

K

Topic 6: Numbers to 100

Lessons 1-6

Math Intervention Resources

Reteach

MDIS:

A8: 6-1, 6-3, 6-4, 6-5, 6-6

Guided Practice

It may be difficult for children to find number patterns in which the pattern is embedded in how the numbers in a sequence grow. Show children how counting by 2s is a pattern in which the next number in the sequence is 2 more each time.

Provide below level students with numerous opportunities to practice skip-counting, first using the hundred chart, and then applying these skills to various groups of objects.

Reinforce

Envision Math Games:

Topic Games:

Bananas for Tusk

envision Online Games

Numbers to 100

Symbaloo

Building Blocks:

Tracking the Twos

Trailing the Tens

Number Line Petite

Assessments

K

Topic 6: Numbers to 100

Lesson 6-1

MDIS: A8

Counting to 30

Quick and Easy Lesson Overview

Objective	Essential Understanding	Vocabulary	Materials
Children will count to 30 objects.	Counting tells how many are in a set no matter which order the objects are counted. The last number said when counting a set is the total. Counting is cumulative.		(per child) Counters (or Teaching Tool 32)



Math Background

Children need many experiences counting many different things. A child's ability to recite the number names in order does not necessarily mean that the child has an understanding of the numbers. Children need to connect and apply the skills of

reciting number names and one-to-one correspondence to build understanding of a number. Children also create patterns in their conceptual thinking of number. Encourage them to see counting patterns such as 8, 9, 10; 18, 19, 20; and 28, 29, 30.

2 Guided Practice

Remind children that each object they count matches its own number.

Error Intervention

If children have difficulty showing the correct number of objects, **then** have them count and place one counter on each object pictured.

Do you understand? *How do we know which number to count to?* [We count one number for each object.] *How do we know how many objects there are?* [The last number we say tells the number of objects there are in all.]

Reteaching Model how to count to 30 using a connecting cube train of 30 cubes. As you count each cube remove it from the train and place it in a container. Then recount the cubes with children by taking out one cube at a time and counting to 30.



Common Core

Domain

Counting and Cardinality

Cluster

Count to tell the number of objects.

Standards

K.CC.1 Count to 100 by ones and by tens. Also **K.CC.2**, **K.CC.4.b**

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 6: Numbers to 100

Lesson 6-2

MDIS: A5

About How Many?

Quick and Easy

Lesson Overview

Objective	Essential Understanding	Vocabulary	Materials
Children will use benchmarks to estimate quantities of groups.	Counting tells how many are in a set no matter which order the objects are counted. The last number said when counting a set is the total. Counting is cumulative.	about	(per child) Connecting cubes



Math Background

Developing estimation strategies is important because exact answers are not always needed in everyday life. One strategy is to use benchmarks for comparing and

estimating. Children will eventually use their estimation skills to predict answers as well as check the reasonableness of answers.

2

Guided Practice

Remind children that they are using the first picture to help choose the correct tray.

Error Intervention

If children count items rather than estimate,

then have them tell if the pictures have more or fewer items than the benchmark.

Do you understand? *How can we tell about how many items are in a group?* [Compare to a group of items whose number you know]

Reteaching Have 5 children stand next to each other in a row. Then have 10 children stand in a row behind them. *There are 10 children in the back row. About how many children are in the front row, 5 or 20? How can you tell?* [5, because there are fewer than 10.]



Common Core

Domain

Counting and Cardinality

Cluster

Count to tell the number of objects.

Standard

K.CC.5 Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.

Mathematical Practices

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Topic 6: Numbers to 100

Lesson 6-3

MDIS: A8

Counting to 100

Quick and Easy

Lesson Overview

Objective	Essential Understanding	Vocabulary	Materials
Children will count and write numbers to 100 on the hundred chart.	Numbers are counted and written in a specific sequence on a hundred chart.	hundred chart row column	Hundred Chart (Teaching Tool 18)



Math Background

The hundred chart used in this lesson is an important mathematical tool that children will use throughout elementary school. Children will also begin to develop some estimation

skills in this lesson. Estimation skills are learned and developed through experience.

2

Guided Practice

Remind children that they can use what they know about how to write the numbers 0 to 9 to trace and write numbers on their hundred chart.

Error Intervention

If children do not understand why they are tracing dotted numbers,

then remind them that the chart shows the numbers in order from 1 to 100. A dotted number is a number that comes just before or just after another number.

Do you understand? *How are the numbers on a hundred chart arranged?*

[In order from 1 to 100]

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Reteaching Model tracing some numbers on the hundred chart by writing them on the board. Have children trace the number in the air as you trace over the number with colored chalk. Ask children to name each number as they trace.



Common Core

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Counting and Cardinality

Cluster

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Standard

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Topic 6: Numbers to 100

Lesson 6-4

MDIS: A8

Counting Groups of Ten

Quick and Easy

Lesson Overview

Objective	Essential Understanding	Vocabulary	Materials
Children will count groups of 10, up to 10 tens, and write how many.	The decade numbers are built on groups of ten. The oral names are similar to, but not the same as, the number of tens counted.		Crayons Ten-Frame for Counting 21–31 (Teaching Tool 8) Connecting cubes



Math Background

Research says ... the relative size of concrete representations can provide powerful support for children's thinking about larger numbers (Fusion & Briars, 1990). In this lesson, children

group manipulatives into groups of ten to build understanding of the decade numbers.

2

Guided Practice

Remind children that there are symbols for the numbers thirty, forty, fifty, sixty, seventy, eighty, ninety, and one hundred (30, 40, 50, 60, 70, 80, 90, 100).

Error Intervention

If children have difficulty writing the numbers,

then point out that the first part of each number is a number from 1 through 9, and the end part is a 0. Point out that the first part of the number 100 is 10 and the end part is 0.

Do you understand? Display 10 bundles of craft sticks (or straws), 10 sticks in each bundle. Have children count the number of sticks in one bundle. Explain that there are 10 sticks in each bundle. Then have children count the bundles by 10s. *How many sticks are there in all?* [100]

Reteaching Give partners 100 connecting cubes. Have them work together to make 10 cube towers with 10 cubes in each. Then have them take turns counting the cubes by tens and writing the numbers.



Common Core

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Counting and Cardinality

Cluster

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Standard

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Topic 6: Numbers to 100

Lesson 6-5

MDIS: A8

Patterns on a Hundred Chart

Quick and Easy

Lesson Overview

Objective	Essential Understanding	Vocabulary	Materials
Children will use a hundred chart to recognize patterns when counting by 2s and 10s.	Counting patterns (numerical and visual) can be seen on a hundred chart.	count by 2s count by 10s	Red, yellow, and blue crayons Hundred chart (Teaching Tool 18)



PROFESSIONAL DEVELOPMENT

Math Background

In this lesson, children investigate and look for patterns on a hundred chart. Children will initially focus on making designs. Eventually, they will see that their design is a mathematical pattern. Counting by 2s is foundational for

Grade 1 children being able to count on 2 to add or subtract.

2

Guided Practice

Remind children that counting by 2s and 10s makes number patterns.

Error Intervention

If children circle the wrong numbers,

then have them focus on just three lines of the chart. Have them start at 10 and count by 10s to 30. When ready, have them continue counting by 10s through 50 and then through 100.

Do you understand? *What pattern do you see in the hundred chart when you count by 2s? 10s?* [By 2s, the numbers end in 2, 4, 6, 8, and 0; by 10s the numbers all end in 0]

Reteaching Draw a large hundred chart on chart paper. Place a self-stick note on each number on the hundred chart. Model how to remove every other note to show the count-by-2s numbers. Read the numbers aloud with children. Repeat for counting by 10s.



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Topic 6: Numbers to 100

Lesson 6-6

MDIS: A8

Problem Solving: Look for a Pattern

Quick and Easy

Lesson Overview

Objective	Essential Understanding	Vocabulary	Materials
Children will solve problems by looking for a pattern.	Some problems can be solved by identifying elements that repeat in a predictable way.		(per child) Books Hundred Chart (Teaching Tool 18) Paper squares



Math Background

Ask questions to help children discern number patterns. *What is the pattern? What numbers come before the missing numbers? What*

numbers come after? How do you count up from the first number that you see to the next number that you see?

2

Guided Practice

Remind children to look for patterns to find missing numbers.

Error Intervention

IF children have trouble counting up by 2s or 10s, **then** have them color in the numbers in each sequence on a hundred chart.

Do you understand? *How do you count up by 2s?* [2, 4, 6, 8, 10] *How do you count up by tens?* [10, 20, 30, 40, 50]

Reteaching On chart paper, draw 6 balloons with the numbers 10 and 12 in the first two balloons and 20 in the last one. Display a large hundred chart with the numbers 1 through 20 highlighted, or a 5-by-4-block grid with each block numbered 1 to 20. Circle the first two numbers from the balloons (i.e., 10 and 12). Then call on a volunteer to find the next number in the pattern, circle it on the grid, and write the number on a balloon. Continue until the pattern is complete (i.e., 10, 12, 14, 16, 18, 20). Have children follow along with their own hundred chart. Count the pattern together to check.



Common Core

Domain

Counting and Cardinality

Cluster

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Standard

K.CC.1 Count to 100 by ones and by tens. Also **K.CC.2**

Mathematical Practices

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