







Topic: Number and place value

Representing quantities

Lesson concepts

-  **Number** — Names and symbols
-  **Number** — Quantity
-  **Number** — Counting
-  **Number** — Subitising
-  **Representations** — Concrete
-  **Representations** — Symbolic

Today students will:

- represent quantities in different ways.

Resources

Find and prepare

Sheet — Ice-creams

Drawing materials

Paint

Glue

Collage materials

Cupcake papers (made into sets of eleven with each paper displaying one number from zero to ten written in the bottom); or resealable plastic bags

Three hoops or circles marked out with chalk or tape

Beanbags or small balls

10 clean empty water bottles, soft drink cans or milk bottles

Ball (to play bowling game)

Sheet — Blank number cards

Key terms

counting number,
counting sequence,
partitioning, pattern rule

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

Lesson

Represent quantities including zero

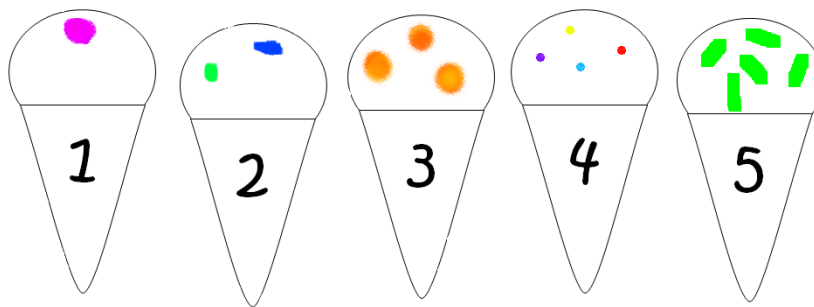
Ice-cream match



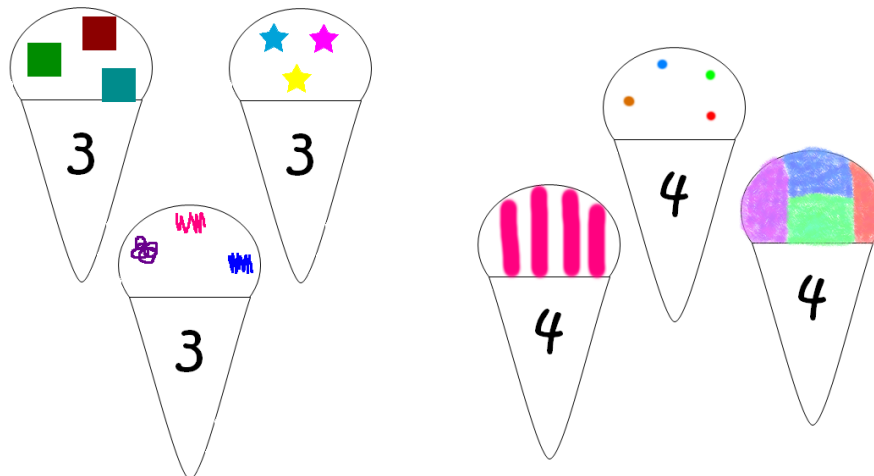
Provide students with two to four pre-cut ice-cream shapes from the **Sheet** — [Ice-creams](#).

Explain to students that they will need to:

- decorate their ice-cream/s with 'sprinkles' showing the quantities that match the ice-cream number. Students may paint, draw, cut and paste shapes or use collage materials to decorate their ice-cream
- display completed ice-creams showing number sequence or like numbers grouped together to show different ways of representing numbers. For example:



or



Focus questions

Q: *What is the number on this ice-cream?*

A: Personal response required.

Q: *How can you check it has enough decorations?*

A: Personal response required.

Q: *How is this ice-cream and that one the same? How are they different?*

A: Personal response required.

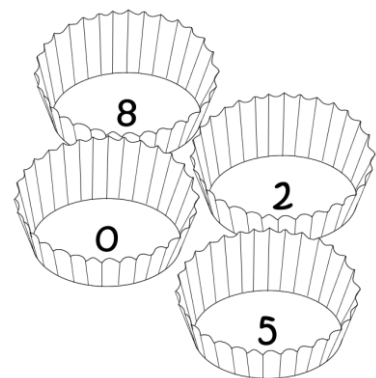
Q: *If both ice-creams show (four), why do they look different?*

A: Personal response required.

Cupcake numbers

Provide students with a set of 11 cupcake papers (or resealable plastic bags). Each paper will have a number (zero to ten) written in the bottom.

Ask students to make collections of small items to match the number in each cupcake paper.



Focus questions

Q: *What is the number in this cupcake paper?*

A: Personal response required.

Q: *How can you check that you have collected the right number of items to place in the cupcake paper?*

A: Personal response required.

Q: *Why do these two collections of (nine) look different?*

A: Personal response required.

Q: *How many items did you collect to put into this paper?*

A: Personal response required.

Beanbag toss

Place a hoop (or draw a similar sized circle marked out on the ground with chalk or tape).

Students stand two or three metres in front of the hoop. Provide students with 10 beanbags or balls.

Call out a number from one to ten.

Student toss that number of beanbags/balls into the hoop.

Connect different representations of numbers including zero

Bowling

Set up a 'Bowling alley' using 10 clean empty water bottles, soft drink cans or milk bottles.

Organise students to play bowling games using a suitable ball.

After each bowl, students identify how many pins are still standing and how many have been knocked over.

Focus questions

Q: How many pins were knocked down? How do you know?

A: For example: I can see two have been knocked down.

Q: How many are still standing?

A: Personal response required.

Q: Did it look the same the last time you knocked (four) down? Why do you think that?

A: Personal response required.

Number snap (two or more players required)

Ask students to create a set of number cards. Use blank cards (A4 sheets of paper/card cut into 4) and drawing materials or **Sheet — [Blank number cards](#)**. Students draw dots to match the number on each card. Explain that these must be clear and easy to count.

Students use their number cards to play a game of 'Snap'.

To play the game:

- Students shuffle their cards and place them in a pile facedown on a flat surface.
- In turns, students take the top card from their pile and place it face up on a pile in the middle of the playing area.
- When two cards showing the same quantity are played consecutively in the middle pile, students call out 'Snap' and quickly cover the pile with their hand.
- Compare the 'snapped' cards to ensure the amounts match and to compare the arrangements of the number representations.
- The first player to 'snap' the pile takes the entire pile to add to the bottom of their original playing pile.
- Play continues until players run out of cards, or until one player owns all the cards.

Focus questions

Q: What is the number on this card? How can you check?

A: Personal response required.

Q: If these two cards both show (six) why do they look different?

A: Personal response required.

Q: Is there another way to show (six)? Explain.

A: Personal response required.