

Symbolic number skills

ECE resources

The symbolic number system involves understanding written numerals and number words, and helps children transition from non-symbolic understandings of quantities and magnitude to more exact understandings and representations of numbers. Symbolic number skills involve children in learning number names ('four') and written representations ('4'). This means learning to count by rote or sequentially ('1, 2, 3'), and beginning to recognise and use number symbols to think about quantities.

Rote counting and ordinal relations

Rote counting involves saying number words in the correct order, 1-10, either forward or backward, starting from the beginning, end, or somewhere in between. Ordinal relations refers to an understanding of number order.

How to spot this skill being applied in free play

You might hear children:

- Spontaneously counting from 1 ('1, 2, 3, 4, 5...')
- Counting down from 5 in order to launch a pretend rocket ('5, 4, 3, 2, 1, blast off') or before searching for hidden friends during a game of Hide-and-Seek
- Noting which number comes after another '5 comes after 4/before 6'
- Talking about general ordering ('I want to be first/last in line!')
- You might notice children:
 - Putting objects in line while labelling the objects in order ('first, second, third, fourth...')
 - Pointing to each object while counting
 - Distributing toys one by one to a friend, or when setting the table for 'dinner' during dramatic play

How to check for understanding

You might challenge children to show their rote counting skills and their knowledge of number order. For example:

- Ask the child to count as high as they can starting at 1, count down from 5, or count up/down from other numbers.
- Ask the child what number comes before or after another number (e.g., 'what number comes after/before 5?')
- Ask child to label the order of objects in a line ('which one is first, second third, fourth, etc.')

Guided activities to support rote counting and ordinal relations

- **Snakes and Ladders:** prompt children to recite the count sequence to remind them of the number on the next or previous space.

- **Share nursery rhymes and stories** that expose children to the verbal count list in forwards or backwards order (listed [here](#)). For more of a challenge, start at a random spot in the number sequence and have the child predict what number comes next.
- **Emphasise the order of things**, such as the order of children in line, or the order of each step in a recipe ('first we add the eggs, second we stir in the flour').

Numeral identification

This skill involves recognising and labelling written Arabic numerals.

How to spot this skill being applied in free play

You might hear children say:

- 'That's a 4', describing a written numeral printed on playing cards, play money, toy cash register, or book pages
- You might notice children:
- Gaining exposure to printed numerals via the buttons and screen display on a toy cash register, or looking at numbers labelled on play money or book pages.

How to check for understanding

You can talk about numbers printed in the environment to find out which ones children recognise, or use playing cards or other cards with printed numerals to find out which ones children know. This can be in the context of an activity or routine, for example, in which the numeral on the card indicates how many raisins children should count on to their plate at morning tea time. You can either point randomly to numerals and ask children to name them, or show children a series of numerals all at once and have them point to a particular number ('do you know which one is four?').

Guided activities to support numeral knowledge and identification

- Play card and board games that use numerals, so children are identifying numerals for a meaningful purpose.
- Talk about page numbers and any printed numerals in storybooks.
- Go on a numeral hunt around the setting or local environment (you can also 'plant' numerals around the setting).

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