

## 1 Multiplication and Division Mosaic

### Your challenge:

- Can you use your multiplication and division skills to reveal the picture hidden in the grid?

### How to play:

1. Work out the answer to the calculation in each square using your knowledge of the 1-12 times tables (including square numbers) and related division facts.
2. Colour in each square based on the key at the top of the sheet.

What picture will you reveal?

### You will need:

- Challenge 1 Sheet
- Colouring pencils or felt tips

## 2 Mystery Times Tables

### Your challenge:

- Can you help solve a times table mystery?
- On Challenge 2 Sheet there are two times tables that have been written in code. Each digit has been replaced by a letter and the times tables have all been jumbled up!

### What to do:

1. Can you work out which digit each letter stands for? Try to spot patterns in the digits so you can rule out certain numbers and rule in others.
2. Can you work out which times table is the 11 times table or the 1 times table? Does the number of single digit answers help you work out which times table it could be?
3. Solve the puzzle and record which digit each letter stands for on the challenge sheet.

Set 1 times table (Z) is \_\_\_\_\_

Set 2 times table (A) is \_\_\_\_\_

### You will need:

- Challenge 2 Sheet

# Challenge 1 Sheet Multiplication and Division Mosaic

Solve the questions in the squares below. Colour in the squares with the colours based on your answer. What picture will you make?

**Pink:** 0, 1, 2, 3

**Orange:** 4, 6, 8, 9, 10

**Black:** 12, 16, 18

**Yellow:** 20, 24, 30

**Purple:** 25, 36, 40, 48, 49, 60, 72, 81

$8 \times 5 =$	$? \div 5 = 5$	$? \div 10 = 6$	$6^2$	$? \div 7 = 7$	$? \div 12 = 6$	$? \div 6 = 6$	$5 \times 12 =$
$6 \times 6 =$	$?^2 = 64$	$4 \times 0 =$	$18 \div 9 =$	$3 \times 1 =$	$48 \div ? = 8$	$4 \times 10 =$	$12 \times 4 =$
$? \times 11 = 110$	$4 \times 3 =$	$? \times 1 = 9$	$6 \div 6 =$	$? \times 1 = 4$	$4^2$	$72 \div 9 =$	$12 \times 3 =$
$? \times 3 = 24$	$72 \div ? = 12$	$28 \div 7 =$	$5 \times ? = 50$	$63 \div ? = 7$	$56 \div 7 =$	$?^2 = 36$	$9 \times 8 =$
$20 \div 5 =$	$20 \div 2 =$	$? \div 4 = 4$	$5 \times ? = 40$	$? \div 9 = 2$	$120 \div ? = 12$	$2^2$	$9^2$
$4 \times 5 =$	$54 \div 9 =$	$6 \times 3 =$	$?^2 = 100$	$84 \div 7 =$	$99 \div 11 =$	$? \div 5 = 6$	$? \div 5 = 8$
$? \div 8 = 5$	$2 \times 12 =$	$3^2$	$?^2 = 16$	$30 \div ? = 5$	$6 \times 4 =$	$5 \div 5 =$	$6 \times 12 =$
$5^2$	$24 \div 12 =$	$5 \times 6 =$	$9 \times 2 =$	$? \div 10 = 2$	$?^2 = 9$	$9 \times 0 =$	$10 \times 6 =$
$3 \times 12 =$	$? \div 12 = 3$	$7 \times 0 =$	$9 \div ? = 3$	$10 \div 10 =$	$8 \div 4 =$	$? \div 6 = 6$	$8 \times 6 =$
$? \div 12 = 4$	$12 \times 5 =$	$7^2$	$10 \times 4 =$	$? \div 12 = 3$	$? \div 6 = 10$	$? \div 10 = 4$	$? \div 5 = 12$

# Challenge 2 Sheet Mystery Times Tables

These times tables are a mystery. Each digit has been replaced by a letter and the order of the times tables has been jumbled up!

Can you work out which digit each letter stands for? There are two sets of times tables for you to complete.

Try to spot patterns in the digits so you can rule out certain numbers and rule in others.

Can you work out which times table is the 11 times table or the 1 times table? Does the number of single digit answers help you work out which times table it could be?

Solve the puzzle and record which digit each letter stands for on the challenge sheet.

## Times Tables Set 1

$$M = \boxed{\phantom{00}} \quad N = \boxed{\phantom{00}} \quad P = \boxed{\phantom{00}} \quad Q = \boxed{\phantom{00}} \quad R = \boxed{\phantom{00}}$$

$$S = \boxed{\phantom{00}} \quad T = \boxed{\phantom{00}} \quad U = \boxed{\phantom{00}} \quad Y = \boxed{\phantom{00}} \quad Z = \boxed{\phantom{00}}$$

$$Y \times Z = Z$$

$$Z \times Z = S$$

$$T \times Z = YP$$

$$M \times Z = YQ$$

$$N \times Z = PY$$

$$YY \times Z = ZZ$$

$$Q \times Z = PT$$

$$U \times Z = YU$$

$$YP \times Z = ZM$$

$$P \times Z = M$$

$$S \times Z = PN$$

$$YR \times Z = ZR$$

## Times Tables Set 2

The letters and their digits are different to the first set!

$$A = \square \quad B = \square \quad C = \square \quad D = \square \quad E = \square$$

$$F = \square \quad G = \square \quad H = \square \quad J = \square \quad K = \square$$

$$C \times A = A$$

$$D \times A = JG$$

$$E \times A = HK$$

$$A \times A = FC$$

$$F \times A = GJ$$

$$G \times A = ED$$

$$H \times A = KH$$

$$J \times A = CF$$

$$K \times A = DE$$

$$CC \times A = AA$$

$$CJ \times A = CBF$$

$$CB \times A = AB$$

## 3 Two-handed Maths, Paper, Scissors

### Your challenge:

- Have you ever played 'Rock, Paper, Scissors'? Well this is a maths version of the same game!

### How to play:

1. Stand and face your partner. Make two fists and say together with your partner 'maths, paper, scissors' whilst moving your fists up and down (in a similar way to when playing rock, paper, scissors).
2. On scissors, each of you puts out between 0 and 10 fingers.
3. You then need to race to multiply the number of fingers you have put out by the number of fingers your partner put out (e.g.  $6 \times 8$ ) and call out the answer. The player to call the correct answer first wins a point.
4. Record who wins each 'battle' in a simple table; the first player to 15 points wins!

I played with \_\_\_\_\_

The person who won was \_\_\_\_\_

### You will need:

- A partner

## 4 Multiplication Skirmish

### Your challenge:

- Are you ready to have a multiplication skirmish?

### How to play:

1. This game is simple, but addictive! Shuffle all three sets of digit cards from the Digit Cards Resource Sheet, then deal them between the two players.
2. At the same time, each player turns over one of their cards and puts it in the middle.
3. Race your partner to shout out the answer that you get when you multiply both the numbers together. For example, if you turned over an 8 and your partner turned over a 6, you'd have to shout out 48, because  $8 \times 6 = 48$ .
4. The person who shouts out the correct answer first gets to keep both cards. Keep playing until one player has run out of cards.
5. Play at least three rounds. Who will be the champion?

I played with \_\_\_\_\_

The person who won was \_\_\_\_\_

### You will need:

- Digit Cards Resource Sheet
- A partner

## Resource Sheet 1

0

1

2

3

4

5

6

7

8

9

0

1

2

3

4

5

6

7

8

9

0

1

2

3

4

5

6

7

8

9