MATHS

Lesson 3

Prep

Topic: Number and place value

Connecting representations of quantities

Lesson concepts

- Number — Quantity
- Number — Counting
- Number — Subitising
- Number — Names and symbols

Today students will:

- count to identify how many
- connect number names, numerals and quantities.

Resources

Digital

Learning object — Eye video (Select 'A frog went walking: Recount')

Stimulus picture — Frogs

Find and prepare

Display numeral formations and word names to twenty

Manipulative materials, such as blocks, toys, bottle caps

Familiar print texts, for example: picture books, magazines, posters

Key terms

numeral

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

Lesson

Note

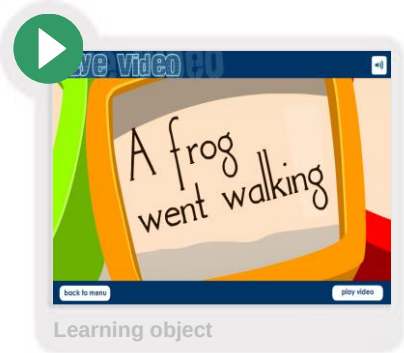
It is important to highlight and develop the following vocabulary throughout this lesson: count, start, number, more, less, number names, numerals, collections, quantities, visualise.

Introduce the lesson: Quantify different collections

Note

Ensure that the display of numerals, number names and quantities is visible as a reference for students when recording quantities.

- Ask students to:
  - listen to the song in the **Learning object — Eye video (Select 'A frog went walking: Recount')**
  - think of things that could be counted.



Learning object

- Make a list with students of things in the song that could be counted:
  - characters
  - verses
  - a-hums
  - words
  - beats
  - fingers on a frog (display or print **Stimulus picture** — Frogs)
- Work with students to count and have them:
  - replay or sing the song (or parts of the song)
  - record the quantities.

Note

Students may:
- count as they go through the song
- manipulate objects — one for each count (put a counter in a cup each time they hear the word 'frog').

I counted seven ‘a-hums’ in the first part of the song.

Focus questions

Q: Which count was the largest? Why do you think that?

Q: What parts of your body did you use to count the ‘a-hums’? How else could you have counted them?

Q: What else could you have counted?

Q: What was the hardest/easiest thing to count? Why do you think that?

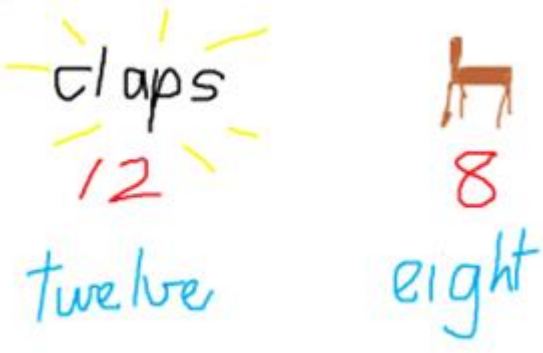
Q: What problems did you have? How could you have solved these problems?

- Ask students to suggest collections that could be counted.
- These might include:
  - sounds — claps, instrument sounds
  - objects — on a game board, chairs in the room
  - movements — in activities such as hopscotch, obstacle course, dance
  - images — page from a print text, drawings, photographs, dot patterns.
- Work with students to count these different types of collections.

Note

Students may make the sounds and claps or they may count them as an adult makes the sound.

- Ask students to record the quantities using numerals or words as they count.



Focus questions

Q: What did you count?

Q: What else could you have counted?

Q: Were there any problems? What were they?

Q: How could you fix that?

Q: Were there any differences in the counts? What were they?

Q: How could you explain this?

Q: Which were the hardest counts? Why do you think that?

Represent numbers in different ways

Explain to students

“When you represent a number, you use different objects to show the same number.”

- Assist students to represent the quantities they counted in different ways.
- Have them:
  - select a number from one of their counts
  - use a variety of materials to represent quantities, for example: blocks, toys, objects, collage materials, electronic images
  - explain their representations.

Focus questions

Q: How many did you represent? How did you work that out?

Q: Are these two representations the same or different? What makes you think that?

Q: Which representation was easiest/fastest for you to work out? Why do you think that?

I counted 14 children so we made 14 cupcakes.

I counted three children on the stairs so I will draw three people.

We counted 19 leaves on the ground so we made them out of paper and made our own big tree.

Focus questions

Q: When you hear 'five', what do you think about?
A: I think about my birthday because I will be five then.

Q: What do you see in your mind? What do you hear in your mind?
A: I see five candles on the cake and I hear five claps for my age.

Q: How could you move to show/represent five?
A: I could hop five times or clap five times.

Q: What do you think about in your mind when you see '12'?
A: When I see '12', I hear counting to 12.