LESSON 1 Add one

TEACHER-GUIDED PRACTICE

WARM-UP

OBJECTIVES

- to say the next number in the sequence

MATERIALS

- a small bean-bag, soft ball or a similar item that can be thrown

PROCEDURE

I will say a number. Think, what number comes just after that number. If I say one, the next number is…two. Throw the small bean-bag to one of the children, and say a number from 0–9. The bean-bag can also circulate among the children. In that case, the first child will say the first number, and the next child will answer by saying the next number in the sequence.

NOTE
- This is a good activity for observing whether a child can start counting from a given number, or whether they always have to start counting from one.

ACTIVITY 1. Add one with objects

OBJECTIVES

- to say the next number in the sequence
- to practise add-one calculations

MATERIALS

- ten small items and an egg carton (with 10 cups) for each child

PROCEDURE

Now we will practise counting so that we always add one.

Give the children the items and the egg cartons.

I will tell you a short story. Using your items and the egg carton, do what happens in the story. Like this: Oliver has six toy cars. I will put six items in the egg carton, one for each toy car Oliver has. Five items in the top row and one in the bottom row. Oliver gets one car more. I will put one item more in the egg carton

(next to the sixth item) to represent the car Oliver got. How many toy cars does Oliver have now? At the end, ask one of the children to write down the sum (6 + 1 = 7).

Repeat with the following examples:

> 5 + 1: *Sam has five golf balls. He finds one golf ball from the golf course. How may golf balls does Sam have now?*
>
> 7 + 1: *There are seven children on the beach. One child more comes to the beach. How many children are there on the beach now?*
>
> 9 + 1: *Eve has nine euros. She finds a one-euro coin on the ground. How much money does Eve have now?*

Thinking together: Look at the sums. Are there any similarities? Do children recognize that the numbers in the beginning and at the end are numbers next to each other in the number sequence? You can emphasize this by circling or underlining the numbers (e.g., 6 + 1 = 7). When you add one, the answer is the next number in the number sequence, as it was the case in the warm-up activity.

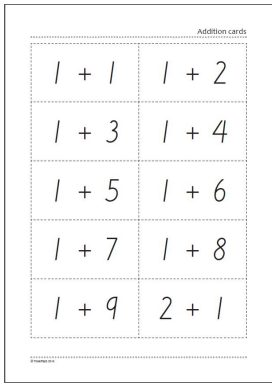
ACTIVITY 2. Add one with numerals

OBJECTIVES

- to say the next number in the sequence
- to practise add-one calculations
- commutative law of addition

MATERIALS

- Appendix: Addition cards (add one facts, e.g., 5 + 1 and 1 + 5)


Addition cards

1 + 1	1 + 2
1 + 3	1 + 4
1 + 5	1 + 6
1 + 7	1 + 8
1 + 9	2 + 1

PROCEDURE

In this activity, calculations are practised mentally and with the help of fingers, using counting-on strategy (if the child is unable to retrieve facts from-long term memory or unable to use rule 'next number in the sequence').

Addition cards are placed face down on the table. Turn over one card, for example 6 + 1. *Now we try to do this calculation without any items. Put one of your fingers up to indicate that you have to add one in this calculation (show number one in the addition card). Then put the first number in the calculation, six, to your own calculator, that is your head. Touch your head and say "six" in your mind. Then count on until you have counted all your raised fingers, like this: "seven" (touch the finger at the same time). When we added one to six, we got seven as the answer.*

Repeat with other addition problems. The children can take turns to pick a new addition card. With addition problems such as 1 + 4, observe if the children come up with an idea of changing the places of numbers in the calculation. If not, review the commutative law of addition (i.e., a + b = b + a). The answer is the same in the calculations 1 + 4 and 4 + 1, but 4 + 1 is quicker to solve. If needed, you can represent the idea of commutative law with a tower of connecting cubes; having one blue and four red cubes. The result is the same, whether you first count the red cubes or the blue one.

In the end, sort the addition cards so that you pair the commutative calculations.

PEER PRACTISE

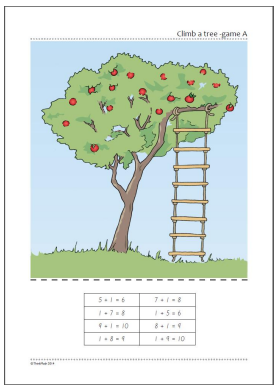
ACTIVITY1. "Climb a tree" game

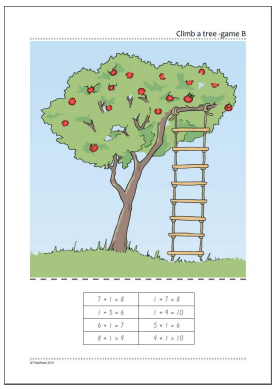
OBJECTIVES

- to practise add-one calculations

MATERIALS

- Appendix: Climb a tree -game A ja B





PROCEDURE

One of the players gets game A and another player game B. The papers are folded, so that one side of the paper shows the tree, and the other side shows the addition problems.

Player one gives player two the set of addition problems, one by one . Player two gives the answer to the problem. If the answer is correct, player two marks a cross on the rope ladders. If the answer is incorrect, no mark is made. There are eight addition problems in each set. If the player answers each of the addition problems correctly, he will be able to climb to the top of the rope ladders and the tree.

The players change roles after one set of addition problems.

Another round is played. The players aim to have as many, or more, correct answers than in the first round.

NOTE

- Explain the rules of the game to the whole group before the children start working in pairs
- If the child is not able to retrieve the answer to the problem quickly, guide him to use his own "head calculator" as in teacher-guided activity 2, or to use the rule "next number in the sequence".

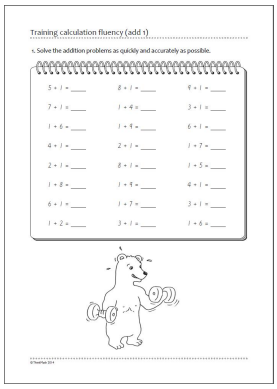
INDEPENDENT PRACTICE

OBJECTIVES

- to become fluent in add-one calculations

MATERIALS

- Worksheet: Training calculation fluency (add 1)


Training calculation fluency (add 1)

1. Solve the addition problems as quickly and accurately as possible.

3 + 1 = ___	8 + 1 = ___	9 + 1 = ___
7 + 1 = ___	1 + 4 = ___	3 + 1 = ___
1 + 6 = ___	1 + 9 = ___	6 + 1 = ___
4 + 1 = ___	2 + 1 = ___	1 + 7 = ___
2 + 1 = ___	8 + 1 = ___	1 + 5 = ___
1 + 8 = ___	1 + 9 = ___	4 + 1 = ___
6 + 1 = ___	1 + 7 = ___	3 + 1 = ___
1 + 2 = ___	3 + 1 = ___	1 + 6 = ___

NOTE

- Guide the children to solve the addition problems as quickly and accurately as possible. Tell them they can start counting from the bigger number (why?).