

## Numbers and Operations

- Informs us how many, describes order and used for measurement
- Represented in various ways
- Used to rep-resent real world situations, solve problems


## Counting

- Informs quantity in a collection


## Comparing and Ordering

- Number can be used to compare or order quantities


## Adding To/Taking Away

- Collection can be made into larger group by adding or smaller group by taking away


## Composing and Decomposing

- A "Whole" consists of "Parts" and can be broken apart "decompose" or parts can be put together "compose".


## Equal Partitioning

- A whole can be portioned (decomposed) into equal parts


## Cardinal, Ordinal, and Nominal Numbers



A cardinal number tells "how many." Cardinal numbers are also known as "counting numbers," because they show quantity.

8 puppies
14 friends

Ordinal numbers tell the order of things in a set-first, second, third, etc. Ordinal numbers do not show quantity. They only show rank or position.

> 3rd fastest

6th in line


A nominal number names something-a telephone number, a player on a team. Nominal numbers do not show quantity or rank. They are used only to identify something.

Bus number 143
Postal Code number 16438

## Number Line

| $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ | $\mathbf{6}$ | $\mathbf{7}$ | $\mathbf{8}$ | $\mathbf{9}$ | $\mathbf{1 0}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\bigcirc$ |  |  |  |  |  |  |  |  | $\bigcirc$ |

## Number Line

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\bigcirc$ | $\bigcirc$ |  |  |  |  |  |  | $\bigcirc$ |

Counting Forwards / Counting Back / Counting To / Counting From

- Number After / Number Before / Number(s) Between
$\square$ One More / Two More / One Less / Two Less
O One - Two - Three....... More Than / Fewer Than


## Ten Frame



## Benchmark for 5



## Benchmark for 10

|  |  |  | $\square$ |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |

## Benchmark for 10

| 0 | 0 |  | 0 | 0 |
| :--- | :--- | :--- | :--- | :--- |
|  | 0 |  | 0 |  |

Number Bonds of 10

## Benchmark for 10

| 0 | 0 |  | 0 | 0 |
| :--- | :--- | :--- | :--- | :--- |
|  | 0 |  | 0 |  |

Number Bond for 10

## Benchmark for 10

| 0 | 0 |  | 0 | 0 |
| :--- | :--- | :--- | :--- | :--- |
|  | 0 |  | 0 |  |

Number Bond for 10

## Adding with Ten Frames



## Benchmark for 10



## Doubles

## Benchmark for 10



## Doubles

## Benchmark for 10

|  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

## Doubles

## Part-Part-Whole



## Part-Part-Whole

## 2



3

## Part-Part-Whole



1

## Part-Part-Whole

3

| $0^{\text {Patt }}$ |  |
| :---: | :---: |
| 5 |  |

3 and 2 more makes 5

## Part-Part-Whole






## Numicons



Oxford University Press

## Number Bond for 10




One Fewer / Less is the Number Before


Odd numbers: No partners


Even numbers: They have partners

For more information on any of the concepts, products and training sessions please contact

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## Interested in Children Development

