



Core Focus

- Working with tens and ones
- Reading and writing time on the hour with digital and analog clocks

Numbers in Base-10

- Students read, write, and represent two-digit numbers (including teen numbers and multiples of ten) using visual aids such as ten-frames, fingers, numeral expanders, base-10 blocks, and coins to see the groups of ten and leftover ones.

32 Step In Writing Tens and Ones (without Zeros)

These are different ways of showing tens and ones.
What number does each picture show? How do you know?

Where are the groups of ten in each picture? Where are the extra ones?

How would you write the number of tens and ones on this expander to show the same number?

In this lesson, students use various models to represent numbers and then record them on a numeral expander.

- Understanding the meaning of place value in the base-10 number system is an important concept in elementary mathematics.

34 Step In Writing Tens and Ones (with Zeros)

What number does this picture show?
How do you know?

How would you show the number on this expander?

How would you write the number name?

What number does this picture show?
How do you know?

How would you show the number on this expander?

How would you write the number name?

In this lesson, students record numbers on a numeral expander and in words.

- Students are introduced to formal place value ideas in real-life situations by using “packs of 10” and dimes to show that a group of 10 should be seen as a single unit. E.g. 4 dimes represents 4 groups of 10 pennies.

Ideas for Home

- To make sense of place value, children need many experiences. Point out and say two-digit numbers whenever you see them in elevators, on road signs, grocery shopping, on digital clocks, sports scores, etc.
- Practice counting by tens. First, your child may simply chant (10, 20, 30, 40, etc.) and then count groups of ten objects (e.g. 3 or 4 stacks of 10 pennies).
- Challenge your child to count stacks of various numbers (up to 100) of everyday objects (buttons, pennies, candies, etc), estimate how many are in the stack, then count (by ones) to find out how many are actually there.
- Model how to count the groups of ten (10, 20, 30) and then the leftover ones (31, 32, 33, 34, 35). Reinforce the idea that 35 means “3 groups of 10 and 5 more.”
- You can also challenge your child with the reverse question (e.g. show some buttons arranged in stacks of tens and leftovers, and ask how many in total).

3.1 Step In Working with Tens and Ones (Dimes and Pennies)

Look at these coins.
How many pennies do you see?
How many cents is one penny worth?
How many dimes do you see?
How many cents is one dime worth?



How would you write the matching number of tens and ones on this expander? How do you know?



How would you show the same amount on these expanders?



What do you notice about the numbers on these expanders?



The expander shows the total number of cents.

In this lesson, students work with dimes as an abstract representation to develop the idea of “ten” as a unit.

- Students need many experiences with grouping ones into tens and breaking tens into ones to make a solid connection that “ten ones is the same as one ten.” This is a mathematical milestone for young students.

Time

- Although digital clocks are more common and easier for students to read, an analog clock is a visual model that shows the passing of time and parts of an hour, and so students can better understand the concept of time.

3.8 Step In Introducing Time on the Hour (Analog Clocks)

This type of clock is called an analog clock.
Where might you see an analog clock?
What numbers do you see on this clock?
What do you think the numbers are counting?
Which hand is the hour hand?




The short hand is the hour hand. It shows the name of the hour and counts the hours.

The long hand is called the minute hand because it counts the minutes.
When the minute hand is pointing to 12 it is the start of another hour.
This time is on the hour and is an o'clock time.

In this lesson, students read analog clocks to tell time on the hour.

- Students read and write on-the-hour time (when the “big hand” is on the 12).
- Sequencing events according to the on-the-hour time they occur helps students develop a sense of time.

3.12 Step In Sequencing On-the-Hour Events

Think about these activities.

eat lunch 	go home from school 	play outside 	wake up 
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Which activity happens at about twelve o'clock?
Which activity happens after that?
Which happens before?

In this lesson, students order everyday events according to when they occur.

Ideas for Home

- Refer to times naturally and informally during everyday activities. E.g. ask, “What time is it? Let’s look at the clock.” or “We will leave for the park when it is 4 o'clock.”
- Talk about the order of the day’s upcoming events with your child and connect these to the hours when they will take place during the day. (E.g. “At 8 o'clock we will go to the store; then at 12 o'clock we will have lunch. We will go to grandma’s house at 1 o'clock, and then she will take you to the movies at 2 o'clock.”) This supports your child’s understanding of and learning about time.

Glossary

- **Base-10 place value** means that the value of digits in a number is determined by their position. Both 43 and 34 have the digit 4. The 4 in 43 represents 4 tens, while the 4 in the 34 represents 4 ones.
- These are **base-10 blocks**. They are used to build numbers showing tens and ones.

