MATHS

Prep

Topic: Number and place value

Identifying equal and not equal parts

Lesson concepts

- Number — Quantity
- Addition and subtraction — Part-part-whole (partitioning)
- Multiplication and division — Sharing
- Fractional understanding — Equal parts
- Equivalence — Language

Today students will:
► partition and compare parts of a quantity.

Resources

Digital

Digital camera

Find and prepare

Cardboard frames (fold a sheet of cardboard in half and cut out rectangular shapes)

A collection of small objects of the same size and shape (for example: counters, marbles, pegs, buttons)

Key terms

equivalent

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: more, less, same, count, compare, how many, equal, not equal, quantity, collection.

Introduce the lesson: Partition a collection

- Place a collection of objects, such as counters, marbles, pegs, or buttons, together in a group.

- Discuss with students how:
  - many there are
  - they know how many there are
  - they could partition/split the collection
  - they could check the total.

- Ask students to:
  - manipulate the objects to check their predictions
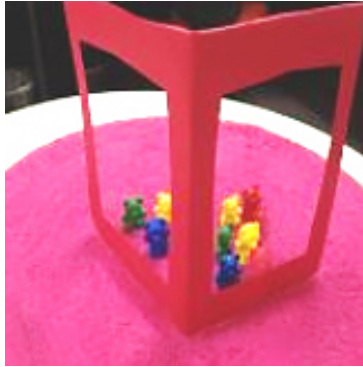 - record the two or more parts.

> ### Focus questions
>
> *Q: How could you partition a collection of twelve?*
>
> *Q: What parts could you see? How do you know that?*
>
> *Q: How else could you partition that collection?*
>
> *Q: How could three parts look?*
>
> *Q: If you partitioned eight into one group of four, what would be in the other group?*

- Demonstrate how to look at a collection of objects through two (cardboard) windows and see two parts.

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I can see 3 and 5.

There are 8 altogether.

- Have students work with another person to complete the following:
  - the other person places the objects behind the windows
  - the student describes what they see and records the observation (for example: using drawings, numerals, words or pictures).
- Repeat the activity with a piece of paper taped over one window and have the student visualise the hidden part.

Focus questions

Q: *How many objects altogether?*

Q: *How many can you see?*

Q: *How many do you think are behind the paper (curtain)?*

Q: *How do you know?*

Q: *How could you check?*

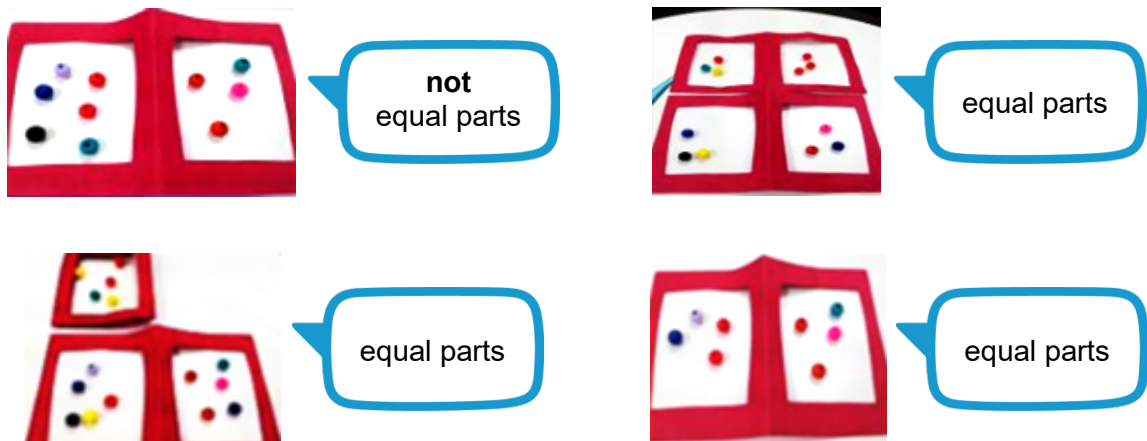## Identify equal and not equal parts

Say to students

❛ Sometimes the parts can be the same in number or equal. 4 can be partitioned into 2 and 2.

Sometimes the parts are not equal. 4 can also be partitioned into 3 and 1. ❜

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- Have students:
    - partition collections into 'paddocks' (for example: lay the window frames flat on the table)
    - compare the parts of a whole
    - photograph or draw these representations.

Note

Students could use direct matching, counting or subitising (recognising the number of objects without counting).

not equal parts

equal parts

equal parts

equal parts

- Share the images of the partitioning and have students:
    - identify equal and not equal parts
    - justify/demonstrate how to determine if the parts are equal or not equal.

Note

Students could use language such as part, whole, same quantity, same number, more, less, equal and not equal.

Focus questions

Q: *How could you tell if these parts are the same size?*

Q: *What words can you use instead of the same number?*

Q: *How do you know they are the same number/equal?*

Q: *How could you show two parts of ten that contain the same or not the same number in each part?*

Q: *What would happen if you put one more in this group or took one away?*

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