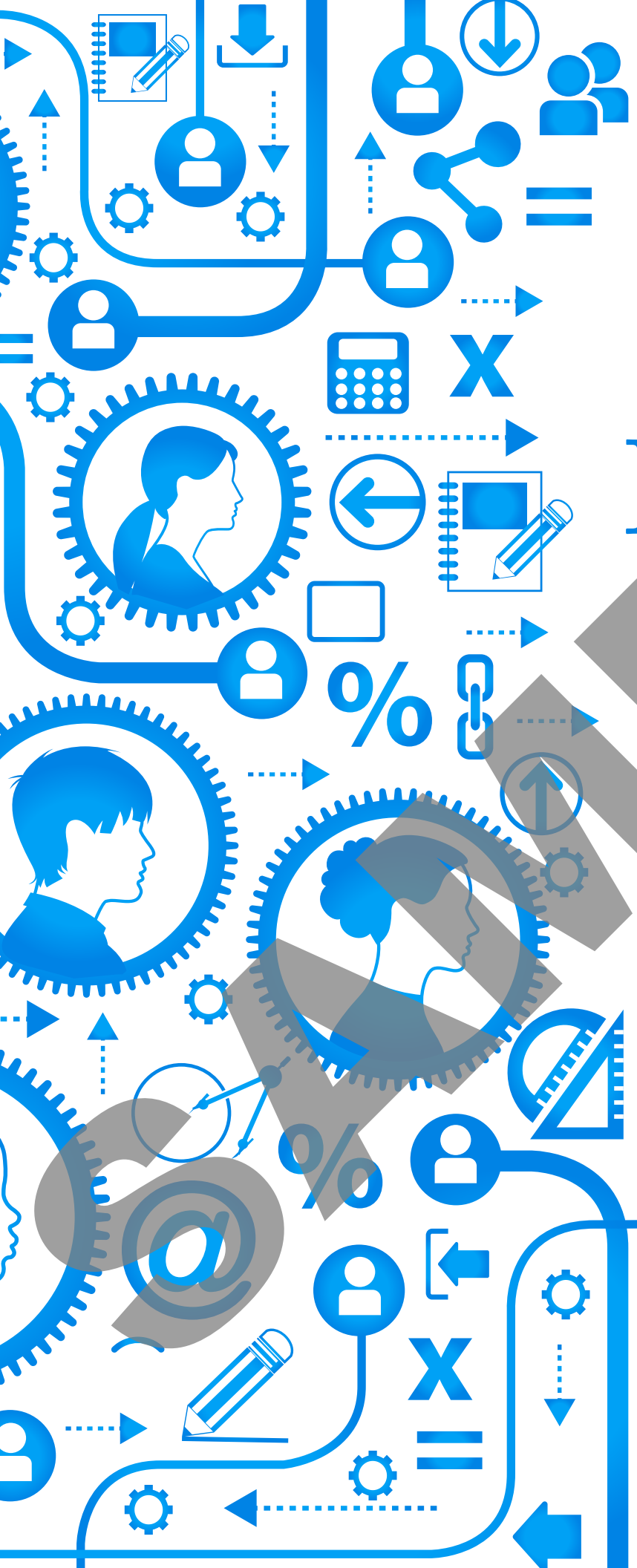

Engaging Mathematics, Volume I: Grade 2

region4®

Engaging Mathematics, Volume I: Grade 2

Teacher Edition

Product ID
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Region 4 Education Service Center supports student achievement by providing educational products and services that focus on excellence in service for children.

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Table of Contents

What is *Engaging Mathematics, Volume I: Grade 2*?

1 An instructional resource featuring 75 Texas Essential Knowledge and Skills (TEKS)-based, classroom-ready mathematics activities that each take approximately 10 to 15 minutes to complete. We took the best activities of the original series, refreshing and revising them, and then added new activities where needed to create a complement for *Engaging Mathematics, Volume II*.

2 A TEKS-based resource that addresses the majority of the grade 2 mathematics TEKS. *Engaging Mathematics, Volume I* complements *Engaging Mathematics, Volume II*. Both volumes provide—

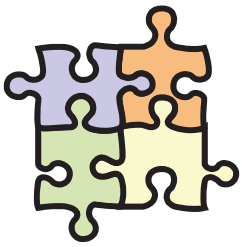
- Rigorous problem-solving tasks;
- Manipulative-based tasks;
- Vocabulary development tasks; and
- Sorting and classifying tasks.

3 A resource that supports high-quality, research-based practices by providing activities that can be used for various purposes, including—

- Engaging warm-ups and opening tasks that draw students into relevant and challenging mathematics;
- Instructional support for all students to help learners articulate, refine, and retain important mathematical concepts, processes, and skills;
- Short-cycle, formative assessments that provide immediate and ongoing feedback to guide instruction for the teacher and learning for the student; and
- Supplemental tasks to support intervention strategies.

4 A resource that incorporates the mathematical process standards by promoting—

- Reasoning, generalizing, and problem-solving in mathematical and real-world contexts;
- Modeling, using tools, and connecting representations;
- Analysis; and
- Communication.



What is found in an Engaging Mathematics TEKS-based activity?

Each activity addresses a specific student expectation that is reflected in the content objective.

Common classroom materials are used for ease of preparation. Materials are listed 1-per-student unless otherwise noted. Page titles for student handouts are represented with bold font.

Directions are included as a separate document to guide student completion of activities with multiple steps.

Facilitation questions are provided for teacher use when supporting student thinking and discourse.

Composing and Decomposing Numbers, Activity 3
2(2)(A)

Activity Objective
I can compose and decompose numbers.

Materials
- **Directions: Decomposing a Number**
- **Decomposing a Number**
- Base-ten blocks

Facilitation Questions
- How can you use the least number of hundreds, tens, and ones to represent 475?
  I can use four flats, seven rods, and five units.
- How can you use the base-ten blocks to show decomposing four hundreds? Seven tens? Five ones?
  I can decompose the four hundreds into two or more groups.
- How can you use composing to show that you decomposed the value correctly?
  I can compose the answer I got, and if it equals 475 then I did it correctly.

Answer
Possible answers:

My Ways to Decompose 475

200 + 200 + 50 + 20 + 5	*400 + 20 + 20 + 30 + 2 + 3*

My Partner's Ways to Decompose 475

200 + 100 + 100 + 20 + 50 + 5	*300 + 100 + 60 + 10 + 3 + 2*

An answer key is included for each activity.

Each activity includes an opportunity for students to articulate and summarize aspects of their learning.

Date: _____

Composing Numbers

…s of values that can be composed to represent the same …base-ten blocks.

…0 + 100 + 30 + 6	1,000 + 10 + 10 + 10 + 3 + 3
…00 + 10 + 20 + 5 + 1	1,000 + 100 + 20 + 10 + 4 + 2

100 + 100 + 30 + 30 + 5	200 + 50 + 10 + 3 + 2
100 + 100 + 6 + 5	200 + 60 + 4 + 1

Communicating about Mathematics
Choose one of the sets of values not circled. Explain how you know this value cannot be composed to represent the value of the base-ten blocks.

Representing and Solving Addition and Subtraction Problems, Activity 1 2(7)(C)

Activity Objective
I can represent and solve problems involving addition and subtraction.

Materials
- **Directions: Representing Addition and Subtraction**
- **Representing Addition and Subtraction**
- **Representing Addition and Subtraction Cards**
- Scissors

Facilitation Questions
- Which values are known in the problem?
  For problem 1, I know the total number of cars in the parking lot, 34, and the number of cars in the parking lot that were not black, 22.
- Which value is not known in the problem?
  I need to know the number of cars in the parking that were black.
- Which model represents the knowns and unknown of the problem?
  The card that shows a whole of 34, a part with 22, and a part unknown matches the problem.
- Which equation represents the knowns and unknown of the problem?
  The card that shows 34 is equal to an unknown plus 22.

Answer

1 Card *B* and Card *E*
12

2 Card *A* and Card *G*
15

3 Card *D* and Card *F*
56

4 Card *C* and Card *H*
37

Directions: Representing Addition and Subtraction

- Match each representation to the problem that it best represents.
- Record the letters of the matching representation cards.
  Card ____ and Card ____
- Record the solution.

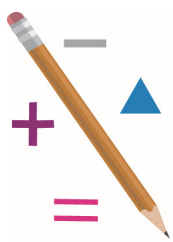
Student Name: _____ Date: _____

Representing Addition and Subtraction

1	There were 34 cars in a parking lot. Some of the cars were black. The other 22 cars were NOT black. How many cars were black? Card _____ and Card _____ Solution:
2	There are 37 white cars and 22 red cars in a parking lot. How many more white cars than red cars are in the parking lot? Card _____ and Card _____ Solution:
3	There were 34 cars in the parking lot. Later, 22 more cars were parked in the parking lot. How many cars are parked in the parking lot now? Card _____ and Card _____ Solution:
4	There were some cars in the parking lot at the start of the day. Later, 22 more cars came into the parking lot. Now there are 59 cars in the parking lot. How many cars were in the parking lot at the start of the day? Card _____ and Card _____ Solution:

Communicating about Mathematics

Choose one problem. Explain how the representation matches the problem.



_____

_____

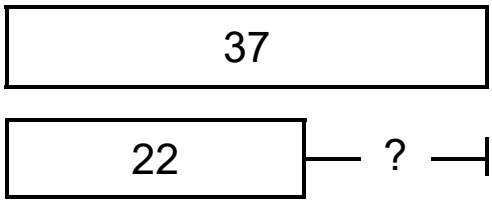
_____

_____

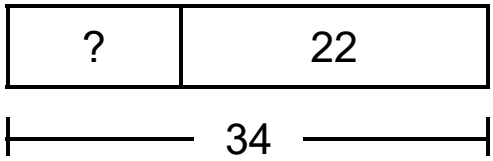
Representing Addition and Subtraction Cards

Cut along the dashed lines.

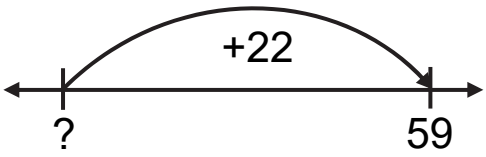
Card A



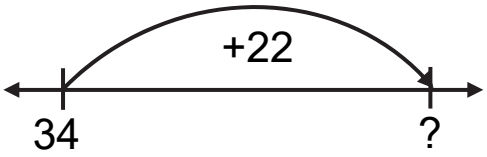
Card B



Card C



Card D



Card E

$34 = \square + 22$

Card F

$34 + 22 = \square$

Card G

$37 - 22 = \square$

Card H

$\square + 22 = 59$

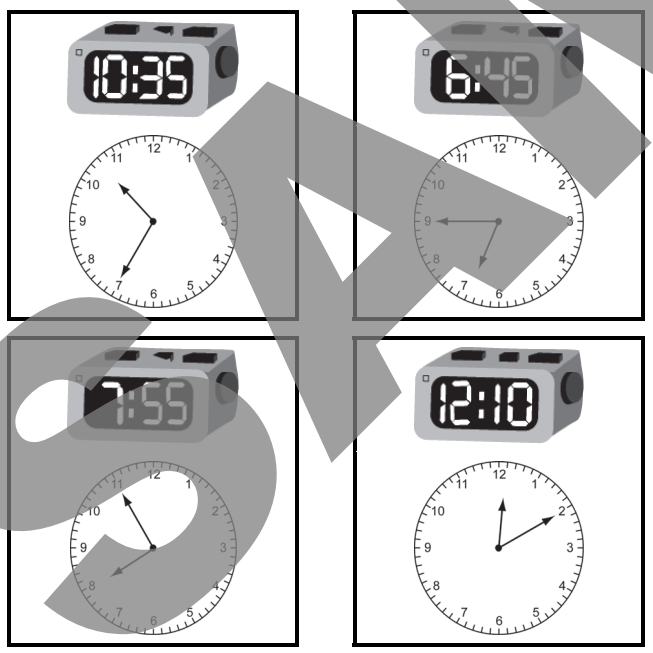
# Reading and Writing Time, Activity 2
2(9)(G)

Activity Objective
I can read and write time.

Materials
- **Directions: Who Can Tell Time: Find Someone . . .**
- **Who Can Tell Time: Find Someone . . .**
- Clocks with gears (optional)

Facilitation Questions
- What does the number before the colon on the digital clock represent?
  The number before the colon on the digital clock represents the hour of the day.
- What does the number after the colon on the digital clock represent?
  The number after the colon on the digital clock represents the number of minutes past the hour.
- How many minutes does the interval between each number on the clock represent? How can you use this interval to help you to determine where to draw the hands on the clock?
  The interval between each number on the clock represents five minutes. If I start at the twelve and move to the right, I can count by fives as I touch each number until I get to the number of minutes past the hour indicated on the digital clock.

Answer

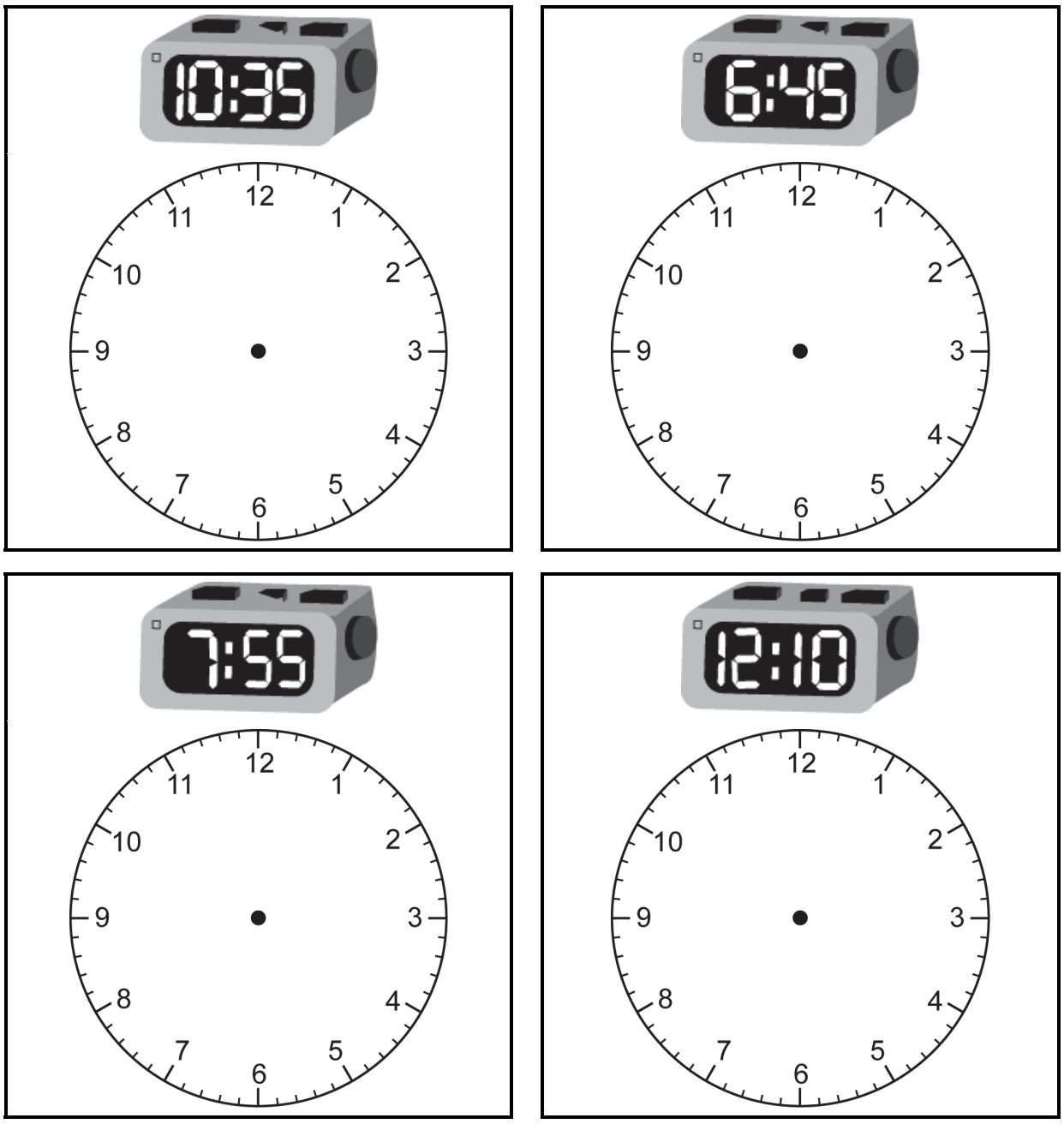


Directions: Who Can Tell Time: Find Someone . . .

- Find a student who can represent the time from a digital clock on an analog clock.
- Ask him or her to draw the hands of the clock to represent the same time and record his or her initials.
- Make any corrections needed on your own paper.
- Continue this process until the time of each digital clock is represented on an analog clock.
- Each student may draw the hands of only one clock on your paper.

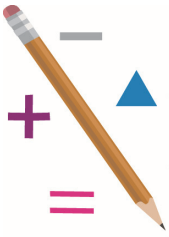
Student Name: _____ Date: _____

Who Can Tell Time: Find Someone . . .



Communicating about Mathematics

Describe how using skip counting can help you determine the time shown on an analog clock.



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