



## Topic 5: Numbers to 10

### Lessons 1-5

## Math Intervention Resources

### Reteach

MDIS:

A5: 5-1, 5-2, 5-3, 5-4, 5-5

### Guided Practice

Some children find it difficult to associate numbers learned with the names for numbers.

Children need to connect and apply the skills of reciting number names and one-to-one correspondence to build understanding of a number. Provide children performing below level with numerous opportunities to practice reading and writing the numbers 11 to 20.

Remind children that they have already learned how to write the numerals they will need to write 11 through 20.

### Reinforce

Envision Math Games:

Topic Games:

- What Number is It?

envision Online Games

- Numbers to 100

Symbaloo

Building Blocks (Golden CD)

10 Block Materials:

- Circle the Number
- Drill Command
- Numbers I Know
- Lady Bug Concentration (1-20)
- Concentration (teens)

### Assessments

# K

## Topic 5: Numbers to 20

### Lesson 5-1

MDIS: A5, A9

## Counting, Reading, and Writing 11 and 12

### Quick and Easy Lesson Overview

Objective	Essential Understanding	Vocabulary	Materials
Children will recognize and write the numerals that describe the quantities 11 and 12.	There is a unique symbol that goes with each number word.	<b>eleven</b> <b>twelve</b>	(per child) Counters (or Teaching Tool 32) Number Cards 0–20 (Teaching Tools 5, 6) Double Ten-Frame Mat (Teaching Tool 9)



#### Math Background

Over time, children will develop an understanding of the quantity 10 and the relationship of other numbers to 10. Ten is the base of our numeration system. By

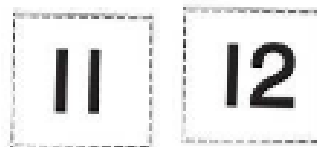
counting, comparing, and ordering and writing numbers, children begin to explore place-value concepts such as describing 11 as a group of 10 and 1 more.

### 2 Guided Practice

Remind children that there is a special symbol for the number eleven (11) and for the number twelve (12).

#### Error Intervention

**If** children have difficulty writing the numbers 11 and 12, **then** have them trace over the numbers on their number cards (Teaching Tools 5 and 6).



**Do you understand?** Show a picture of a ten-frame with 10 counters drawn on it and 1 counter below it. *Which number card shows how many counters there are?* Have children hold up the number card for 11. Repeat with counters and the number card for the number 12.

**Reteaching** Model how to connect 10 cubes of one color with another cube in a second color to make a train. Give children connecting cubes and an index card. Have them show 10 cubes and one more. Have them write 11 on the card. Repeat for 12.



### Common Core

#### Domain

Counting and Cardinality

#### Cluster

Count to tell the number of objects.

#### Standards

**K.CC.4.b** Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. Also **K.CC.3**

#### Mathematical Practices

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.



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## Topic 5: Numbers to 20

Lesson 5-2

MDIS: A5

### Counting, Reading, and Writing 13, 14, and 15

#### Quick and Easy Lesson Overview

Objective	Essential Understanding	Vocabulary	Materials
Children will recognize and write the numerals that describe the quantities 13, 14, and 15.	There is a unique symbol that goes with each number word.	<b>thirteen</b> <b>fourteen</b> <b>fifteen</b>	Counters (or Teaching Tool 32) Number Cards 1–15 (Teaching Tools 5, 6)



#### Math Background

It is important that children visualize the special relationship between 10 and the teen numbers. A ten-frame helps children explore this relationship. They also will

begin to visualize the teen numbers as 10 and some more. Children can begin to develop an understanding of place value and two-digit numbers.

#### 2 Guided Practice

Remind children that there is a special symbol for the number thirteen (13), for the number fourteen (14), and for the number fifteen (15).

#### Error Intervention

**If** children have difficulty writing the numbers 13, 14, and 15, **then** they can trace over the numbers on their number cards (Teaching Tool 6).

**Do you understand?** Show a picture of a ten-frame with 10 counters drawn on it and 3 below it. *Which number card shows how many counters there are?* Have children hold up the number card for 13. Repeat with counters and number cards for the numbers 14 and 15.

**Reteaching** Bring in a collection of seeds, leaves, and beans. Write 13, 14, and 15 on the board. Have children select 3 types of items and glue a group of 13, a group of 14, and a group of 15 on separate sheets of paper. Have them write the corresponding number on each paper.



#### Common Core

##### Domain

Counting and Cardinality

##### Cluster

Count to tell the number of objects.

##### Standards

**K.CC.4.b** Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. Also **K.CC.3**

##### Mathematical Practices

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

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## Topic 5: Numbers to 20

Lesson 5-3

MDIS: A5

### Counting, Reading, and Writing 16 and 17

#### Quick and Easy Lesson Overview

Objective	Essential Understanding	Vocabulary	Materials
Children will recognize and write the numerals that describe the quantities 16 and 17.	There is a unique symbol that goes with each number word.	sixteen seventeen	Counters (or Teaching Tool 32) Number Cards 12–20 (Teaching Tool 6)



#### Math Background

**Research says ...** “The presence or lack of pattern in the names for the numbers 11 through 20, depending upon the language

used, impacts a child’s mastery of these symbols and their meanings” (Miller et al, 1995).

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#### Guided Practice

Remind children that there is a special symbol for the number sixteen (16) and for the number seventeen (17).

#### Error Intervention

**If** children have difficulty writing the numbers 16 and 17, **then** they can trace over the numbers on their number cards (Teaching Tool 6).

**Do you understand?** Show a picture of a ten-frame with 10 counters drawn on it and 6 counters in rows below it. **Which number card shows how many counters there are?** Have children hold up the number card for 16. Then show the number card for 17. Ask children to count and draw 17 counters, using their ten-frames (Teaching Tool 8).

**Reteaching** Have children write 16 and 17 on separate sheets of paper. Then ask children to use fingerprints to decorate their paintings with 16 and 17 thumbprints.



#### Common Core

##### Domain

Counting and Cardinality

##### Cluster

Count to tell the number of objects.

##### Standards

**K.CC.4.b** Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. Also **K.CC.3**

##### Mathematical Practices

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
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## Topic 5: Numbers to 20

Lesson 5-4

MDIS: A5

### Counting, Reading, and Writing 18, 19, and 20

**Quick and Easy**

Lesson Overview

Objective	Essential Understanding	Vocabulary	Materials
Children will recognize and write the numerals that describe the quantities 18, 19, and 20.	There is a unique symbol that goes with each number word.	<b>eighteen</b> <b>nineteen</b> <b>twenty</b>	Counters (or Teaching Tool 32) Number Cards 12–20 (Teaching Tool 6) Double Ten-Frame (Teaching Tool 9)



PROFESSIONAL DEVELOPMENT

#### Math Background

Reinforce the relationship between quantities and numbers by asking open-ended questions. *How do you know there are 20 in your group*

*of counters? What helps you remember how to write 19?*

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#### Guided Practice

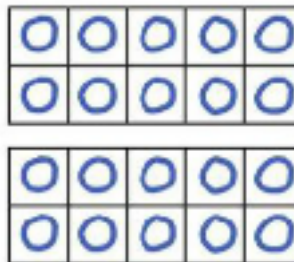
Remind children that there is a special symbol for the number eighteen (18), for the number nineteen (19), and for the number twenty (20).

#### Error Intervention

**If** children have difficulty counting 18, 19, and 20 objects, **then** draw 18 circles. Have children practice counting by putting a check mark in each circle as it is counted. Repeat for 19 and 20.

**Do you understand?** Show a picture of 2 ten-frames with 18 counters drawn on them. *Which number card shows how many?* [18] Have children hold up the number card for 18 and say the number. Repeat for the numbers 19 and 20.

20



**Reteaching** Clap 18 times and ask children to count the claps. Have partners work together to count out 18 connecting cubes and snap them together to make a train. Repeat for 19 and 20.



#### Common Core

##### Domain

Counting and Cardinality

##### Cluster

Count to tell the number of objects.

##### Standards

**K.CC.4.b** Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. Also **K.CC.3**

##### Mathematical Practices

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.



# K

## Topic 5: Numbers to 20

Lesson 5-5

MDIS: A5

### Problem Solving: Use Logical Reasoning

**Quick and Easy**

Lesson Overview

Objective	Essential Understanding	Vocabulary	Materials
Children will solve problems by applying logical reasoning to identify missing numbers in a number sequence.	Some problems can be solved by reasoning about conditions in the problem.		Number Cards 0–20 (Teaching Tools 5, 6)



#### Math Background

The ability to discern number sequences is a crucial foundation skill in mathematics. Ask questions to help children recognize number sequences. *What numbers come before the*

*missing number? What numbers come after? Can you count up from the first number that you see to the last number? Can you count back from the last number?*

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#### Guided Practice

Remind children to use logical reasoning to find missing numbers.

#### Error Intervention

**If** children have trouble keeping track of the appropriate number cards, **then** have them place a paper clip on top of each number card as they identify it in the sequence.

**Do you understand?** *How do you count up from 15 to 20?* [15, 16, 17, 18, 19, 20] *How do you count back from 20 to 15?* [20, 19, 18, 17, 16, 15]

**Reteaching** On chart paper, draw 5 clouds with the numbers 12 and 13 in the first two clouds and 16 in the last one. Order index cards, numbered 10 to 20, on a table. Call on a volunteer to find the number card that matches the first cloud [12] and tape it under that cloud on the chart paper. Continue until the sequence is complete. Have children replicate each step with number cards at their tables.



#### Common Core

##### Domain

Counting and Cardinality

##### Cluster

Know number names and the count sequence.

##### Standard

**K.CC.2** Count forward beginning from a given number within the known sequence (instead of having to begin at 1).

##### Mathematical Practices

- ✓ Make sense of problems and persevere in solving them.
- ✓ Reason abstractly and quantitatively.
- ✓ Construct viable arguments and critique the reasoning of others.
- ✓ Model with mathematics.
- ✓ Use appropriate tools strategically.
- ✓ Attend to precision.
- ✓ Look for and make use of structure.
- ✓ Look for and express regularity in repeated reasoning.