MATHS

Lesson 4

Prep

Topic: Number and place value

Representing quantities

Lesson concepts

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

Today students will:
- ► count to make collections
- ► connect number names and numerals to different representations.

Resources

Text (optional)

Sullivan, R and Huxley D 2008, *Tom Tom,* Working Title Press, Adelaide (or other familiar stories)

Find and prepare

Display numeral formations and word names to twenty

Cardboard or A3 paper

Paint, collage or drawing materials

Sheet — Card games

Key terms

numeral, represent

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

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Lesson

Note

It is important to highlight and develop the following vocabulary throughout this lesson: number, number names, numerals, collections, quantities, visualise, represent, match.

Introduce the lesson

Note

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

Identify ways of thinking about numbers

- Discuss with students how they think about numbers.

Say to students

' When you think about numbers, you can visualise or see them in your mind. For example, when you visualise 10, you might see two hands.

Sometimes when you think about numbers you could hear them as sounds. For example, when you think about two you might hear a train go 'toot, toot'. '

Focus questions

Q: What do you think about when I say the number 12?
A: I think about eggs in a carton.

Q: What do you visualise when you close your eyes? How could you explain that?
A: I can see all my fingers and two toes.

- Explain to students that:
  - o when you visualise, you could see the numeral, word or a picture (for example: two dice with fives on them)
  - o there are lots of games that help you visualise numbers.

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Develop representations of numbers

- Ask students to identify any games and activities they know that use numbers.

- Students may give examples such as:
  - playing card games — Snap or Go Fish (see **Sheet** — Card games)
  - reading books such as *Tom Tom* by Rosemary Sullivan and Dee Huxley
  - completing jigsaw puzzles
  - playing quizzes.

- Help students to complete two or three of these activities.

- Highlight how numbers are used and represented in these activities.

> **Focus questions**
>
> *Q: How does this card represent numbers?*
>
> *Q: How is that similar or different to other representations?*
>
> *Q: How could you make one of these activities for the classroom?*
>
> *Q: What would you need to make one?*

- Explain to students that they are going to work with another person to make a number game.

- Ask students to select a game from the ideas discussed and:
  - choose two numbers each that they will represent in the game/activity
  - use the numeral, word and quantities to represent the numbers
 - make the activity.

> **Note**
>
> If students are making a Snap game, they will make three cards for each number — one with the numeral, one with the name and one with dots to show the quantity.
>
> In the following activities, students can draw or use collage, paint or pictures to represent the quantities.

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Puzzle

- Explain to students that they need to:
  - write the number, the word and the quantity on a sheet of A3 paper
  - draw lines to separate them
  - cut them out to make a three piece puzzle
  - repeat the process for the second number
  - play the game by mixing up the pieces and asking a partner to sort them to make the puzzles complete again.
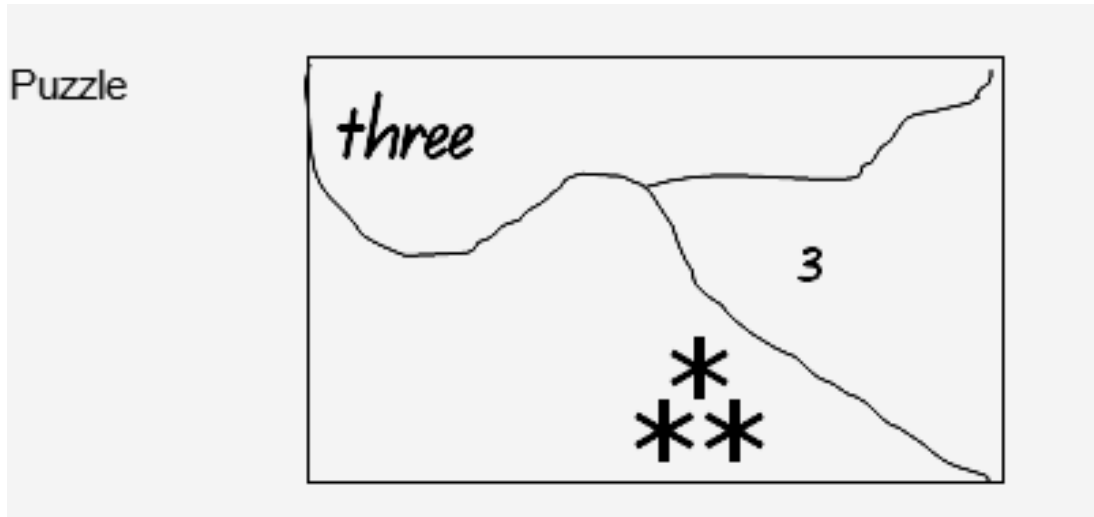
Book

- Explain to students that they need to:
  - write the number, the word and the quantity on a sheet of paper
  - repeat that for the second number (or more numbers)
  - staple them together to make a book.

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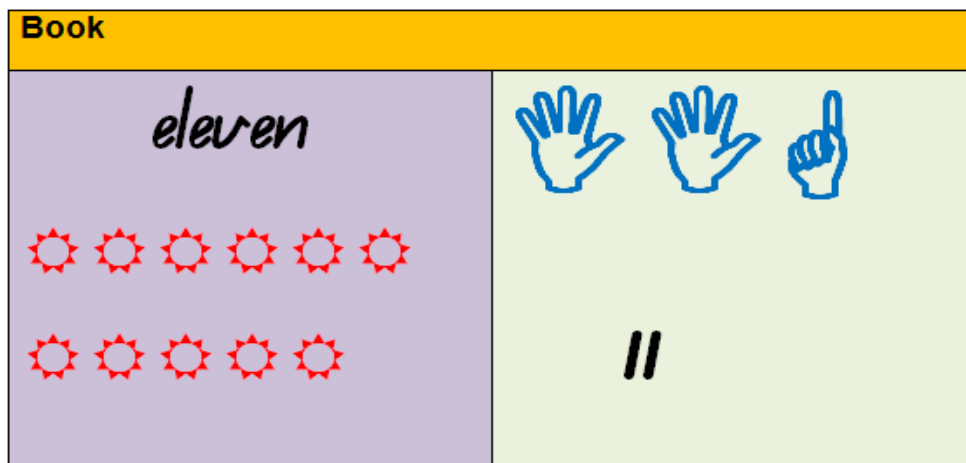
Quiz

- Follow similar processes to make quiz pages.

Quiz

Which is 15 ?

| four | ✓✓✓✓✓✓✓ ✓✓✓✓ | fifteen |

- Encourage students to check that for each number there is the correct:
  - o numeral
  - o word
  - o quantity.
- Discuss students' feedback of the games and activities.

Focus questions

Q: Which activity would best help you to visualise numbers? Why?

Q: What problems did you have?

Q: How could you solve this next time?

Q: What did you learn about numbers today?

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