






Topic: Number and place value

Connecting representations of quantities

Lesson concepts

-  **Representations** — Symbolic
-  **Number** — Names and symbols
-  **Number** — Quantity
-  **Number** — Counting
-  **Equivalence** — Conservation

Today students will:

- ▶ count forwards and backwards from a given starting point
- ▶ represent quantities in arrangements and recordings.

Resources

Digital

Slideshow — Count to 20!

Sheets

- Sheet — Numbers 0 to 9 (cut out in previous lessons)
- Sheet — Number track (cut out)
- Sheet — Number chart (cut out)
- Sheet — Bingo cards (cut out cards from page 2 onwards)
- Sheet — Number match boards (cut out)
- Sheet — Number pictures 1 to 10 (cut out)
- Sheet — Let's play! Card games
- Sheet — Simple dice games
- Sheet — Numeral formation posters

Find and prepare

- Materials for counting (for example: beads, shells, toothpicks)
- Chalk
- Counters or lids (to trace around)
- Dice (with dot patterns or numerals)

Key terms

arrangement,
backwards,
count, forwards,
how many,
numerals,
pictures, quantity,
record,
representation,
same, symbols,
words

Lesson

Introduce the lesson

Note
Complete the following activities over two sessions.

Say to students
‘ Now we will practise counting forwards and backwards and show quantities in many different ways. ’

Count forwards and backwards from different starting points

Provide students with materials to practise recalling number sequences (counting) forwards and backwards by:



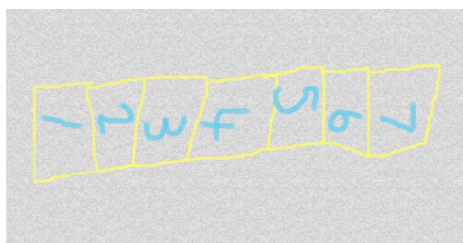
- sequencing number cards cut from the **Sheet** — [Numbers 0 to 9](#)



- joining puzzle pieces from the **Sheet** — [Number track](#)

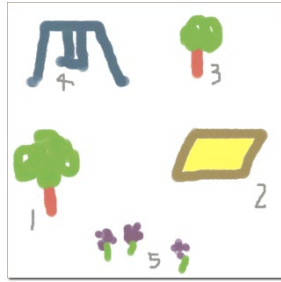


- making hopscotch number patterns and following them



- counting items as they are added and taken from containers
- counting steps (hops, jumps) from one point to another
- counting backwards while walking backwards

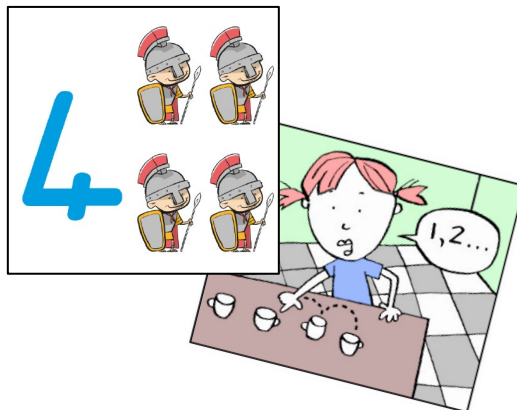
- making and following a treasure hunt by going to the numbered places in the correct order.



Focus questions

- Q: *What did you notice about the number cards when placed in backwards order?*
- Q: *What would happen in hopscotch if you didn't follow the numbers in the correct order?*

Recognise quantities in different representations



Ask students to match the number quantities and symbols by:

- collecting the matching number of objects with cards cut from **Sheet** — [Number chart](#)
- tossing a dice or two for numbers beyond six and collecting that number of objects.

Have students check their collections against the displayed cards.

Focus questions

- Q: *How did you know that was six?*
- Q: *What did seven look like when you tossed the dice?*
- Q: *How could seven look with just the number dice? Or the dot and number dice?*

Have students represent quantities in different arrangements by:

- folding a piece of paper into quarters and unfolding it (so the fold lines are visible)
- writing a numeral in the middle of the piece of paper
- placing the number of counters represented by the numeral on one quarter of the piece of paper
- tracing around the counters where they are placed
- moving the counters to a different quarter and placing them in a different arrangement
- tracing around the counters again
- repeating the activity for the remaining quarters.

Focus questions

Q: *How else can you 'make' your amount?*

Q: *How did you know that was [six]?*

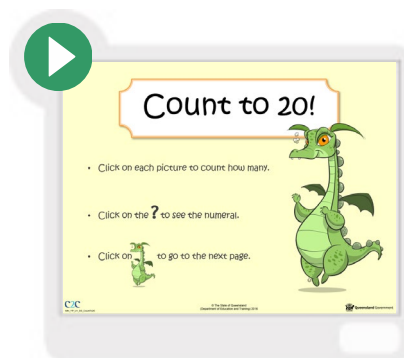
Q: *What could [seven] look like?*

Students work through the **Slideshow — Count to 20!**

Students choose from a range of games to identify and match the different representations of numbers (such as numerals, words, dot patterns and visual quantities).

Games may include:

- Bingo using **Sheet — [Bingo cards](#)**
- Snap or Concentration (find and match cards representing the same number) by combining **Sheet — [Number match boards](#)** and **Sheet — [Number pictures 1–10](#)**
- Fish or Queen card games using **Sheet — [Let's play! Card games](#)**
- dice games using **Sheet — [Simple dice games](#)**.



Focus questions

Q: *What did [six] look like in this game?*

Q: *How could you tell that they were the same number?*

Note

Ensure that there are visible and accurate models of the numeral formations and number names (for example: **Sheet — [Numeral formation posters](#)**) for student reference. Practise tracing over these with a finger as well as writing numerals using correct sequences.