

Compose and decompose numbers 11–19 to gain foundations for place value

Standard K.NBT.1 Compose and decompose numbers from 11–19 into ten ones and some further ones. Use objects or drawings and record each composition or decomposition by a drawing or equation. For example, $18 = 10 + 8$. Understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

Background knowledge needed:

Student needs to understand numbers 1-10.

Student needs to be able to count with one to one correspondence.

Students can count to 20.

When counting, understand the last number stated is the amount.

Students can identify and write numbers 1-10.

Students can compose and decompose numbers 1-10.

Learning the teen number names:

Numbers 11-12 are difficult because they have no connection to what they represent.

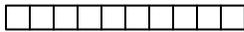
Numbers 13-19 when you say these, you say the ones place value number first and then the word “teen” means 10.

Key Elements:

Conceptual:

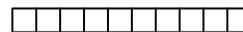
Understand that numbers 11-19 have a group of ten and some ones/extras

14



Understand numbers 11-19 can be represented by a group of ten ones and ones/extras.

14



Understand numbers 11-19 can be written in an equation

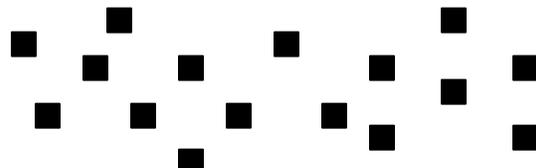
$14 = 10 + 4$

Understand numbers 11-19 are made up of 2 digits.

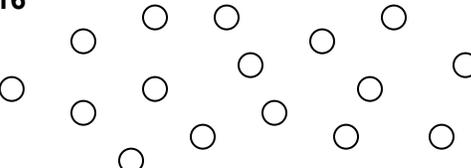
$$\begin{array}{r} 10 \\ + 4 \\ \hline 14 \end{array}$$

Procedural:

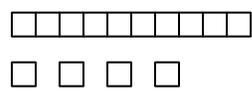
Use objects to represent numbers 11-19. **16**
(Students can make a group of ten.)



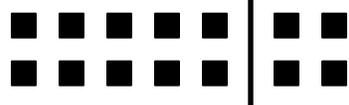
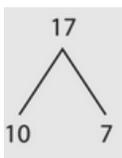
Draw a picture to represent numbers 11-19.
16



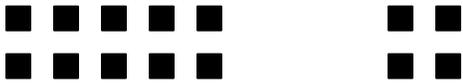
Compose and decompose numbers 11-19.
 $10 + 4 = 14$



$14 = 10 + 4$

Organize objects into a group of 10 and some ones/extras **14**



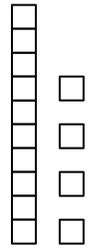
Representational:

Write numbers 11-19

Write an equation for a number 11-19. ($10+4=14$)

Represent a number between 11-19 with a picture.

Represent place value with a picture of a number 11-19.



14

Suggestions to help organize for little minds

5- and 10-frames



Children can place small objects into 10-frames to show the ten as two rows of five and the extra ones within the next 10-frame, or work with strips that show ten ones in a column.

When looking at a teen number, kids just see one, seven. They have to be shown and learn that it is 1 ten and 7 ones. Place value cards help students see that the "0" is hiding in the ones place.

Place value cards

layered separated

front:

10	7
1	7

10	7
1	0

7
7

back:

●●●●●	●●●●●
●●●●●	●●●●●

●●●●●	
●●●●●	

●●●●●	●●

Children can use layered place value cards to see the 10 "hiding" inside any teen number. Such decompositions can be connected to numbers represented with objects and math drawings.