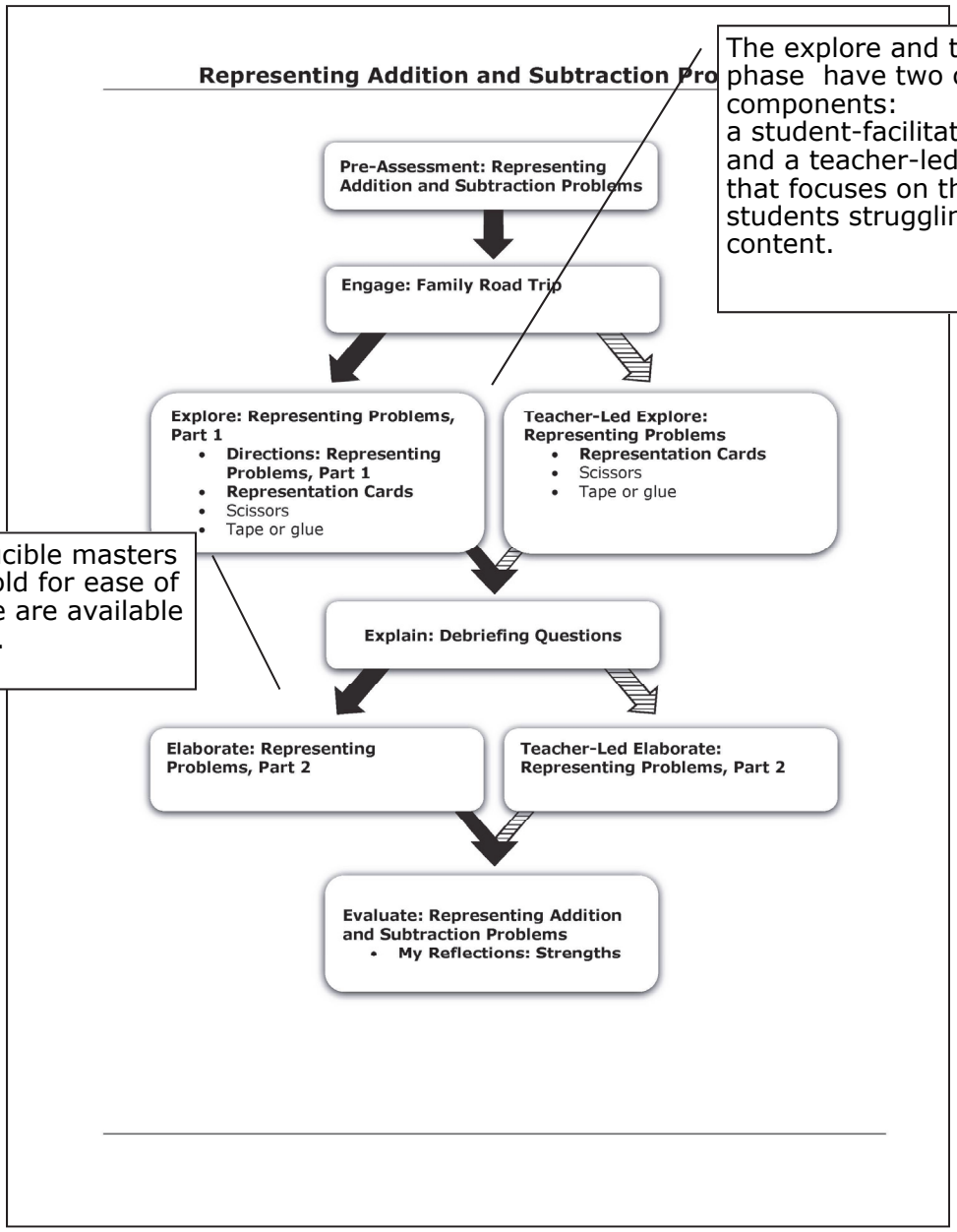
What is in a lesson found in *Closing the Distance*?



The explore and the elaborate phase have two concurrent components:
a student-facilitated activity and a teacher-led intervention that focuses on the needs of students struggling with the content.

Titles of reproducible masters are printed in bold for ease of reference. These are available in digital format.

What is in a lesson found in *Closing the Distance*?

Student expectations are listed at the beginning of each lesson.

Materials for each phase are summarized on one page for ease in preparation.

Representing Addition and Subtraction Problems

Phase	Activity Title	TEKS	Additional Materials	Instructional Grouping
Pre-Assessment	**Pre-Assessment: Representing Addition and Subtraction Problems**	2(7)(C)		Individual
Engage	**Family Road Trip**	2(7)(C)		Individual
Explore Explain	**Representing Problems, Part 1**	2(7)(C)	• **Directions: Representing Problems** • **Representation Cards** • Scissors • Tape or glue	Individual Whole Group
Elaborate	**Representing Problems, Part 2**	2(7)(C)		Individual Groups of 2
Evaluate	**Evaluate: Representing Addition and Subtraction Problems**	2(7)(C)	• **My Reflections: Strengths and Areas for Improvement**	Individual

Bold items are reproducible masters.
Italicized items require advanced preparation.

Grouping strategies for each phase are summarized to assist in the arrangement of the classroom.

Pre-Assessment: Representing Addition and Subtraction Problems

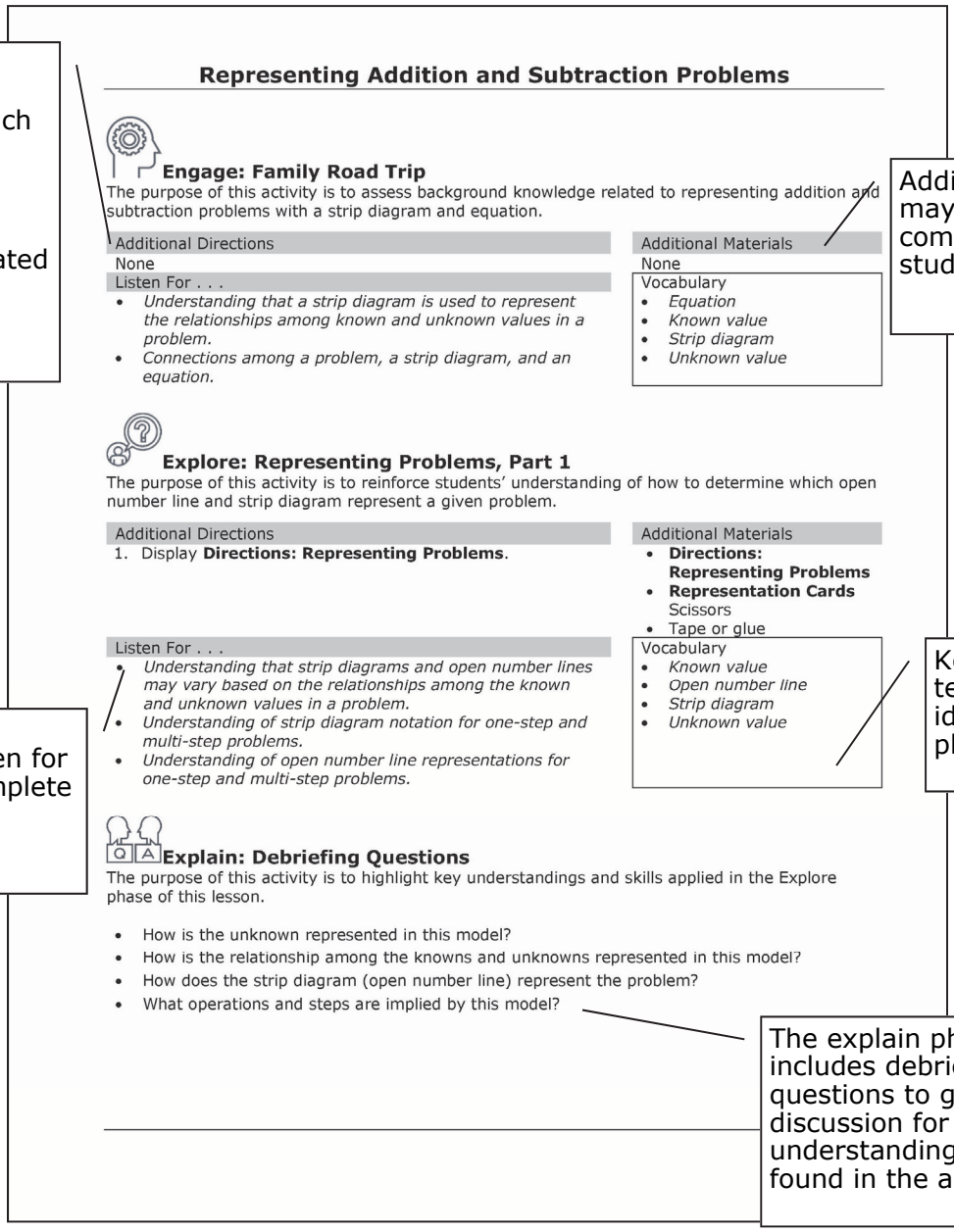
The purpose of this activity is to formatively assess students' understanding of how to represent addition and subtraction problems where the unknown can be any one of the terms using pictorial models and number sentences.

The identified activities are recommended for small-group, teacher-led interventions for students who may struggle with the specific content in **Pre-Assessment: Represent Addition and Subtraction Problems.**

Content	Teacher-Led Intervention
Representing problems using open number lines and strip diagrams	**Representing Problems, Part 1**
Representing problems using equations	**Representing Problems, Part 2**

A focused pre-assessment is provided for each lesson. Tier I intervention activities are identified for use with students who may struggle with the identified content.

What is in a lesson found in *Closing the Distance*?



Representing Addition and Subtraction Problems

Engage: Family Road Trip

The purpose of this activity is to assess background knowledge related to representing addition and subtraction problems with a strip diagram and equation.

Additional Directions

None

Listen For . . .

- *Understanding that a strip diagram is used to represent the relationships among known and unknown values in a problem.*
- *Connections among a problem, a strip diagram, and an equation.*

Additional Materials

None

Vocabulary

- *Equation*
- *Known value*
- *Strip diagram*
- *Unknown value*

Explore: Representing Problems, Part 1

The purpose of this activity is to reinforce students' understanding of how to determine which open number line and strip diagram represent a given problem.

Additional Directions

1. Display **Directions: Representing Problems**.

Additional Materials

- **Directions: Representing Problems**
- **Representation Cards**
- Scissors
- Tape or glue

Listen For . . .

- *Understanding that strip diagrams and open number lines may vary based on the relationships among the known and unknown values in a problem.*
- *Understanding of strip diagram notation for one-step and multi-step problems.*
- *Understanding of open number line representations for one-step and multi-step problems.*

Vocabulary

- *Known value*
- *Open number line*
- *Strip diagram*
- *Unknown value*

Explain: Debriefing Questions

The purpose of this activity is to highlight key understandings and skills applied in the Explore phase of this lesson.

- How is the unknown represented in this model?
- How is the relationship among the knowns and unknowns represented in this model?
- How does the strip diagram (open number line) represent the problem?
- What operations and steps are implied by this model?

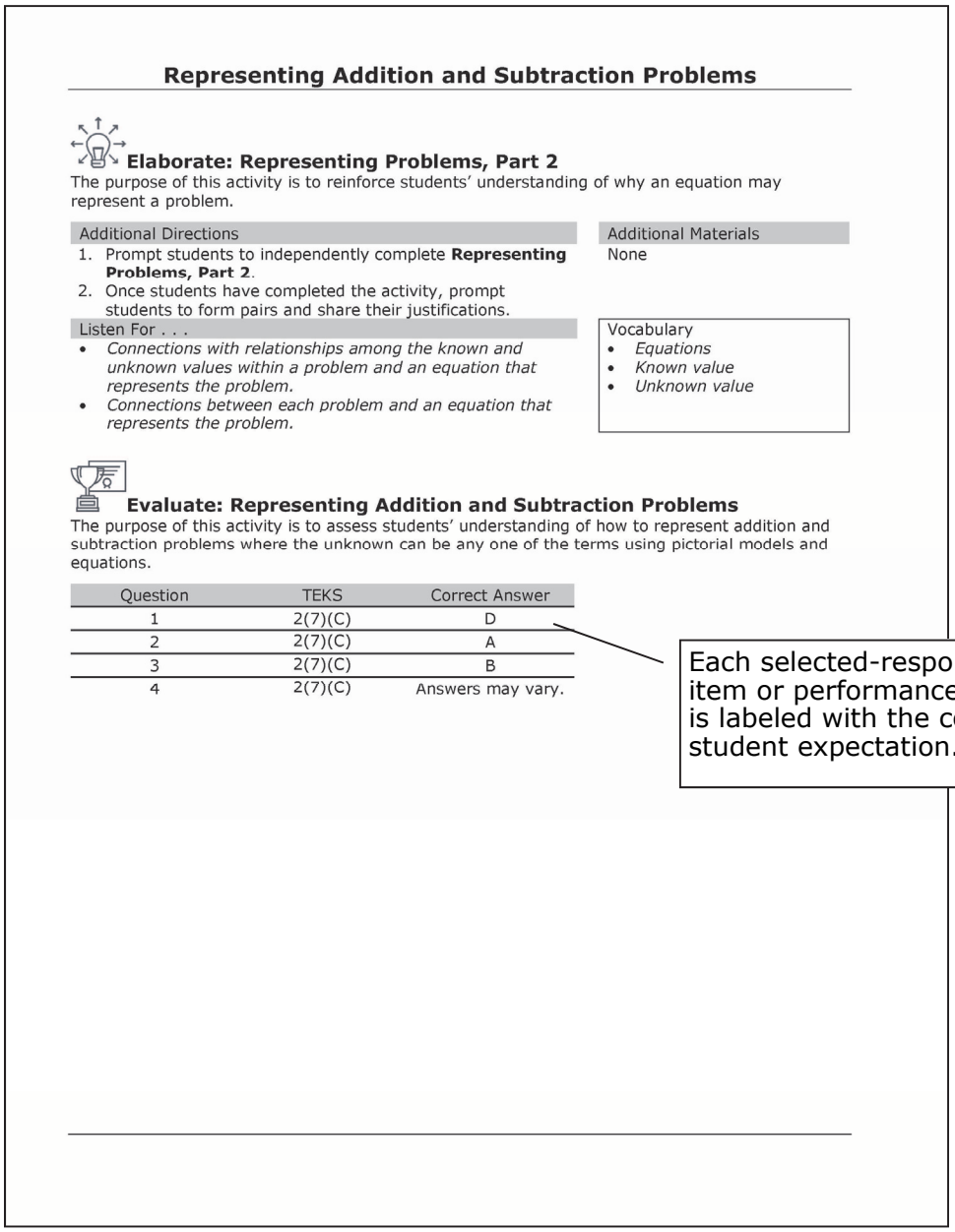
Complete directions are included on each student page. Additional directions are provided for teacher-facilitated aspects of an activity.

Additional materials may be needed to complement the student pages.

Key ideas and concepts to listen for as students complete each phase are listed.

Key vocabulary terms are identified for each phase.

The explain phase includes debriefing questions to guide class discussion for key understandings and skills found in the activities.



Representing Addition and Subtraction Problems

Elaborate: Representing Problems, Part 2

The purpose of this activity is to reinforce students' understanding of why an equation may represent a problem.

Additional Directions

1. Prompt students to independently complete **Representing Problems, Part 2**.
2. Once students have completed the activity, prompt students to form pairs and share their justifications.

Listen For . . .

- *Connections with relationships among the known and unknown values within a problem and an equation that represents the problem.*
- *Connections between each problem and an equation that represents the problem.*

Additional Materials

None

Vocabulary

- *Equations*
- *Known value*
- *Unknown value*

Evaluate: Representing Addition and Subtraction Problems

The purpose of this activity is to assess students' understanding of how to represent addition and subtraction problems where the unknown can be any one of the terms using pictorial models and equations.

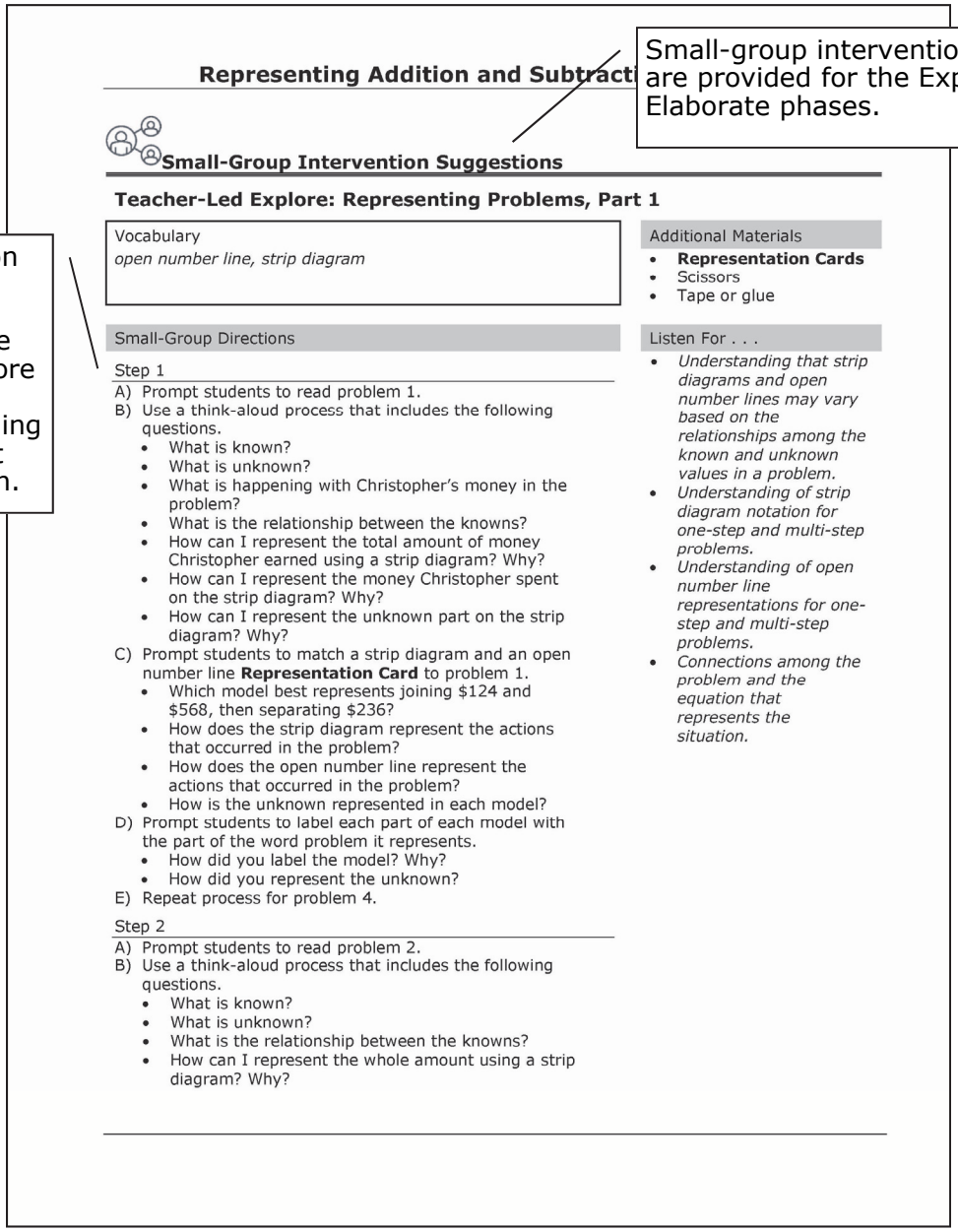
Question	TEKS	Correct Answer
1	2(7)(C)	D
2	2(7)(C)	A
3	2(7)(C)	B
4	2(7)(C)	Answers may vary.

Each selected-response item or performance tasks is labeled with the content student expectation.

What is in a lesson found in *Closing the Distance*?

Small-group intervention suggestions are provided for the Explore and the Elaborate phases.

Each intervention provides instructions on how to make the mathematics more explicit for students struggling with the content within the lesson.



Representing Addition and Subtracti

Small-Group Intervention Suggestions

Teacher-Led Explore: Representing Problems, Part 1

Vocabulary
open number line, strip diagram

Additional Materials
- **Representation Cards**
- Scissors
- Tape or glue

Small-Group Directions

Step 1

A) Prompt students to read problem 1.
B) Use a think-aloud process that includes the following questions.
   - What is known?
   - What is unknown?
   - What is happening with Christopher's money in the problem?
   - What is the relationship between the knowns?
   - How can I represent the total amount of money Christopher earned using a strip diagram? Why?
   - How can I represent the money Christopher spent on the strip diagram? Why?
   - How can I represent the unknown part on the strip diagram? Why?
C) Prompt students to match a strip diagram and an open number line **Representation Card** to problem 1.
   - Which model best represents joining $124 and $568, then separating $236?
   - How does the strip diagram represent the actions that occurred in the problem?
   - How does the open number line represent the actions that occurred in the problem?
   - How is the unknown represented in each model?
D) Prompt students to label each part of each model with the part of the word problem it represents.
   - How did you label the model? Why?
   - How did you represent the unknown?
E) Repeat process for problem 4.

Step 2

A) Prompt students to read problem 2.
B) Use a think-aloud process that includes the following questions.
   - What is known?
   - What is unknown?
   - What is the relationship between the knowns?
   - How can I represent the whole amount using a strip diagram? Why?

Listen For . . .
- *Understanding that strip diagrams and open number lines may vary based on the relationships among the known and unknown values in a problem.*
- *Understanding of strip diagram notation for one-step and multi-step problems.*
- *Understanding of open number line representations for one-step and multi-step problems.*
- *Connections among the problem and the equation that represents the situation.*

What is in a lesson found in *Closing the Distance*?

Each lesson provides an opportunity for student reflection as the student self-assesses strengths for each phase of the lesson. Following this self-assessment, students are prompted to note what they are most proud of and to set a goal to improve understanding.

Name: _____ Date: _____

My Reflections: Strengths

After completing each activity, place a + if the "I can . . ." describes a strength.

Lesson Activity	I can represent a problem with a strip diagram.	I can represent a problem with an open number line.	I can represent a problem with an equation.	I can represent a multi-step problem.
Family Road Trip				
Representing Problems, Part 1				
Representing Problems, Part 2				
Evaluate: Representing Addition and Subtraction Problems				

I am most proud . . .

To improve my understanding, I . . .