

Volume I: Kindergarten

Engaging Mathematics, Volume I: Kindergarten

Teacher Edition

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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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SAMPLE

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What is *Engaging Mathematics, Volume I: Kindergarten*?

1

An instructional resource featuring 85 Texas Essential Knowledge and Skills (TEKS)-based, classroom-ready mathematics activities that each take approximately 10 to 15 minutes to complete.

2

A TEKS-based resource that addresses the majority of the kindergarten mathematics TEKS and provides—

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

3

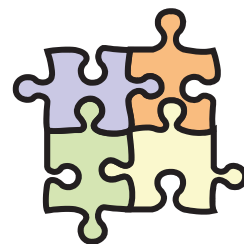
A resource that supports high-quality, research-based practices by providing activities that can be used for various purposes, including—

- 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 to guide student completion of activities with multiple steps.

Each activity includes an opportunity for students to articulate and summarize aspects of their learning using drawings, words, numbers, or symbols.

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

Counting Objects, Activity 5 K(2)(C), K(2)(A)

Activity Objective

I can count a set of objects.

Materials

- **Pattern Block Creation**
- Pattern blocks

Teacher Directions

- 1 Prompt students to use pattern blocks to create a figure or design that will fit inside the rectangle on **Pattern Block Creation**.
 - 2 **Communicating about Mathematics:** Prompt students to count and record the number of each shape of pattern block and the total number of pattern blocks used.
 - 3 Prompt students to trace or draw their creation.
- Designs may have a count beyond 20 for students who are ready to extend their counting.

Debriefing Questions

- When you count objects, what does the last number tell you?
- If you moved the pattern blocks into a different arrangement, would you still have the same number of pattern blocks? How do you know?

Listen For . . .

- *Understanding that the last number said tells the number of objects in the set.*
- *Understanding the number in a set remains the same regardless of the arrangement.*

Answers

Answers will vary.



hexagons	squares	rhombuses	triangles	trapezoids
1	2	2	1	2

I used a total of **8** pattern blocks.

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56

An answer key is included for each activity, when appropriate.

Name: _____

Pattern Block Creation

		or		
hexagons	squares	rhombuses	triangles	trapezoids

I used a total of _____ pattern blocks.

57

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Counting Objects, Activity 5

K(2)(C), K(2)(A)

Activity Objective

I can count a set of objects.

Materials

- **Pattern Block Creation**
- Pattern blocks

Teacher Directions

- 1 Prompt students to use pattern blocks to create a figure or design that will fit inside the rectangle on **Pattern Block Creation**.
- 2 **Communicating about Mathematics:** Prompt students to count and record the number of each shape of pattern block and the total number of pattern blocks used.
- 3 Prompt students to trace or draw their creation.

Designs may have a count beyond 20 for students who are ready to extend their counting.

Debriefing Questions

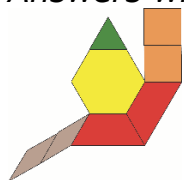
- When you count objects, what does the last number tell you?
- If you moved the pattern blocks into a different arrangement, would you still have the same number of pattern blocks? How do you know?

Listen For . . .

- *Understanding that the last number said tells the number of objects in the set.*
- *Understanding the number in a set remains the same regardless of the arrangement.*

Answers

Answers will vary.



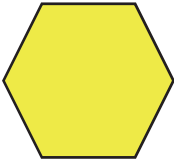
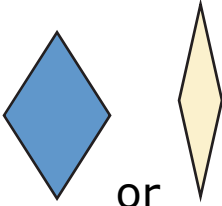
hexagons	squares	rhombuses	triangles	trapezoids
1	2	2	1	2

I used a total of 8 pattern blocks.

Name: _____



Pattern Block Creation

		 or		
hexagons	squares	rhombuses	triangles	trapezoids

I used a total of _____ pattern blocks.



Generating a Number One More or One Less, Activity 1

K(2)(F)

Activity Objective

I can generate a number that is one more than or one less than another number.

Materials

- **One More or One Less**
- **Number Path**
- Counters

Teacher Directions

- 1 Prompt students to put a counter on the number eight on the **Number Path**.
- 2 **Communicating about Mathematics:** Prompt students to use the **Number Path** and verbally respond to the question using the sentence stem provided.
 - What number is one more than eight?
The number _____ is one more than eight.
 - What number is one less than eight?
The number _____ is one less than eight.
- 3 Distribute **One More or One Less**.
- 4 Prompt students to represent the first number, 15, on the **Number Path** then record the number that is one more and one less than 15.
- 5 Prompt students to repeat the process for the remaining three numbers.

Debriefing Question

- How can you determine a number that is one more or one less than another number?

Listen For . . .

- *Understanding of increasing or decreasing a value by one.*
- *Counting forward or backward to determine a number one less than or one greater than another number.*

Answers

1 Less	Number	1 More
14	15	16
10	11	12
12	13	14
18	19	20

Name: _____



One More or One Less

1 Less	Number	1 More
	15	
	11	
	13	
	19	



Number Path

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----

Number Path

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----