MATHS

Lesson 9

Prep

Topic: Number and place value

Representing addition situations

Lesson concepts

- Number — Quantity
- Addition and subtraction — Part-part-whole (partitioning)
- Addition and subtraction — Process/operation

Today students will:

- join collections
- represent addition experiences.

Resources

Find and prepare

Materials such as playdough, beads, blocks and sand play materials

Drawing materials including a digital drawing program

Ten frames (drawn or marked on the concrete, electronic or on cards)

Key terms

partition

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

© The State of Queensland
(Department of Education and Training) 2016

Queensland Government

Lesson

Note

It is important to highlight and develop the following vocabulary throughout this lesson: part, whole, more, less, same, equal, before, after, partition, total, combine, join, add.

Introduce the lesson

- Revise students' knowledge of addition.

Note

Highlight how:

- addition occurs in many everyday situations
- addition requires the combining or joining of parts (sometimes many parts)
- the total is larger than what you started with (you have more)
- we use words such as join, add, and, together.

Join groups

- Discuss everyday situations where addition can be observed. These may include:
  - joining groups of students (for example: sharing a bench seat, on a climbing frame, lining up)
  - collecting (for example: collecting classroom pencils, litter, leaves, toys, filling containers)
  - mixing materials (for example: making playdough or cooking)
  - building something (for example: block towers, necklace, sand castle).
- Have students:
  - select one of the discussed activities
  - complete their everyday activity
  - describe the activity to another person using the images as a prompt.

I threaded 1 green, then 4 pink and then 3 blue beads. I had 8 altogether.

© The State of Queensland
(Department of Education and Training) 2016
Queensland Government

Focus questions

Q: How is the total changing?

Q: What parts did you join to make that?

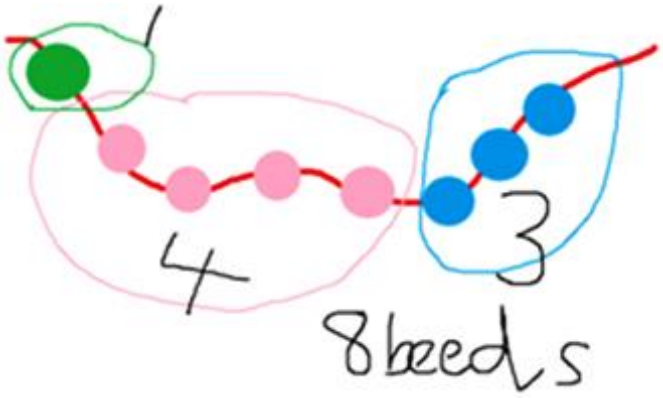
Q: Is addition happening here? How can you tell?

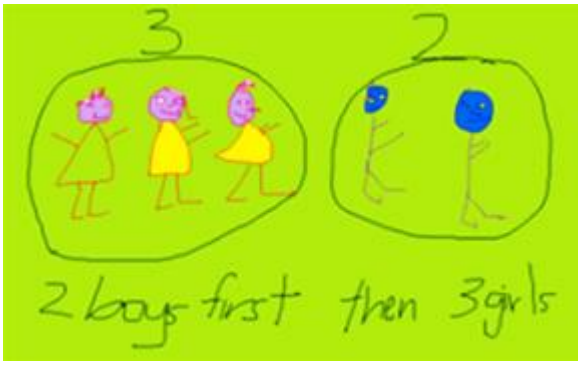
Represent addition experiences

- Show students how to represent addition experiences using drawings, words and numerals.
- Ask students to:
  - represent their addition experiences using drawings, words and numerals.

Note

Students may:
- draw or paint a picture (including using software, such as Paint)
- circle the parts that they combined
- annotate it with numbers and words.





This drawing shows a line of students so the first group is on the right.

© The State of Queensland
(Department of Education and Training) 2016
Queensland Government

Note

It is important at this stage that students develop a flexible understanding of addition and see addition not just as a left-to-right progression.

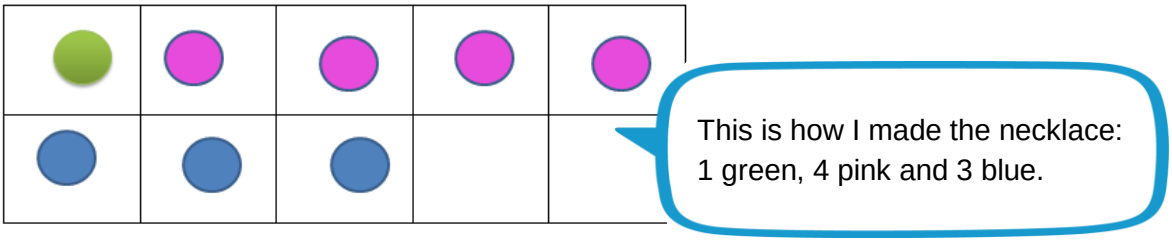
Focus questions

Q: What is happening in your picture?
A: For example: The boys and girls are lining up to go into class.

Q: How is this addition?
A: For example: As students finish playing and start lining up, there are more students in line so the total gets bigger.

Q: What parts did you combine?
A: For example: I combined the 2 boys and the 3 girls to make 5 altogether.

- Review students' knowledge of ten frames and how they can be used to represent quantities.
- Demonstrate on a ten frame how an addition experience could be represented, for example:



- Have students:
  - refer to their drawings
  - use ten frames (on the ground, electronic or on cards) to represent their addition experience
  - describe how the representation matches their real-life experience
  - interpret other representations to describe the addition process.

Focus questions

Q: What can you see on this ten frame?

Q: If you had more than ten children, how could you show that on the ten frame?

Q: How could you show totals beyond ten?

© The State of Queensland
(Department of Education and Training) 2016