

$$\begin{array}{l}
 1 \times 10 = 10 \\
 2 \times 10 = 20 \\
 3 \times 10 = 30 \\
 4 \times 10 = 40 \\
 5 \times 10 = 50 \\
 6 \times 10 = 60 \\
 7 \times 10 = 70 \\
 8 \times 10 = 80 \\
 9 \times 10 = 90 \\
 10 \times 10 = 100 \\
 11 \times 10 = 110 \\
 12 \times 10 = 120
 \end{array}$$

| Hundreds | Tens | Units |
|----------|------|-------|
| | 1 | 2 |
| 1 | 2 | 0 |

$$\begin{array}{l}
 0 \times 2 = 0 \\
 1 \times 2 = 2 \\
 2 \times 2 = 4 \\
 3 \times 2 = 6 \\
 4 \times 2 = 8 \\
 5 \times 2 = 10 \\
 6 \times 2 = 12 \\
 7 \times 2 = 14 \\
 8 \times 2 = 16 \\
 9 \times 2 = 18 \\
 10 \times 2 = 20 \\
 11 \times 2 = 22 \\
 12 \times 2 = 24
 \end{array}$$



Maths in
School

Times Tables in School

by Kate Robinson

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Times Tables in School

Introduction

In this booklet, you'll find out how you can help your child to learn multiplication (times) tables. You'll find a wide range of tips, tricks, games and activities that can help your child instantly recall multiplication facts when they need to. The 'Multiplication in School' booklet in the Maths in School series provides further information, guidance, games and activities to help your child use their tables' knowledge when multiplying.

Why help children to learn tables?

When our children first start to multiply, they use their fingers, counters and paper to help them add on the right number again and again. This takes a lot of time and it's easy to make mistakes. Yet the need to multiply is everywhere – in almost all areas of maths and throughout our normal lives. Budgeting, shopping, craft, DIY and cookery are just a few examples of everyday activities in which we use multiplication tables.

If our children learn their times tables, all of these calculations become much easier. But for many children, remembering strings of numbers is hard. Schools provide many opportunities for children to practise their tables, but the more we can help at home the better.

Start with the easiest and find a pattern

All tables have patterns in their numbers. Some of these are easy to spot and some are harder. Finding and highlighting the pattern in a table can help your child to learn it.

Children are introduced to the 2, 5 and 10 times tables first. These all have clear patterns (see pages 5–7) that can help children to learn them, and they are tables that we use a lot.

Rhymes and songs

Silly rhymes and songs can help children to remember these patterns, e.g. ***'0 2 4 6 8, my mum thinks I'm great'*** – the sillier the better really!

You can:

- *Look at the tables and their patterns on pages 5–7. Highlight the pattern to your child as they try and remember the table.*
- *See if, together, you can think of a silly rhyme to go with the first few numbers in each table: **'5, 10, 15, 20 ...'***

The 10 times table

$$\begin{array}{l} 1 \times 10 = 10 \\ 2 \times 10 = 20 \\ 3 \times 10 = 30 \\ 4 \times 10 = 40 \\ 5 \times 10 = 50 \\ 6 \times 10 = 60 \\ 7 \times 10 = 70 \\ 8 \times 10 = 80 \\ 9 \times 10 = 90 \\ 10 \times 10 = 100 \\ 11 \times 10 = 110 \\ 12 \times 10 = 120 \end{array}$$

Children spot the pattern of putting a zero on the end of the number that is multiplied by 10. This can be useful to help them quickly answer 10 times tables calculations, but it is important for them to understand that although it looks like we have just put a zero on the end of the number, we have actually moved its digits to the left and filled the gap with a 0:

| Hundreds | Tens | Units |
|----------|------|-------|
| | 1 | 2 |
| 1 | 2 | 0 |

In our number system the position of a digit in a number tells us its value; we call this 'place value'. Each time we move one place to the left in a number, the value of the digit increases by 10 times.

The 5 Times Table

| | | | | |
|----|---|---|---|----|
| (0 | × | 5 | = | 0) |
| 1 | × | 5 | = | 5 |
| 2 | × | 5 | = | 10 |
| 3 | × | 5 | = | 15 |
| 4 | × | 5 | = | 20 |
| 5 | × | 5 | = | 25 |
| 6 | × | 5 | = | 30 |
| 7 | × | 5 | = | 35 |
| 8 | × | 5 | = | 40 |
| 9 | × | 5 | = | 45 |
| 10 | × | 5 | = | 50 |
| 11 | × | 5 | = | 55 |
| 12 | × | 5 | = | 60 |

Pattern = 0 5 repeated

If we include 0×5 , the digits 0 and 5 repeat themselves over and over again in the units column: 0 5, 0 5, 0 5 ...

The digit in the tens column goes up by 1 each time this pattern starts again.

The 2 times table

| | | | | |
|----|---|---|---|----|
| 0 | × | 2 | = | 0 |
| 1 | × | 2 | = | 2 |
| 2 | × | 2 | = | 4 |
| 3 | × | 2 | = | 6 |
| 4 | × | 2 | = | 8 |
| 5 | × | 2 | = | 10 |
| 6 | × | 2 | = | 12 |
| 7 | × | 2 | = | 14 |
| 8 | × | 2 | = | 16 |
| 9 | × | 2 | = | 18 |
| 10 | × | 2 | = | 20 |
| 11 | × | 2 | = | 22 |
| 12 | × | 2 | = | 24 |

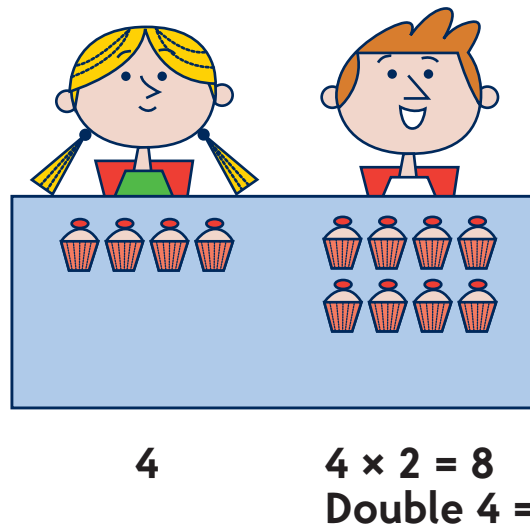
Pattern = 0 2 4 6 8 repeated

Including 0×2 , the digits 0 2 4 6 8 repeat over and over again in the units column: 0 2 4 6 8, 0 2 4 6 8. The digit in the tens column goes up 1 each time this string starts again.

Another pattern for the 2 times table is **counting in steps of 2**: count a number, miss a number, count a number, miss a number and so on.

The 2 times table and doubling

Multiplying by 2 is so useful, and is used so often, that it's got its own name – **doubling**. Think of how often you need two lots of something. Children learn that multiplying by 2 is doubling.



You can:

- Use the word 'double', as well as the phrases 'times 2' or 'multiply by 2' when your child has to find two lots of a number.

Doubling and the 4 and 8 times tables

Children are eventually introduced to all of the times tables up to 12. They are often shown how doubling, or multiplying by 2, can help with multiplying by 4 and by 8:

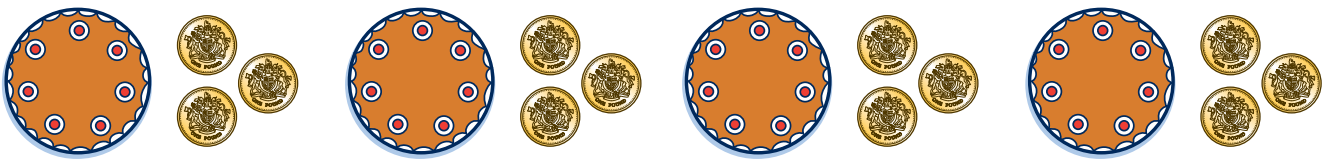
This cake costs £3. How much will it cost if I buy 4 cakes?



Well, double £3 is £6.



And double £6 is £12.

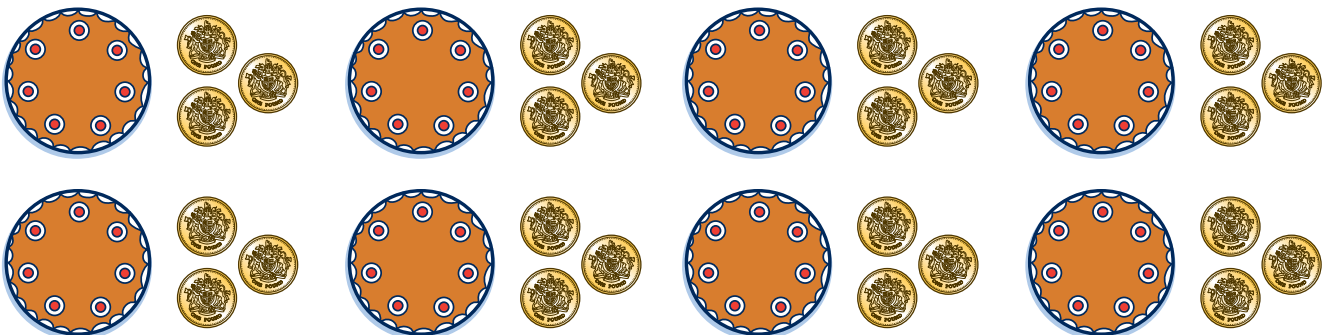


Two lots of two lots is 4 lots.

So, my $4 \times £3$ cakes will cost me £12.

Now, 8 cakes is just 2 lots of 4 cakes, so to find the cost of 8 cakes I can just double again:

Double £12 is £24.



So, $8 \times £3$ is £24.

You can:

- Encourage your child to try doubling and then doubling again if they are struggling to work out $4 \times$ something.
- Use doubling if your child is struggling to work out $8 \times$ something – see if it helps them to try doubling, doubling again and then doubling once more.

Number squares

When numbers are placed in a number square, highlighted times tables make a visual pattern. Some children find these very visual patterns help them to remember the table.

Here is a number square with the 3 times table highlighted.

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|-----|
| 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 |

You can:

- *Print the 3 times table number square on page 23 and stick it somewhere in your house, where your child will find it easy to read for a few minutes a day. Encourage them to read to 12×3 a few times and then close their eyes and see how much they can recall. See if the visual pattern helps them to remember the table.*
- *Print the plain number square on page 24. With your child, choose a times table for them to highlight with a coloured pencil or highlighter pen. See if they can see a pattern appearing. Now practise the times table as above.*

Reciting tables

With times tables, there's nothing like a couple of minutes practice a day to help them stick in the mind. Many children find that reading and hearing themselves say a table regularly helps them to learn it. Here are some reciting tips:

- Find a time and place for reciting that's easy to keep to. The bathroom at teeth-brushing time can work well as there's nothing much else to do!
- Just start with the first three or four lines of the table for a few days, and then add one or two more lines each time.
- Each time they practise, ask your child to first read the table from the sheet, and then see how far they can go with their eyes closed. Being able to recall something without looking at it is an important step to getting it lodged in our memory.
- Rhythm, sound, movement, and humour, can all really help us to remember things, so children can give the table a bit of a funky tune and beat as they recite it and maybe even a few little dance moves!
- Some children learn a table best by reciting the whole thing – the calculation (e.g. 3×8) and the answer (24). Other children remember the table better if they just recite the answers – **8, 16, 24** and use their fingers to remember which multiple of **8** they have got to.



You can:

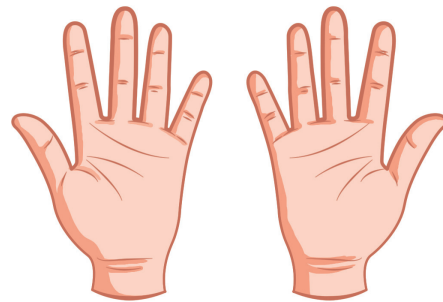
- Write, or print, a times table such as the one on page 25. Stick it up somewhere in your home, such as the bathroom wall, where your child will find it easy to practise for a few minutes a day.
- Help your child to use the tips listed above when reciting a times table.

The 9 times table trick

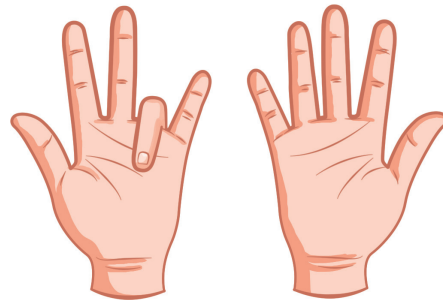
There's a great trick for recalling the 9 times table which some children really enjoy:

To find 4×9 :

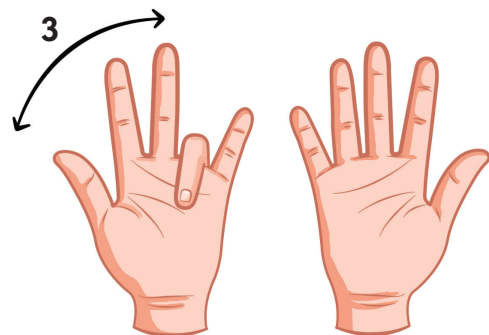
1. Hold out both hands in front of you.



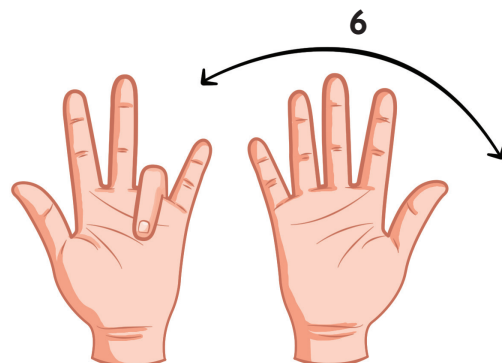
2. To find 4×9 , count in 4 fingers from the left, and hold down this finger.



3. Count all the fingers before the one that's held down – 3. This is first number in your answer.



4. Count all the fingers after the one that's held down – 6. This is the last number of your answer.



So the answer to 4×9 is 36.

And it works for all the 9 times table up to 10×9 . Give it a go!

The 9 times table pattern

There's also a nice number pattern in the 9 times table that some children find helps them: the unit number goes down in ones and the tens number goes up in ones. (You'll notice that there's a blip at 11×9 , but then the pattern picks up again):

$$\begin{array}{rcl} 1 \times 9 & = & 09 \\ & +1 \downarrow \downarrow -1 & \\ 2 \times 9 & = & 18 \\ & +1 \downarrow \downarrow -1 & \\ 3 \times 9 & = & 27 \\ & +1 \downarrow \downarrow -1 & \\ 4 \times 9 & = & 36 \\ & +1 \downarrow \downarrow -1 & \\ 5 \times 9 & = & 45 \\ & +1 \downarrow \downarrow -1 & \\ 6 \times 9 & = & 54 \\ & +1 \downarrow \downarrow -1 & \\ 7 \times 9 & = & 63 \\ & +1 \downarrow \downarrow -1 & \\ 8 \times 9 & = & 72 \\ & +1 \downarrow \downarrow -1 & \\ 9 \times 9 & = & 81 \\ & +1 \downarrow \downarrow -1 & \\ 10 \times 9 & = & 90 \\ \text{blip: stays the same} \downarrow \downarrow \text{back to 9} & & \\ 11 \times 9 & = & 99 \\ & +1 \downarrow \downarrow -1 & \\ 12 \times 9 & = & 108 \end{array}$$

You can:

- Explore with your child which method helps them most with the 9 times table – the more physical hand trick, or the more visual number pattern.

The 11 times table pattern

There's a really clear number pattern in the 11 times table until 9×11 . Children sometimes think that the 11 times table is going to be really hard, so, when they see the pattern it's a big relief.

$$\begin{array}{rcl} 1 & \times & 11 = 11 \\ 2 & \times & 11 = 22 \\ 3 & \times & 11 = 33 \\ 4 & \times & 11 = 44 \\ 5 & \times & 11 = 55 \\ 6 & \times & 11 = 66 \\ 7 & \times & 11 = 77 \\ 8 & \times & 11 = 88 \\ 9 & \times & 11 = 99 \\ 10 & \times & 11 = 110 \\ 11 & \times & 11 = 121 \\ 12 & \times & 11 = 132 \end{array} \left. \vphantom{\begin{array}{rcl} 1 & \times & 11 \\ 2 & \times & 11 \\ 3 & \times & 11 \\ 4 & \times & 11 \\ 5 & \times & 11 \\ 6 & \times & 11 \\ 7 & \times & 11 \\ 8 & \times & 11 \\ 9 & \times & 11 \\ 10 & \times & 11 \\ 11 & \times & 11 \\ 12 & \times & 11 \end{array}} \right] \text{ pattern changes}$$

Pattern = Repeat the number being multiplied by 11

1×11 is 1 and 1 again (11)

6×11 is 6 and 6 again (66)

This pattern works up until 9×11 .

Games

Times table games can be a great way of learning tables. Many children will forget that they're learning as they are swept along with the fun of the game.

Many games, such as Bingo, Snap and Pairs, can be adapted to focus on tables. They make great short, quick-fire games that can be fitted in any time of the day. Maybe the winner could get a treat, or maybe everybody who joins in can get a treat!

You can find lots of games to help your child practise their times tables in the age 7–9 Fun Activities section of the Oxford Owl website. Here are a few ideas to get you started.

You can:

- *Choose one of the games on page 16–21 to play with your child.*
- *Use the games as a guide to making your own tables games – perhaps you want to play Pairs, Treasure Hunt or What's Missing?, but would like to focus on a different times table.*
- *Adapt other games to focus on multiplication tables, or create some totally new tables games with your child.*

Tip:

- *Start by giving children a copy of the times table to refer to if they need it. Then, when they're ready for the challenge, they can try the game without it.*

4 Times Table Pairs

Cut out each of the cards and use them to play Pairs:

Pairs (two or more players)


Place all cards face down on the table.

In turns, turn over two cards and see if they match, e.g. a 4 times table question (8×4) and its answer (**32**).

If they match, keep the pair. If they don't, turn them back over.

The winner is the person with the most pairs.

Multiply by 4 question and answer cards



| | |
|--------------|----|
| 1×4 | 4 |
| 2×4 | 8 |
| 3×4 | 12 |
| 4×4 | 16 |
| 5×4 | 20 |

4 Times Table Pairs (continued)



| | |
|---------------------------------|-----------|
| 6×4 | 24 |
| 7×4 | 28 |
| 8×4 | 32 |
| 9×4 | 36 |
| 10×4 | 40 |
| 11×4 | 44 |
| 12×4 | 48 |

The 6 Times table treasure hunt and What's missing?

You will need:

6 Times Table Cards (pages 21 and 22)

6 Times Table (page 20)

Scissors

Tray

Tea towel

What to do:

Cut out the cards. Start by giving your child a copy of the 6 Times table on page 20 to refer to if they need it. Then, when they're ready for the challenge, they can try the games without it.

Treasure hunt (two or more players)

Choose one person who's not going to play – perhaps an adult. This person shuffles the cards and hides them around an agreed area – perhaps a room in your home or an outside space.

Next choose a 'home area' – a table, shelf or bit of floor where players have to pile up matching sets when they find them.

Now all the players need to hunt for the cards. If a player finds a card, they need to memorize it and leave it where it is until they've spotted the card that matches it, e.g. 3×6 matches 18. When they've spotted both cards in a pair, they've got 7 seconds to pick up both cards and place the pair in the home area.

The person not playing makes sure that no one holds any cards for more than 7 seconds and that each player has their own pile in the home area for matching pairs that they find.

The winner is the player with the most pairs in their pile when all twelve pairs have been found.

What's missing? (two or more players)

Take just the answer cards and put them on a tray. Cover them with a tea towel.

Sneak one card off without looking at it and show your child the cards that are left for a few seconds.

See if they can spot which answer card from that times table is missing. The person who spots it first wins a point.

Sneak away another card and see who can spot the missing one now. Continue until there is only 1 answer card left.

The winner is the person who spots the most missing answers.

Tips:

- *You can adapt this by sneaking in a false card instead of taking a card away. See who can spot the wrong card first.*
- *Do this with a series of false cards, one after the other, and the winner is the person who spots the most false cards first.*



6 Times Table

$$1 \times 6 = 6$$

$$2 \times 6 = 12$$

$$3 \times 6 = 18$$

$$4 \times 6 = 24$$

$$5 \times 6 = 30$$

$$6 \times 6 = 36$$

$$7 \times 6 = 42$$

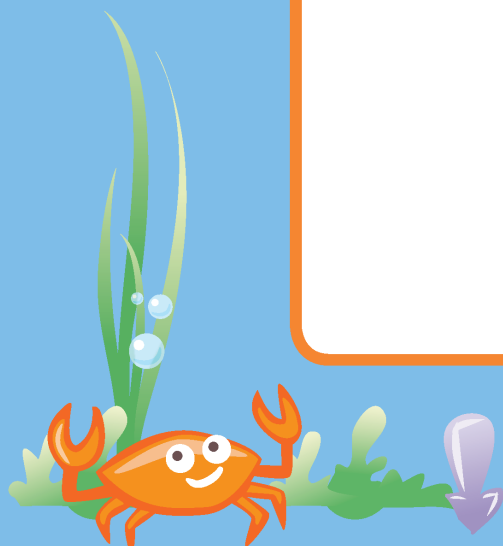
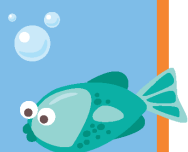
$$8 \times 6 = 48$$

$$9 \times 6 = 54$$

$$10 \times 6 = 60$$

$$11 \times 6 = 66$$

$$12 \times 6 = 72$$




6 Times table cards



| | |
|--------------------------------|-----------|
| 1×6 | 6 |
| 2×6 | 12 |
| 3×6 | 18 |
| 4×6 | 24 |
| 5×6 | 30 |
| 6×6 | 36 |

6 Times table cards (continued)



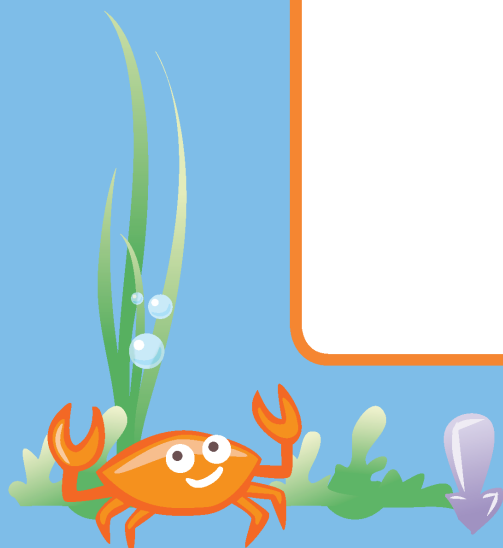
| | |
|---------------------------------|-----------|
| 7×6 | 42 |
| 8×6 | 48 |
| 9×6 | 54 |
| 10×6 | 60 |
| 11×6 | 66 |
| 12×6 | 72 |

3 times table number square

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|-----|
| 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 |

Number square

| | | | | | | | | | |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| 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 |


$$12 \times 8 = 96$$
