Topic**: Addition and subtraction equivalence**

Countin , Models for addition and subtraction:

What is natural numbers in math with example?

A natural number is an integer greater than 0. Natural numbers begin at 1 and increment to infinity: 1, 2, 3, 4, 5, etc. Natural numbers are also called "counting numbers" because they are used for counting. For example, if you are timing something in seconds, you would use natural numbers (usually starting with 1)

Models for addition and subtraction:

Addition and subtraction of natural numbers

Addition and subtraction in natural numbers is easy to understand. If you have a set of things and you receive more, then you will have more than before when you count again. In the opposite, if you give out from what you have, you will have less than before when you count again.

The point of learning how to add and subtract is to avoid the need of having to count from scratch every time we receive or give things to others.

Adding natural numbers

The first step to learn to add is to start with small figures. If you have one thing and you add two, then you get a total of three. If you have seven things and you receive one more, then you have a total of eight.

Try with these. Even if you are old, it can be a good mental exercise.

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

2 + 6 =
7 + 8 =

Once we have some practice with that, the next step is to engage in more complex additions, like the ones below:

12 + 6 =
30 + 99 =
24 + 8 =
16 + 8 =
33 + 41 =
7 + 10 =
9 + 93 =
25 + 18 =
22 + 50 =
25 + 31 =
23 + 15 =
185 + 16 =

Subtracting natural numbers:

To subtract natural numbers, I would say there is not much difference. If you have a number of things and you give some away, you will have less at the end. We learn to subtract to avoid the need of having to count from scratch once we have given our things to others.

How to subtract? We start with small figures again, removing the real object from a set in case we are teaching this to somebody for the first time.

4 - 3 = 1
7 - 2 = 9
5 - 3 = 8
9 - 7 =
5 - 3 =
6 - 6 =
9 - 6 =
11 - 5 =
12 - 2 =
6 - 5 =
12 - 6 =
11 - 8 =

Next, we do the same with larger numbers, like these:

12 - 6 =
99 - 30 =
24 - 8 =
16 - 8 =
41 - 33 =
17 - 10 =
92 - 9 =
25 - 18 =
62 - 50 =
45 - 31 =
63 - 15 =
185 - 16 =

Addition and subtraction as inverse operation:

The operation that reverses the effect of another operation.

Example: Addition and subtraction are inverse operations.
Start with 7, then add 3 we get 10, now subtract 3 and we get back to 7.

Another Example: Multiplication and division are inverse operations.
Start with 6, multiply by 2 we get 12, now divide by 2 and we get back to 6

Inverse Operations:

Operations that undo each other

$+ \longleftrightarrow -$

$4 + 7 = 11$

$11 - 7 = 4$

$X \longleftrightarrow \div$

$6 \cdot 3 = 18$

$18 \div 3 = 6$

$x + 7 - 7 = x$

$x - 7 + 7 = x$

$6 \div 3 = 2$

$2 \cdot 3 = 6$

Inverse operations + – × ÷

1. **Write the answers**
   a) $5 + 6 = 11$ ➜ $11 - 6 =$ ___
   b) $6 - 5 = 1$ ➜ $1 + 5 =$ ___
   c) $5 \times 6 = 30$ ➜ $30 \div 6 =$ ___
   d) $10 \div 5 = 2$ ➜ $2 \times 5 =$ ___

2. **Write the missing numbers**
   a) $5 + 6 = 11$ ➜ $11 -$ ___ $= 5$
   b) $20 - 10 = 10$ ➜ $10 +$ ___ $= 20$
   c) $5 \times 12 = 60$ ➜   ___ $\div 12 = 5$
   d) $120 \div 10 = 12$ ➜   ___ $\times 10 = 120$

3   **Write the missing operations**
   a) 5 ___ $6 = 11$ ➜ 11 ___ $6 = 5$
   b) $13 - 5 = 7$ ➜ 7 ___ $5 = 13$
   c) 13 ___ $13 = 169$ ➜ $169 \div 13 = 13$
   d) 18 ___ $6 = 3$ ➜ 3 ___ $6 = 18$