MATHS

Year 1

Topic: Patterns and algebra

Counting by 10s

Lesson concepts

- Patterns — Growing patterns
- Patterns — Describing patterns
- Patterns — Continuing patterns
- Patterns — Counting

Today students will:

► identify the numbers in the 10s counting sequence

► use skip counting by 10s to quantify a collection.

Resources

Sheets

Sheet 3 — Counting patterns on hundred boards

Sheet 4 — Counting in 10s

Number cards — 10s skip counting pattern (cut out)

Find and prepare

40 blocks

Highlighter pen

Collection of materials to count (for example, beads, shells, pasta spirals)

Paper plates (or similar)

Glue

Key terms

number pattern, numeral, sequence, skip counting

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

Lesson

Introduce the lesson

Explain to students

❝ You have skip counted in 2s before and found that it is a quicker way of counting than counting in 1s. In the lesson today, you will learn about skip counting in 10s. Skip counting in 10s is useful when we need to count really big collections. ❞

Skip count by 10s

- Show students a pile of 40 blocks.

- Ask students to count each block and tell you the total.

Say to students

❝ When you counted each block, you counted in a 1s counting pattern because you counted every single block. Let's have a look at the 1s counting pattern. ❞

- Show students the first hundred board on **Sheet 3 —** Counting patterns on hundred boards, titled '1s counting sequence'.

Focus questions

Q. *What numbers are highlighted?*

A. All of the numbers to 40.

Q. *Which numbers did you say when you counted the blocks?*

A. All of the numbers to 40.

Say to students

' Every number is highlighted because you counted every number. It would be quicker to count the blocks in 2s, because when we skip count in 2s, we skip every second number. Let's skip count the blocks in 2s. '

- Ask students to skip count the blocks in 2s and tell you the total.

Say to students

' When you skip counted the blocks, you counted every second block, so you counted in a 2s counting pattern. Let's have a look at the 2s counting pattern. '

- Show students the second hundred board on **Sheet 3**, titled '2s counting sequence'.

Focus questions

Q. *What numbers are highlighted?*

A. Every second number to 40.

Q. *Which numbers did you say when you counted the blocks?*

A. Every second number to 40.

- Ask students to make 'trains' of 10 from the blocks.

Focus question

Q. *How many 10s have you made?*

A. 4

- Display the cards cut from <u>Number cards — 10s skip counting pattern</u>.
- Ask students to:
  ◦ use the cards to label each group
  ◦ skip count the blocks trains in 10s
  ◦ identify the total.

- Show students the final hundred board on **Sheet 3**, titled '10s counting sequence'.

Focus questions

Q. *What numbers are highlighted?*

A. 0, 10, 20, 30 and 40; the numbers in the first column

Q. *Which numbers did I say when you counted the blocks?*

A. 0, 10, 20, 30 and 40; the numbers in the first column

Q. *If we wanted to continue this 10s counting pattern, what numbers would come next?*

A. 50, 60, 70, 80, 90, 100

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- Ask students to:
  - continue the 10s counting pattern on the hundred board with a highlighter or pen (that is, highlight 50, 60, 70, 80, 90, 100)
  - say all the highlighted numbers aloud (that is, 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100).

> ### Reinforce to students
>
> ❝ When you count in 10s, you count every tenth number. Counting in 10s is much quicker than counting in 1s or 2s. ❞

Represent skip counting by 10s

- Provide students with a large collection of concrete materials in a multiple of 10 (such as 50 shells or 60 buttons or 70 beads) and paper plates or similar.
- Ask students to:
  - arrange the collection into groups of 10
  - count aloud their representation
  - identify the number pattern formed by skip counting (for example: *I was counting in 10s.*)
- Ask students the questions on **Sheet 4 —** Counting in 10s and record their responses on the sheet.

Record the skip counting by 10s pattern and identify the missing element in the number pattern

- Ask students to record the skip counting by 10s pattern (write 10, 20, 30 …).
- Remove one of the groups of 10 from your student's representation.
- Ask students to identify the missing part in the sequence.
- Repeat for other 10s numbers.

> ### Focus questions
>
> Q. *What is missing from this pattern?*
> A. For example: 20
>
> Q. *How did you work it out?*
> A. For example: The 10s number between 10 and 30 is missing.
>
> Q. *What is the rule for this growing pattern?*
> A. For example: It is getting bigger by 10.
>
> Q. *What would come next in this pattern?*
> A. Answers will vary.