 =$	$4 \times 4 =$
$4 \times 4 =$	$9 \times 4 =$	$12 \times 4 =$
$5 \times 4 =$	$12 \times 4 =$	$4 \times 2 =$
$6 \times 4 =$	$1 \times 4 =$	$6 \times 4 =$
$7 \times 4 =$	$7 \times 4 =$	$4 \times 10 =$
$8 \times 4 =$	$8 \times 4 =$	$11 \times 4 =$
$9 \times 4 =$	$4 \times 4 =$	$9 \times 4 =$
$10 \times 4 =$	$3 \times 4 =$	$4 \times 3 =$
$11 \times 4 =$	$11 \times 4 =$	$8 \times 4 =$
$12 \times 4 =$	$5 \times 4 =$	$4 \times 7 =$

Challenge

Does this rule work? Test it on some numbers above 100 using a calculator.
Then write three numbers above 200 that are divisible by 4.

RULE: If the last 2 digits in a number are in the 4x table, then the whole number is a multiple of 4.

4 and 8 times table facts

Sheet 2

Fill in the multiplication and division facts for the 4 and 8 times tables.
Use the 4 times table to help you with the 8 times tables.



$$\square \times 4 = 40$$

$$8 \div 4 = \square$$

$$5 \times 4 = \square$$

$$\square \div 4 = 4$$

$$\square \times 8 = 80$$

$$16 \div 8 = \square$$

$$5 \times 8 = \square$$

$$\square \div 8 = 4$$



$$7 \times 4 = \square$$

$$\square \div 4 = 6$$

$$\square \times 4 = 12$$

$$32 \div 4 = \square$$

$$7 \times 8 = \square$$

$$\square \div 8 = 6$$

$$\square \times 8 = 24$$

$$68 \div 8 = \square$$



$$9 \times 4 = \square$$

$$48 \div 4 = \square$$

$$\square \times 4 = 0$$

$$\square \div 4 = 11$$

$$9 \times 8 = \square$$

$$96 \div 8 = \square$$

$$\square \times 8 = 0$$

$$\square \div 8 = 11$$

Challenge

Write the multiples of 8. Add the digits of each multiple. If you get a 2-digit total, add the digits of that number. Look at the sequence of numbers you get.
Which times table does it remind you of?

Multiplication and division

Answers

Day 1 Y3 Multiples of 2, 5 and 10 Sheet 1

Challenge

50, 60, 70, 80, 90 and 100 are all multiples of both 2 and 5.

Day 1 Y3 Multiples of 2, 5 and 10 Sheet 2

1. a)

2	0
---	---

,

2	2
---	---

,

2	4
---	---

,

2	6
---	---

 or

2	8
---	---
2. a)

3	0
---	---

,

3	2
---	---

,

3	4
---	---

,

3	6
---	---

 or

3	8
---	---
3. a)

4	0
---	---

,

4	2
---	---

,

4	4
---	---

,

4	6
---	---

 or

4	8
---	---
4. a)

6	0
---	---

,

6	2
---	---

,

6	4
---	---

,

6	6
---	---

 or

6	8
---	---
5. a)

5	0
---	---

,

5	2
---	---

,

5	4
---	---

,

5	6
---	---

 or

5	8
---	---

1. b)

2	0
---	---

,

2	5
---	---

 c)

2	0
---	---
2. b)

3	0
---	---

,

3	5
---	---

 c)

3	0
---	---
3. b)

4	0
---	---

,

4	5
---	---

 c)

4	0
---	---
4. b)

6	0
---	---

,

6	5
---	---

 c)

6	0
---	---
5. b)

5	0
---	---

,

5	5
---	---

 c)

5	0
---	---

6. Any five multiples of 2 not already listed.

7. Any four multiples of 5 not already listed.

Challenge

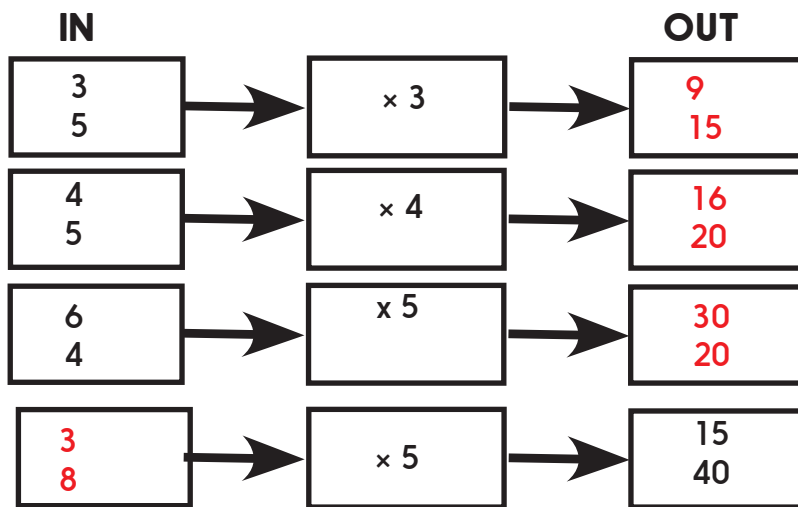
Any 3 digit numbers which end in 2, 4, 6, 8 or 0 are correct as multiples of 2.

Any 3 digit numbers which end in 5 or 0 are correct as multiples of 5.

Multiplication and division

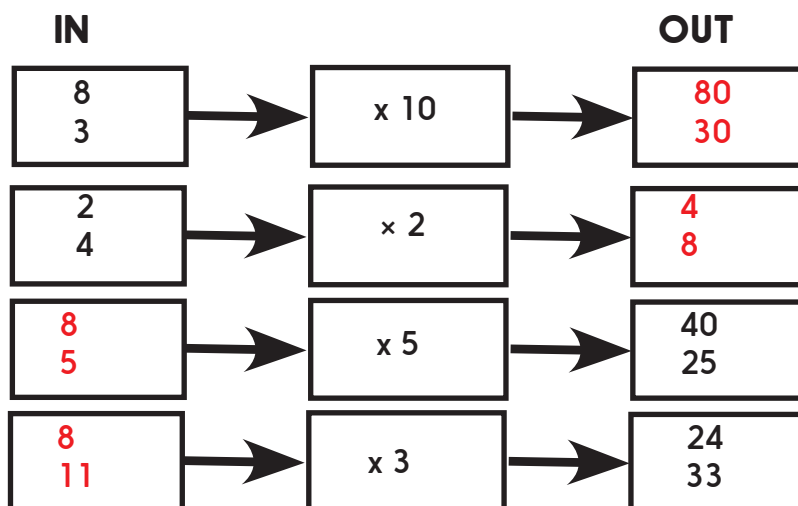
Answers

Day 1 Y4 Times table function machines Sheet 3

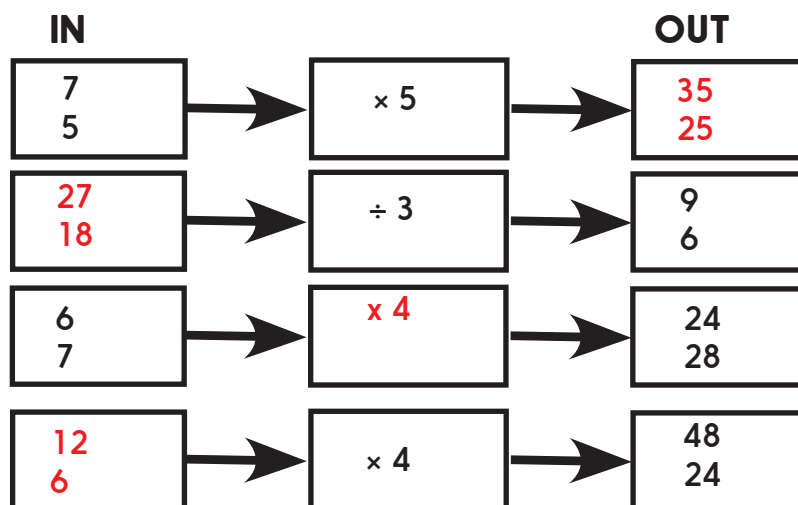


Challenge

The function needed in the machine is $\times 8$.



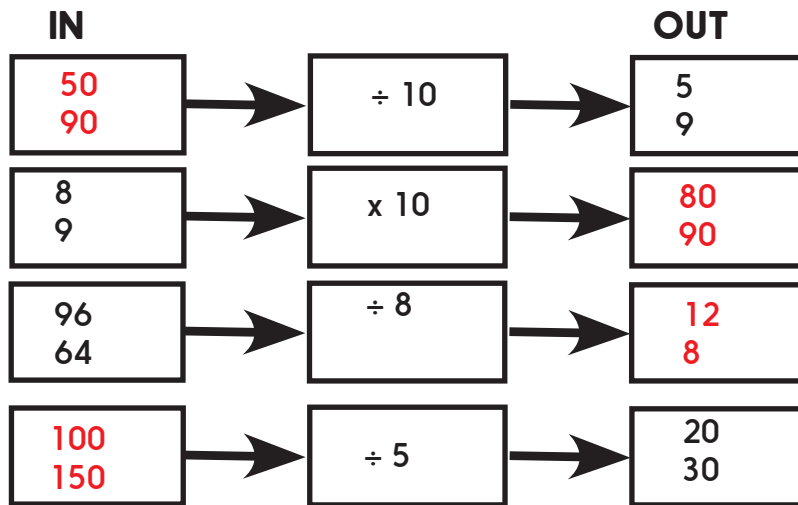
Day 1 Y4 Times table function machines Sheet 4



Multiplication and division

Answers

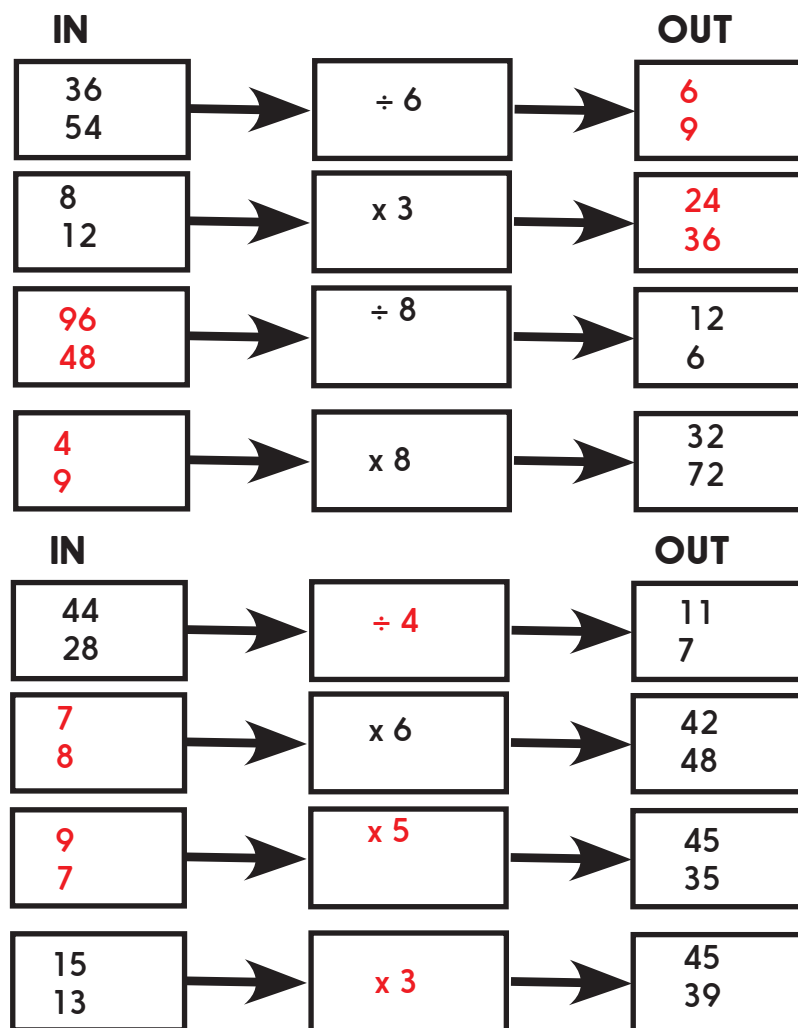
Day 1 Y4 Times table function machines Sheet 4 continued



Challenge

The functions needed in the machine are: $\times 4$ and $+ 1$.

Day 1 Y4 Times table function machines Sheet 5



Challenge

The functions needed in the machine are: $\times 4$ and $+ 2$.

Multiplication and division

Answers

Day 2 Y3 3 x table Sheet 1

Bronze	Silver	Gold
$1 \times 3 = 3$	$6 \times 3 = 18$	$1 \times 3 = 3$
$2 \times 3 = 6$	$2 \times 3 = 6$	$3 \times 5 = 15$
$3 \times 3 = 9$	$10 \times 3 = 30$	$3 \times 3 = 9$
$4 \times 3 = 12$	$9 \times 3 = 27$	$12 \times 3 = 36$
$5 \times 3 = 15$	$12 \times 3 = 36$	$6 \times 3 = 18$
$6 \times 3 = 18$	$1 \times 3 = 3$	$6 \times 3 = 18$
$7 \times 3 = 21$	$7 \times 3 = 21$	$3 \times 10 = 30$
$8 \times 3 = 24$	$8 \times 3 = 24$	$11 \times 3 = 33$
$9 \times 3 = 27$	$4 \times 3 = 12$	$9 \times 3 = 27$
$10 \times 3 = 30$	$3 \times 3 = 9$	$3 \times 4 = 12$
$11 \times 3 = 33$	$11 \times 3 = 33$	$8 \times 3 = 24$
$12 \times 3 = 36$	$5 \times 3 = 15$	$3 \times 7 = 21$

Challenge

$13 \times 3 = 39$
 $20 \times 3 = 60$, so
 $19 \times 3 = 57$

150, 180 and 210 are also divisible by 3. 15, 18 and 21 are all in the 3x table but multiplied by 10.

Day 2 Y4 3 times table, 6 times table Sheet 2

$3 \times 10 = 30$

$3 \times 3 = 9$

$3 \times 2 = 6$

$6 \times 10 = 60$

$6 \times 3 = 18$

$6 \times 2 = 12$

$3 \times 5 = 15$

$3 \times 1 = 3$

$3 \times 4 = 12$

$6 \times 5 = 30$

$6 \times 1 = 6$

$6 \times 4 = 24$

$3 \times 7 = 21$

$3 \times 5 = 15$

$3 \times 3 = 9$

$6 \times 7 = 42$

$6 \times 5 = 30$

$6 \times 3 = 18$

$3 \times 4 = 12$

$3 \times 6 = 18$

$3 \times 8 = 24$

$6 \times 4 = 24$

$6 \times 6 = 36$

$6 \times 8 = 48$

$3 \times 7 = 21$

$3 \times 11 = 33$

$3 \times 8 = 24$

$6 \times 7 = 42$

$6 \times 11 = 66$

$6 \times 8 = 48$

$3 \times 0 = 0$

$3 \times 9 = 27$

$3 \times 12 = 36$

$6 \times 0 = 0$

$6 \times 9 = 54$

$6 \times 12 = 72$

Challenge

Children should notice the digit sums are the same, in a slightly different order: 3, 6, 9 and 3, 9, 6.

Multiplication and division

Answers

Day 3 Y3 4 x table Sheet 1

Bronze	Silver	Gold
$1 \times 4 = 4$	$6 \times 4 = 24$	$1 \times 4 = 4$
$2 \times 4 = 8$	$2 \times 4 = 8$	$4 \times 5 = 20$
$3 \times 4 = 12$	$10 \times 4 = 40$	$4 \times 4 = 16$
$4 \times 4 = 16$	$9 \times 4 = 36$	$12 \times 4 = 48$
$5 \times 4 = 20$	$12 \times 4 = 48$	$4 \times 2 = 8$
$6 \times 4 = 24$	$1 \times 4 = 4$	$6 \times 4 = 24$
$7 \times 4 = 28$	$7 \times 4 = 28$	$4 \times 10 = 40$
$8 \times 4 = 32$	$8 \times 4 = 32$	$11 \times 4 = 44$
$9 \times 4 = 36$	$4 \times 4 = 16$	$9 \times 4 = 36$
$10 \times 4 = 40$	$3 \times 4 = 12$	$4 \times 3 = 12$
$11 \times 4 = 44$	$11 \times 4 = 44$	$8 \times 4 = 32$
$12 \times 4 = 48$	$5 \times 4 = 20$	$4 \times 7 = 28$

Challenge

Does this rule work? Test it on some numbers above 100 using a calculator. Then write three numbers above 200 that are divisible by 4. **RULE:** If the last 2 digits in a number are in the 4x table, then the whole number is a multiple of 4. **Yes the rule works. Because 100 (and multiples of 100) is a multiple of 4, the 10s and 1s digits need to be divisible by 4.**

Day 3 Y4 4 and 8 times table facts Sheet 2



$10 \times 4 = 40$

$8 \div 4 = 2$

$5 \times 4 = 20$

$16 \div 4 = 4$



$7 \times 4 = 28$

$24 \div 4 = 6$

$3 \times 4 = 12$

$32 \div 4 = 8$



$9 \times 4 = 36$

$48 \div 4 = 12$

$0 \times 4 = 0$

$44 \div 4 = 11$

$10 \times 8 = 80$

$16 \div 8 = 2$

$5 \times 8 = 40$

$32 \div 8 = 4$

$7 \times 8 = 56$

$48 \div 8 = 6$

$3 \times 8 = 24$

$64 \div 8 = 8$

$9 \times 8 = 72$

$96 \div 8 = 12$

$0 \times 8 = 0$

$88 \div 8 = 11$

Challenge

Children should notice that adding the digits of each multiple of 8, in order, gives a descending sequence of 1-digit numbers:

	<u>digit sum</u>
$1 \times 8 = 8$	8
$2 \times 8 = 16$	7
$3 \times 8 = 24$	6
...	
$8 \times 8 = 64$	1
which starts again at 9×8 :	
$9 \times 8 = 72$	9
$10 \times 8 = 80$	8
$11 \times 8 = 88$	7 etc.