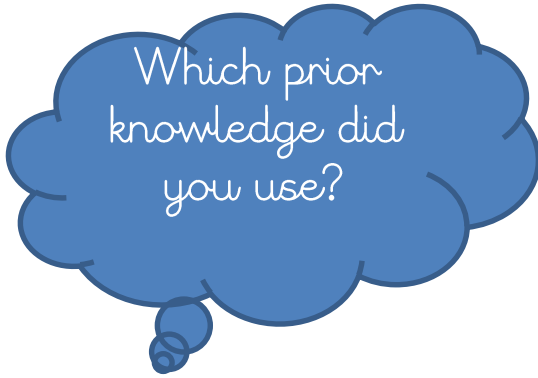


Linked to your previous learning:

Calculate the answers to the following x questions:

1 x 1 =

2 x 2 =

3 x 3 =

4 x 4 =

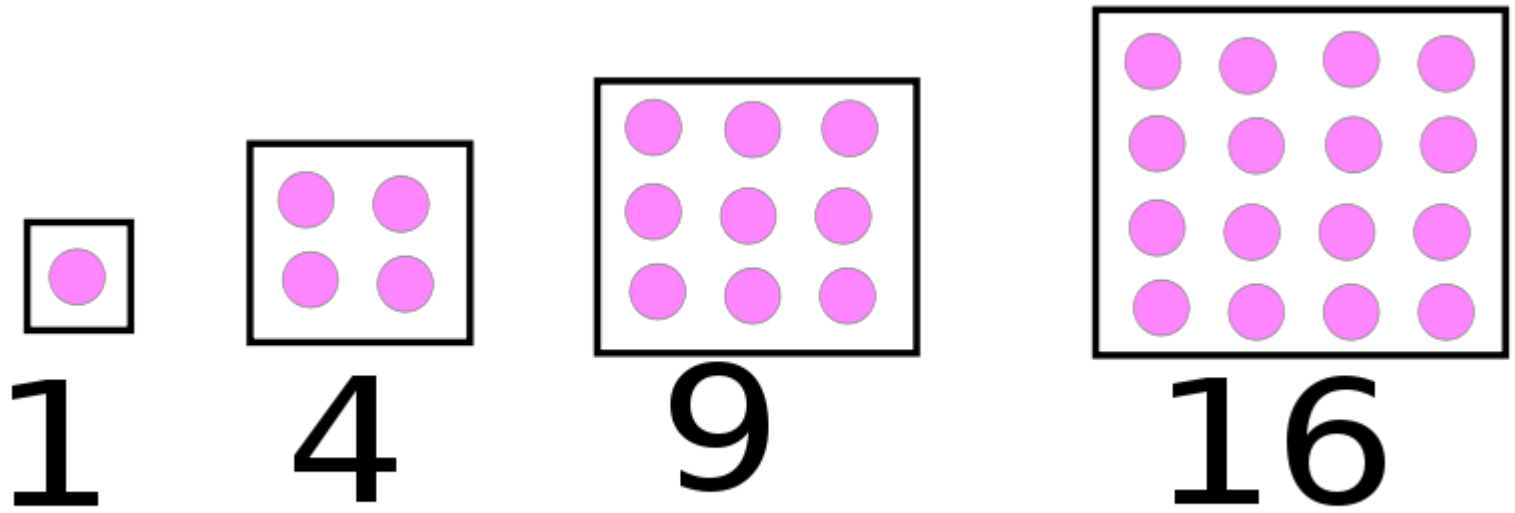
5 x 5 =

6 x 6 =

What do you notice about the questions and answers?

WALT: Identify square numbers

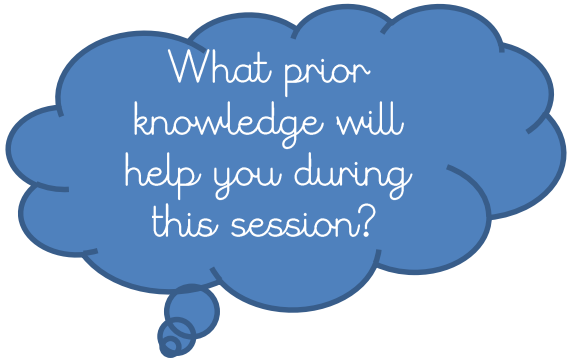
Introduction



What type of numbers are these? What would the next 3 numbers be?

Introduction 2

When would you use square numbers in real life situations?



Key Vocabulary

- Square number
- Product
- Multiple
- Times
- Odd number
- Even number

What would a WAGOLL for square numbers include?

Fluency – Do it!

1. Work out the following squared numbers:
    1. 5^2
    2. 4^2
    3. 10^2
    4. $3^2 + 2^2 =$
    5. $6^2 - 5^2 =$

Fluency – Do it! ANSWERS

1. Work out the following squared numbers:

   1. $5^2 = 25$

   2. $4^2 = 16$

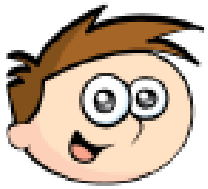
   3. $10^2 = 100$

   4. $3^2 + 2^2 = 13$

   5. $6^2 - 5^2 = 11$

Reasoning – Secure it!

Chris says



Factors come in pairs so all whole numbers must have an even number of factors.

Do you agree?
Explain your reasoning.

How many square numbers can you make by adding prime numbers together?

Here's one to get you started:

$2 + 2 = 4$.

Reasoning – Secure it! ANSWERS

Chris says  Factors come in pairs so all whole numbers must have an even number of factors. Do you agree? Explain your reasoning.	Children will find that some numbers don't have an even number of factors e.g. 25. Square numbers have an odd number of factors.
How many square numbers can you make by adding prime numbers together? Here's one to get you started: $2 + 2 = 4$.	Solutions include: $2 + 2 = 4$ $2 + 7 = 9$ $11 + 5 = 16$ $23 + 2 = 25$ $29 + 7 = 36$

Problem solving - Deepen it!

Julian thinks that 4^2 is equal to 16.
Do you agree?

Convince me.

He also thinks that 6^2 is equal to 12.

Do you agree?

Explain what you have noticed.

Always, Sometimes, Never:

A square number has an even number of factors.

Problem solving – Deepen it!

ANSWERS

Julian thinks that 4^2 is equal to 16. Do you agree? Convince me. He also thinks that 6^2 is equal to 12. Do you agree? Explain what you have noticed.	Children may use concrete materials or draw pictures of to prove it. Children should spot that 6 has been multiplied by 2. They may create the array to prove that $6^2 = 36$ and $6 \times 2 = 12$
Always, Sometimes, Never: A square number has an even number of factors.	Never. Square numbers have an odd number of factors.

Plenary

Remember to use an emoji to show how well you understood the WALT

Can you calculate:

$$\sqrt{100}$$

How is it linked to square numbers?