MATHS

Lesson 18

Prep

Topic: Number and place value

Subitising to determine how many

Lesson concepts

- **Number** — Subitising
- **Number** — Counting
- **Number** — Quantity

Today students will:

- recognise visual amounts to five without counting (subitising).

Resources

Digital

digital drawing program (optional)

Find and prepare

Sheet — Number match boards (cut out)

Sheet — Pegboards (cut out)

Find and prepare

collection of small manipulative materials
(for example: dried beans, pasta spirals, shells)

cloth

paint (optional)

playdough (optional)

opaque bag

counters

pegboards and coloured pegs

card squares

dot stickers

Key terms

count, visualise, how many, quantity, total, arrange, subitise, count on, part

For definitions and explanations of terms, please see the Glossary.

Lesson

Introduce the lesson

Say to students

"In today's lesson, you will be looking at different ways to find out how many items there are in a collection. Sometimes you will know what a quantity is without even counting."

Count forwards from a number

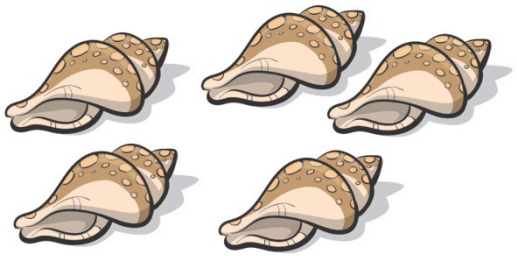
Count with students, saying 'Stop!' at random intervals (for example: say *'1, 2, 3, 4, stop!')*

Ask students to:

- identify what comes next
- continue counting.

Repeat this activity stopping at different numbers in the sequence to 20 or beyond.

Scatter a small collection of objects (up to five) on the floor.



Discuss ways of finding the total.

Focus questions

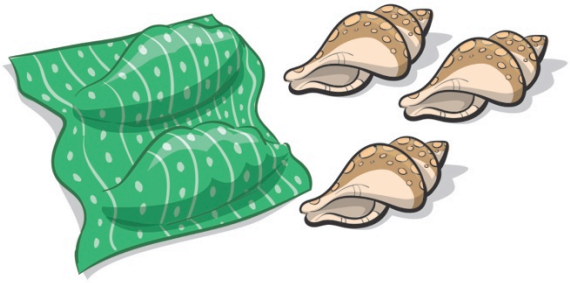
Q: *How many are on the floor?*

Q: *How did you find the total?*

Q: *Is there another way of finding the total? How?*

Q: *Could the way these objects are arranged help you to count them? Explain.*

Identify a small part (such as two shells) within the collection and cover them with a cloth.



Focus questions

Q: *How many are under the cloth?*

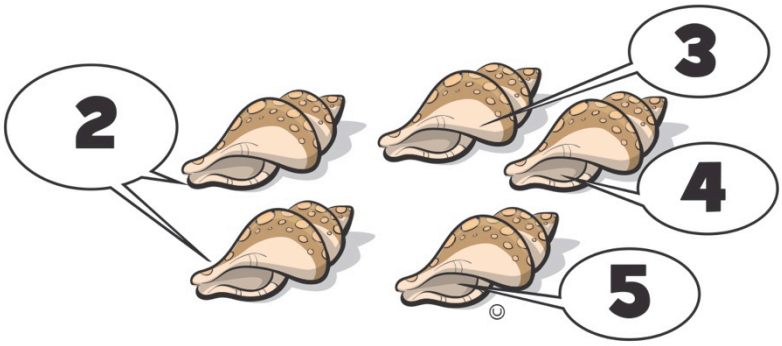
Q: *How do you know?*

Q: *Do you need to count them?*

Q: *What could you do instead to count the whole group?*

Show students how to count forwards from the small part identified within the collection.

Reveal the (two) counters hidden under the cloth, say 'two', then count forwards to get the total, touching the remaining three items as you count them.



Repeat the activity with different collections in different arrangements.

Create representations of quantities to five

Provide students with an opaque bag in which there are 10 small objects.

Call a number between zero and five.

Ask students to:

- place their hand in the bag
- try to grab that many objects
- display the objects
- check the quantity is correct
- repeat with other numbers to five.

Provide students with a range of materials to explore quantities to five (such as digital drawing programs, painting materials, counters, buttons or playdough).

Ask students to:

- make their 'best' arrangement for the numbers 0, 1, 2, 3, 4 and 5.
- explain why these are their best arrangements.

Note

Optional: Take photographs of the students' best arrangements and use them to make books, flash cards, a slideshow, signs or displays.

Recognise quantities to five

Explain to students:

> **Say to students**
>
> When you know what a quantity is without counting, you are subitising. When you see three on a dice and you know it's three without having to count each dot, you are subitising. To subitise, you need to be able to recognise different arrangements of collections quickly.

Have students choose to complete **at least one** of the following activities to practise subitising.

Activity 1: Number match bingo

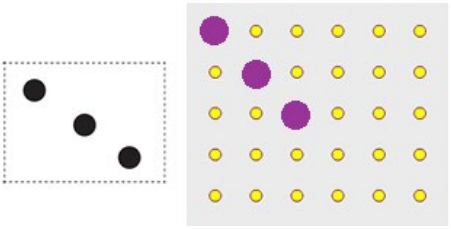
Provide students with cards cut from the **Sheet —** Number match boards to play bingo.
Ask students to:

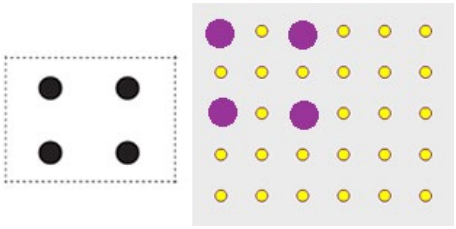
- cross off the numerals as you call them out
- cover the matching dot card with a counter.

Activity 2: Pegboards

Provide students with cards cut from the **Sheet —** Peg boards, a pegboard and coloured pegs.
Ask students to:

- select a card
- say how many dots are on the card without counting
- copy the patterns on the sheet, onto their pegboard.





Activity 3: Dot flash

Provide students with card squares and dot stickers.
Ask students to:

- create dot cards for numbers one to five
- flash the cards, one at a time, to another person
- have the other person quickly identify the quantity.