

**Core Focus**

- Addition: Investigating patterns and adding two- and three-digit numbers (with composing)
- Time: Reading and writing to the minute, relating past and to the hour
- 2D shapes: Exploring quadrilaterals

**Addition**

- Students use addition number patterns to find unknowns in equations.

**2.1 Addition: Investigating patterns**

**Step In** What do you know about this pan balance picture?



What equation could you write to match the picture? What symbols must you use?

The pan balance is level so the equation must use the + symbol.

How could you use that equation to figure out these?

$26 = 15 + \square$	$25 = 16 + \square$
$27 = 15 + \square$	$25 = 17 + \square$
$28 = 15 + \square$	$25 = 18 + \square$
$29 = 15 + \square$	$25 = 19 + \square$

Which digits change in each set of equations? Which digits stay the same?

In this lesson, students observe number patterns associated with addition to solve equations.

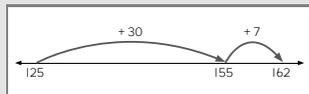
- Reviewing strategies using place value to break the numbers into parts (hundreds, tens, and ones) makes it easier for students to add two- and three-digit numbers mentally, part by part, using the concept of **composition**.

**2.3 Addition: Two- and three-digit numbers (with composing)**

**Step In** How could you calculate the total of these two prices?



I know the total is 162 because I start with 125 then add 30 and 7 in two jumps.



How could you use blocks to calculate the sum?

Jose uses this written method.

What steps does he follow?

How could you use Jose's method to calculate  $246 + 71$ ?

125 + 37
There is 1 hundred.
There are 5 tens.
There are 12 ones.
$100 + 50 + 12 = 162$

In this lesson, students compare mental strategies used to add, and show their thinking using number lines and equations.

**Ideas for Home**

- Practice counting with your child by twos, fives, and tens to recognize and find number patterns. For an extra challenge, try counting by threes, sevens, and nines.

**Glossary**

- Students **compose** numbers to make them more convenient to calculate mentally by combining smaller place values into larger ones. For example, 14 ones can be composed into 1 ten and 4 ones.

**Helpful videos**

View these short one-minute videos to see these ideas in action.

[www.bit.ly/OI\\_24](http://www.bit.ly/OI_24)

[www.bit.ly/OI\\_26](http://www.bit.ly/OI_26)

[www.bit.ly/OI\\_7](http://www.bit.ly/OI_7)

**Time**

- In earlier grades, students read times on the hour and half-hour on analog and digital clocks, as well as reading times on an analog clock such as 2:05 and 4:35 by skip counting by 5s.
- Although digital clocks are easier to read, analog clocks show the key ideas and conventions of time in a clearer way.

**2.6 Time: Reading and writing to the minute**

**Step In** What time is shown on this clock? How do you know?

20 minutes past 7. I could also say seven twenty.

What do you notice about the minute hand on this clock?  
 What do the marks between the numbers on the clock tell you?  
 How many minutes past the hour is the clock showing?  
 What time is shown on the clock?

Write numbers on the digital clock to show the same time.  
 What do the numbers on the left side of the colon tell you?

In this lesson, students compare and write times shown on analog and digital clocks.

**Bus departs** **Bus arrives**

The trip is  minutes long.

- In Grade 3, students read and write times before and past the hour, and calculate the lengths of bus trips.

**2D shapes**

- In Grades K–2, students have been introduced to a variety of two-dimensional geometric shapes, especially four-sided polygons, known as **quadrilaterals**.
- In this module, students explore the similarities and differences of four-sided figures and use tree diagrams to illustrate relationships among various types of quadrilaterals.

**2.11 2D shapes: Exploring rhombuses**

**Step In** Circle each shape that has all sides of equal length.

Which shapes are quadrilaterals?  
 The word **rhombus** is used to describe quadrilaterals that have four sides of equal length. Which shapes above are rhombuses?

In this lesson, students explore rhombuses by their features and compare them to shapes that are not rhombuses.

**Ideas for Home**

- Talk about time often during daily activities. E.g. “It’s 7:55. We leave for school at 8:30. How long do we have until then?” or “The bus will come at 2:30. If my watch says 2:24, how many more minutes do we need to wait until the bus arrives?”
- Look online or in a newspaper for movie schedules. Ask your child to look up a favorite movie and use the time between showings to estimate the movie’s running time.
- Practice finding different kinds of quadrilaterals in everyday life. Be sure to ask how your child knows which is which.

**Glossary**

- ▶ A **rectangle** is a **quadrilateral** with four right angles. *Squares* are *special rectangles* with all sides the same size.



- ▶ A **square** is a *special rhombus* with four right angles.



- ▶ A **rhombus** is any **quadrilateral** with all sides the same length.



- ▶ Every square is both a *special rhombus* and a *special rectangle*.