

Handed out: Tuesday  
Tested on: Every Tuesday

### Arithmetic

As part of the KIRFs for this half term, you are going to be revising square numbers up to 12 squared and their square roots. More information can be found here:

## **I can recall square numbers up to 12<sup>2</sup> 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**.

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

### Text

#### Key Vocabulary

What is 7 **squared**?

What is 7 **multiplied by itself**?

What is the **square root** of 144?

Is 30 a **square number**?

Children should also be able to recognise whether a number below 150 is a square number or not.

### 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? You do not need to practise them all at once; perhaps you could have a fact of the day. If you would like more ideas, please speak to your child's teacher.

Online games – You can use Education City songs and websites [www.timestables.co.uk](http://www.timestables.co.uk) and [www.timestables.me.uk](http://www.timestables.me.uk)

Cycling squares – At <http://nrich.maths.org/1151> there is a challenge involving square numbers. Can you complete the challenge and then create your own examples?

Use memory tricks – For those hard-to-remember facts, [www.multiplication.com](http://www.multiplication.com) has some strange picture stories to help children remember.

### How will I be tested?

You will be asked 10 questions. 5 will be on the squared number and the other 5 will be on the square root of a number. For example:

1. What is 8 squared?
2. What is 9 multiplied by itself?
3.  $1^2$
4. What is the square root of 144?
5.  $\sqrt{9}$

Each week, you will record your score in your reading diary as advised by your teacher and you will also bring your test home to share with your parents/ guardians. It's important that we self-reflect and begin to take ownership of our learning; therefore, for any questions that you get incorrect, please revise