



# Key Instant Recall Facts

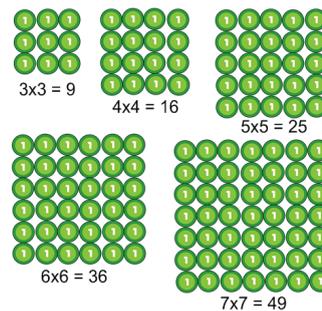
## Year 5 – Spring 2

**Key Vocabulary**  
Factor  
Multiply  
Product  
Square numbers  
Square roots

I aspire to recall square numbers up to 12x12 and their square roots.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

|                             |                   |
|-----------------------------|-------------------|
| $1^2 = 1 \times 1 = 1$      | $\sqrt{1} = 1$    |
| $2^2 = 2 \times 2 = 4$      | $\sqrt{4} = 2$    |
| $3^2 = 3 \times 3 = 9$      | $\sqrt{9} = 3$    |
| $4^2 = 4 \times 4 = 16$     | $\sqrt{16} = 4$   |
| $5^2 = 5 \times 5 = 25$     | $\sqrt{25} = 5$   |
| $6^2 = 6 \times 6 = 36$     | $\sqrt{36} = 6$   |
| $7^2 = 7 \times 7 = 49$     | $\sqrt{49} = 7$   |
| $8^2 = 8 \times 8 = 64$     | $\sqrt{64} = 8$   |
| $9^2 = 9 \times 9 = 81$     | $\sqrt{81} = 9$   |
| $10^2 = 10 \times 10 = 100$ | $\sqrt{100} = 10$ |
| $11^2 = 11 \times 11 = 121$ | $\sqrt{121} = 11$ |
| $12^2 = 12 \times 12 = 144$ | $\sqrt{144} = 12$ |



### Your Home Learning this half term...

#### Key Questions

What is 8 squared?  
What is 7 multiplied by itself?  
What is the square root of 144?  
Is 81 a square number?

#### Top Tips

The secret to success is practising little and often. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey?

|  |  |
|--|--|
| Challenge 1: Investigating factor pairs  | Write a list of all of the square numbers<br>$1 \times 1 = \underline{\quad}$<br>$2 \times 2 = \underline{\quad}$<br>$3 \times 3 = \underline{\quad}$ etc up to $12 \times 12$   |
| Challenge 2: Increasing fluency  | <b>Speed challenge</b><br>How quickly can you write down all of the square numbers?<br>Can you get your score down to less than 30 seconds?<br>Can you do them out of order?   |
| Challenge 3: Developing fluency<br>         | <b>Whack-a-number</b><br>Choose a number then find its square number.<br><a href="https://www.mathematics-monster.com/tests/whack_a_mole_square_numbers.html">https://www.mathematics-monster.com/tests/whack_a_mole_square_numbers.html</a>                                 |
| Challenge 4:   | <b>True or false?</b><br><ul style="list-style-type: none"> <li><math>8^2 = 64</math></li> <li><math>11^2 = 121</math></li> <li><math>14^2 = 216</math></li> </ul> Task 1: Correct the false ones<br>Task 2: Create your own true or false questions for a friend in school. |
| Challenge 5: Investigating factor pairs<br> | Match the square numbers to the answers<br><a href="https://wordwall.net/resource/359010/maths/square-numbers">https://wordwall.net/resource/359010/maths/square-numbers</a>   |
| Challenge 6: Apply Your Knowledge<br>       | <b>Cycling Squares</b><br>At <a href="http://nrich.maths.org/1151">http://nrich.maths.org/1151</a> there is a challenge involving square numbers.<br>Can you complete the challenge?   |