

Course Title: Mathematics	Full Year	Required
<p><b>Course Description:</b> The mathematical work for grade 1 is partitioned into 8 units:</p> <ol style="list-style-type: none"> <li>1. Adding, Subtracting, and Working with Data</li> <li>2. Addition and Subtraction Story Problems</li> <li>3. Adding and Subtracting within 20</li> <li>4. Numbers to 99</li> <li>5. Adding within 100</li> <li>6. Length Measurements within 120 units</li> <li>7. Geometry and Time</li> <li>8. Putting it All Together</li> </ol> <p>In these materials, particularly in units that focus on addition and subtraction, teachers will find terms that refer to problem types, such as Add To, Take From, Put Together or Take Apart, Compare, Result Unknown, and so on. These problem types are based on common addition and subtraction situations, as outlined in Table 1 of the Mathematics Glossary section of the Common Core State Standards.</p>		
<p><b>Additional Course Information:</b></p> <p>The big ideas in grade 1 include:</p> <ul style="list-style-type: none"> <li>● developing understanding of addition, subtraction, and strategies for addition and subtraction within 20</li> <li>● developing understanding of whole-number relationships and place value, including grouping in tens and ones</li> <li>● developing understanding of linear measurement and measuring lengths as iterating length units</li> <li>● reasoning about attributes of, and composing and decomposing geometric shapes.</li> </ul>	<p><b>Core Resources:</b></p> <p><a href="#">Illustrative Mathematics</a></p> <p><a href="#">Instructional Routines and Math Language Routines</a></p> <p><a href="#">Glossary - Student-friendly</a></p> <p><a href="#">Required Materials</a></p> <p><a href="#">IM en Español</a></p> <p><a href="#">Developing a Mathematical Community</a></p>	<p><b>Are there any attachments <u>at the course level</u> that teachers will need?</b></p> <p><a href="#">Scope and Sequence</a> - This document should be reviewed at the start of the year and each unit for information on language routines, expectations, and possible misconceptions.</p> <p><a href="#">Pacing Guide and Dependency Diagrams K-5</a></p>

## Unit 2: Addition and Subtraction Story Problems

Duration: 23- 24 days

### Unit Overview - FOCUS:

#### Unit Learning Goals

- Students solve new types of story problems within 10 using the relationship between addition and subtraction. They develop an understanding of the meaning of the equal sign and connect story problems to equations.

In this unit, students learn to solve new types of addition and subtraction story problems and relate the quantities in the stories to equations.

In kindergarten, students solved a limited number of types of story problems within 10 (Add To/Take From, Result Unknown, and Put Together/Take Apart, Total Unknown, and Both Addends Unknown). They represented their thinking using objects, fingers, mental images, and drawings. Students saw equations and may have used them to represent their thinking, but were not required to do so.

Here, students encounter most of the problem types introduced in grade 1: Add to/Take From, Change Unknown, Put Together/Take Apart, Unknowns in All Positions, and Compare, Difference Unknown. The numbers are kept within 10 so students can focus on interpreting each problem and the relationship between counting and addition and subtraction. This also allows students to continue developing fluency with addition and subtraction within 10.

As they solve problems, students analyze and write equations and consider the meaning of the equal sign. They may initially see it as a prompt for the answer to a question, which makes it difficult to interpret equations such as  $7 = 5 + 2$ . Developing an understanding of the equal sign is particularly important in solving missing-addend problems. For example:



Students may see a subtraction problem, represented by  $9 - 4 = 5$ , or a missing-addend problem, represented by  $4 + 5 = 9$ . This work also highlights that multiple equations can often be written for each story problem. It is more important for students to explain the relationship between the

equation they wrote and the story, than for their equations to match the story or their solution method.

### Topic Titles:

- Section A :  
Add To and Take From Story Problems.
  - Solve Add to and Take From, Result Unknown and Add To, Change Unknown Story Problems.
  - Understand the Meaning of the Equal Sign.
- Section B: Put Together / Take Apart Story Problems
  - Solve Put Together / Take Apart Problems with the unknown in different positions.
  - Write Equations to Represent Problems.
- Section C: Compare Story Problems
  - Relate Addition and Subtraction.
  - Solve Compare, Difference Unknown Problems.
- Section D: All Kinds of Story Problems
  - Apply understanding of implementation of the equal sign to make sense of equations with symbols of the unknown.
  - Solve different types of story problems, limited to those learned in this unit.

To help students think about the meaning of each number in an equation, a box is placed around the answer to the question in the problem. In the last section, students work with equations where an empty box represents the unknown.

In the next unit, students will solve addition and subtraction problems within 20 and work with equations with a symbol for the unknown in all positions, and further develop their fluency within 10.

**Coherence: How does this unit build on and connect to prior knowledge and learning?**  
 In kindergarten, students solved a limited number of types of story problems within 10 (Add To/Take From, Result Unknown, and Put Together/Take Apart, Total Unknown, and Both Addends Unknown). They represented their thinking using objects, fingers, mental images, and drawings. Students saw equations and may have used them to represent their thinking, but were not required to do so.

Here, students encounter most of the problem types introduced in grade 1: Add to/Take From, Change Unknown, Put Together/Take Apart, Unknowns in All Positions, and Compare, Difference Unknown. The numbers are kept within 10 so students can focus on interpreting each problem and the relationship between counting and addition and subtraction. This also allows students to continue developing fluency with addition and subtraction within 10.

<p><b>Essential Questions:</b></p> <ol style="list-style-type: none"> <li>In what ways can expressions, equations, and operations help us with story problems?</li> </ol>	<p><b>Enduring Understanding:</b></p> <p><b>Story problems help us see how we use math in our everyday lives.</b> They allow us to recognize relationships between different values, and these relationships help us to solve for unknown values. Knowing what is happening in the story problem can help us find solutions to problems in an efficient way. Addition and subtraction are strategies to help us find unknown solutions to story problems. Students will represent addition and subtraction story problems (within 10) with objects or drawings. They will also write equations and explain how their representation matches the story. When students reason about questions, quantities, and relationships in story problems and write equations to represent them, they make sense of problems to solve them and reason quantitatively and abstractly.</p>
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<p><b>What Students Will Know: This should be based on the competencies.</b></p> <ul style="list-style-type: none"> <li>Quantities of objects can be joined or separated</li> <li>We can use addition and subtraction</li> </ul>	<p><b>What students will do: This should be based on the competencies.</b></p> <ul style="list-style-type: none"> <li>Retell the story.</li> <li>Represent a story problem with objects or</li> </ul>	<p><b>Unit Specific Vocabulary:</b></p> <p><b>Academic vocabulary</b></p> <table> <tr> <td>math story</td> <td>altogether</td> </tr> <tr> <td>10-frames</td> <td>story problem</td> </tr> </table>	math story	altogether	10-frames	story problem
math story	altogether					
10-frames	story problem					

<p>expressions to show joining and separating</p> <ul style="list-style-type: none"> <li>● We can write expressions that match story problems</li> <li>● The actions in the story problem help us determine which operation is needed</li> <li>● The answer to the problem is not always the number after the equal sign</li> <li>● There are different types of story problems that have different actions</li> <li>● Put together and total unknown problems have no action</li> <li>● Addends can be written in either order</li> <li>● Addends represent a specific part of a story</li> <li>● When we compare two quantities, we find the difference between them</li> <li>● Counting on and counting back can help us find the difference</li> <li>● We can write multiple equations that match a story problem</li> <li>● We can use a symbol to represent the unknown in an equation</li> </ul>	<p>drawings.</p> <ul style="list-style-type: none"> <li>● Explain how a representation matches the story.</li> <li>● Represent the story with equations.</li> <li>● Answer questions correctly.</li> <li>● Use addition and subtraction (within 10) to solve problems involving: adding to, putting together, taking from, taking apart, comparing with unknown in all positions</li> <li>● Understand the meaning of the equal sign</li> </ul>	<p>connecting cubes      counters  Expression              difference  Equation                  interpret  Value                      true/false  mental math              result  quantities  decompose</p>
<p><b>Entry Level Assessment and Connection to Unit:</b></p> <p><a href="#">Section A: Pre-Unit Practice Problems</a></p> <p><a href="#">Section B: Pre-Unit Practice Problems</a></p> <p><a href="#">Section C: Pre-Unit Practice Problems</a></p> <p><a href="#">Section D: Pre-Unit Practice Problems</a></p>	<p><b>Unit Materials, Resources and Technology:</b></p> <ul style="list-style-type: none"> <li>● <a href="#">Illustrative Mathematics</a></li> <li>● <a href="#">Instructional Routines and Math Language Routines</a></li> <li>● <a href="#">Glossary - Student-friendly</a></li> <li>● <a href="#">Required Materials</a></li> <li>● <a href="#">IM en Español</a></li> <li>● <a href="#">Pacing Guide and Dependency Diagrams K-5</a></li> <li>● <a href="#">Family Support Materials Unit 2</a></li> <li>● <a href="#">End of Unit 2 Assessment</a></li> <li>● <a href="#">End of Unit 2 Assessment Teacher Guide</a></li> </ul>	

**Opportunities for Interdisciplinary Connections:**

Simple story problems can be created with everyday items. Consider how you can reinforce the different types of story problems with items in your classroom such as pencils, snack items, and recess equipment.

**Any links, attachments and resources:**

[Instructional Routines Document](#)

[Family Support Materials Unit 2](#)

**Planning Ideas:**

[Components of a Typical IM Lesson](#)

[What To Know About IM When Planning](#)

[Where to Find the Mathematical Practices in the Units](#)

[Assessing the Mathematical Practices](#)

<b>Topic # 1 (Section A)</b>	<b>Topic Name: Section A - Add To and Take From Story Problems</b>	<b>Duration:</b> Recommended: 5 days
<p><b>Topic Description:</b></p> <p><b>Section Learning Goals</b></p> <ul style="list-style-type: none"> <li>• Solve Add To and Take From, Result Unknown and Add To, Change Unknown story problems.</li> <li>• Understand the meaning of the equal sign.</li> </ul> <p>In this section, students revisit familiar problem types (Add To and Take From) where they can physically act out the problems with objects or drawings. They work formally with equations for the first time, writing addition and subtraction equations that match story problems. They write equations such as <math>2 + 7 = 9</math> and learn the convention of drawing a box around the answer to the question in the story problem.</p> <p>Students also work with Add To, Change Unknown problems for the first time. In writing equations to match these problems, students see that the answer to the question doesn't necessarily come after the equal sign. For example:</p> <p style="text-align: center;"><i>Kiran has 6 books. His friend gives him some more books. Now, he has 8 books. How many books did Kiran's friend give him?</i></p> <p>Students solve this problem by counting on from 6 to 8 and write the equation <math>6 + 2 = 8</math> to represent the story. Students come to see counting on as a way to solve Add To, Change Unknown problems.</p>		
<p><b>Competencies Addressed:</b></p> <p><b>Measurement and Data Investigations</b></p> <p>Indicator 3: Represent and interpret data</p> <p><b>Operations and Algebraic Thinking</b></p> <p>Indicator 1: Add within 20 using strategies</p> <p>Indicator 2: Subtract within 20 using strategies</p> <p>Indicator 3: Represent and solve problems involving addition and subtraction</p>		<p><b>Essential Question and Enduring Understanding Addressed in this Topic:</b></p> <p><b>Essential Question</b></p> <p>In what ways can expressions, equations, and operations help us with story problems?</p> <p><b>Enduring Understanding</b></p> <p><b>Story problems help us see how we use math</b></p>

	<p><b>in our everyday lives.</b> They allow us to recognize relationships between different values, and these relationships help us to solve for unknown values. Knowing what is happening in the story problem can help us find solutions to problems in an efficient way. Addition and subtraction are strategies to help us find unknown solutions to story problems. Students will represent addition and subtraction story problems (within 10) with objects or drawings. They will also write equations and explain how their representation matches the story. When students reason about questions, quantities, and relationships in story problems and write equations to represent them, they make sense of problems to solve them and reason quantitatively and abstractly.</p>														
<p><b>In this Topic, students will know:</b></p> <ul style="list-style-type: none"> <li>● Quantities of objects can be joined or separated</li> <li>● We can use addition and subtraction expressions to show joining and separating</li> <li>● We can write expressions that match story problems</li> <li>● The actions in the story problem help us determine which operation is needed</li> <li>● The answer to the problem is not always the number after the equal sign</li> <li>● There are different types of story problems that have different actions</li> <li>● Put together and total unknown problems have no action</li> <li>● Addends can be written in either order</li> <li>● Addends represent a specific part of a story</li> <li>● When we compare two quantities, we find the difference between them</li> <li>● Counting on and counting back can help us find the difference</li> <li>● We can write multiple equations that match a story problem</li> <li>● We can use a symbol to represent the unknown in an equation</li> </ul>	<p><b>Topic Vocabulary:</b></p> <p><b>Academic vocabulary</b></p> <table border="0"> <tr> <td>math story</td> <td>altogether</td> </tr> <tr> <td>10-frames</td> <td>story problem</td> </tr> <tr> <td>connecting cubes</td> <td>counters</td> </tr> <tr> <td>Expression</td> <td>difference</td> </tr> <tr> <td>Equation</td> <td>interpret</td> </tr> <tr> <td>Value</td> <td>true/false</td> </tr> <tr> <td>mental math</td> <td>result</td> </tr> </table>	math story	altogether	10-frames	story problem	connecting cubes	counters	Expression	difference	Equation	interpret	Value	true/false	mental math	result
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**In this Topic, students will be able to:**

- Retell the story.
- Represent a story problem with objects or drawings.
- Explain how a representation matches the story.
- Represent the story with equations.
- Answer questions correctly.
- Use addition and subtraction (within 10) to solve problems involving: adding to and taking from story problems

**Plan for Student Reflection:**

[Student Journal Prompts and Reflection Practices](#)

**Plan for Teacher Reflection:**

**Lesson 1:** Reflect on the Advancing Student Thinking questions offered today. How did they support students in making sense of and solving story problems in a way that the students will be able to generalize?

**Lesson 2:** As students worked in their partnerships and small groups today, whose ideas were heard, valued, and accepted? Is there a norm that could be added to encourage students to include all group members in discussions?

**Lesson 3:** What connections did students see between different methods? What questions did you ask to help make the connections more visible?

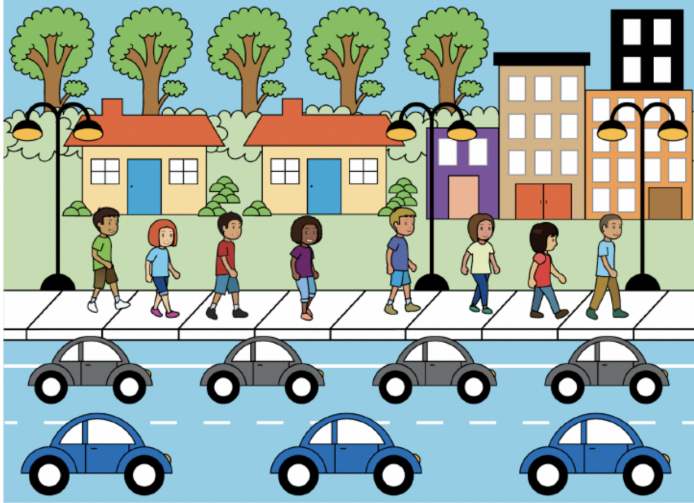
**Lesson 4:** Reflect on points during the lesson when you learned the most about your students' thinking. What structures made those points most valuable in learning about your students? How will you use what you learned in an upcoming lesson?

**Lesson 5:** What do you love most about math? How are you sharing that joy with your students and encouraging them to think about what they love about math?

	<p><b>Utilize additional strategies for Teacher Reflection:</b></p> <ul style="list-style-type: none"><li>● Reviewing formative assessments</li><li>● Developing scaffolds</li><li>● Collaborative scoring</li><li>● PLCs</li><li>● Planning for small groups</li></ul>
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## Topic 1 Task Development

Each Topic has its own Task that serves as a roadmap for instruction during the unit. The task follows the [Learning Cycle Model](#) that drives teaching and learning in Naugatuck Public Schools.

<b>Task Title: Topic 1 - Add to and Take From Story Problems</b>	<b>Grade Level and Unit: Grade 1, Unit</b>
<p><b>Description of Task:</b> The purpose of this activity is for students to learn stage 4 of the center, Math Stories. Students pose and solve addition and subtraction story problems about pictures. Pages of picture books can also be used to help students generate stories. Students write an equation to represent their story problem.</p> 	<p><b>Purpose of Task:</b> The purpose of this task is for students to solve new types of story problems within 10 using the relationship between addition and subtraction. They develop an understanding of the equal sign and connect story problems to equations.</p>
<p><b>Background of Students/Learning Progression:</b> In Kindergarten, students solved a limited number of types of story problems within 10 (Add To/Take From, Result Unknown, and Put Together/Take Apart, Total Unknown, and Both Addends Unknown). They represented their thinking using objects, fingers, mental images, and drawings. Students saw equations and may have used them to represent their thinking, but were not required to do so.</p>	<p><b>Ensure all competencies are addressed in the task:</b></p> <ul style="list-style-type: none"><li><input type="checkbox"/> Yes, all competencies are addressed</li><li><input type="checkbox"/> No - Task needs modification</li></ul>

In this section, students revisit familiar problem types (Add To and Take From) where they can physically act out the problems with objects or drawings. They work formally with equations for the first time, writing addition and subtraction equations that match story problems. They write equations such as  $2 + 7 = 9$  and learn the convention of drawing a box around the answer to the question in the story problem. Students also work with Add To, Change Unknown problems for the first time.

**Getting Started:**

**Lesson 1: Story Problems and Expressions:** Warm-Up ONLY: Notice and Wonder: A Library

- The purpose of this lesson is for students to represent and solve Add To and Take From, Result Unknown story problems in a way that makes sense to them. They also write an expression to represent the action in a story problem.
- [Teacher presentation materials](#)
- [Slides](#)

The purpose of this warm-up is to elicit the idea that math is found everywhere in our world. Students look for mathematical situations in a picture of a library, which will be helpful when students solve story problems about the library in later activities. While students may notice and wonder many things about this image, noticing numbers or quantities in the image are the important discussion points.

**Learning Cycle Model Process**

**Section A**

IM Lesson	<a href="#">L1: Story Problems and Expressions</a>	<a href="#">L2: Story Problems and Equations</a>	<a href="#">L3: A Change is Coming</a>	<a href="#">L4: Result or Change Unknown</a>	<a href="#">L5: Center Day 1</a>
Learning Cycle Model	Getting Started & Making Meaning	Making Meaning	Making Meaning	Investigate	Investigate & Create and Produce
Naugatuck Math Competency	Addressing 1.OA.3	Addressing 1.OA.1, 1.OA.2, 1.OA.3	Addressing 1.OA.1, 1.OA.2, 1.OA.3 1.MD.3	Addressing 1.OA.1, 1.OA.2, 1.OA.3	Addressing 1.OA.1, 1.OA.2, 1.OA.3 1.MD.3
Math Practice Standards	MP 2	MP 8		MP 1, 6	
Lesson Purpose	The purpose of this lesson is for students to represent and solve Add To and Take From, Result Unknown	The purpose of this lesson is to solve Add To and Take From, Result Unknown story problems, write an	The purpose of this lesson is for students to solve a new type of problem, Add To, Change Unknown. They	The purpose of this lesson is for students to solve Add To, Result or Change Unknown, and Take From,	The purpose of this lesson is for students to tell and solve story problems, and add and subtract within 10.

	story problems in a way that makes sense to them. They also write an expression to represent the action in a story problem.	addition or subtraction equation to represent each story problem, and orally explain how the equation represents the story problem.	solve the problems in a way that makes sense to them and identify the answer to a story problem in an equation.	Result Unknown story problems and write equations to match each problem.	
<b>Teacher Facing Learning Goals</b>	<ul style="list-style-type: none"> <li>Represent and solve Add To and Take From, Result Unknown problems in a way that makes sense to them.</li> <li>Write an expression to represent the action in a story problem.</li> </ul>	<ul style="list-style-type: none"> <li>Solve Add To and Take From, Result Unknown problems.</li> <li>Write addition or subtraction equations to represent a story problem and orally explain why it matches.</li> </ul>	<ul style="list-style-type: none"> <li>Identify the answer to a story problem in an equation.</li> <li>Solve Add To, Change Unknown story problems in a way that makes sense to them.</li> </ul>	<ul style="list-style-type: none"> <li>Solve Add To, Result or Change Unknown, and Take From, Result Unknown story problems.</li> <li>Write an equation and explain why it matches a story problem.</li> </ul>	<ul style="list-style-type: none"> <li>Add and subtract within 10.</li> <li>Tell and solve math stories based on a representation.</li> </ul>
<b>Vocabulary Focus</b>	Expression Story problem Equation	Story problem Equation Expression	Equation Story problem	Equation Story problem	-
<b>Lesson Structure</b>	<p><b>Warm-up: 10 minutes</b> Notice and Wonder: A Library</p> <p><b>Activity 1: 20 minutes</b> The Library</p> <p><b>Activity 2: 20 minutes</b> Story Problems about the Library</p> <p><b>Synthesis: 10 minutes</b></p>	<p><b>Warm-up: 10 minutes</b> Number Talk: Adding 1 More</p> <p><b>Activity 1: 15 minutes</b> Write Equations</p> <p><b>Activity 2: 20 minutes</b> Solve and Write Equations</p> <p><b>Synthesis: 10 minutes</b></p> <p><b>Cooldown: 5 minutes</b> <a href="#">Books on the Shelf</a></p>	<p><b>Warm-up: 10 minutes</b> Notice and Wonder: Kiran's Books</p> <p><b>Activity 1: 15 minutes</b> Kiran's Books</p> <p><b>Activity 2: 10 minutes</b> Lin Represents a Story Problem</p> <p><b>Activity 3: 15 minutes</b> Centers: Choice Time</p> <p><b>Synthesis: 10 minutes</b></p>	<p><b>Warm-up: 10 minutes</b> True or False Equations with 10</p> <p><b>Activity 1: 15 minutes</b> Compare the Problems</p> <p><b>Activity 2: 20 minutes</b> Story Problems about Books</p> <p><b>Synthesis: 10 minutes</b></p> <p><b>Cooldown: 5 minutes</b> <a href="#">Mai's Books</a></p>	<p><b>Warm-up: 10 minutes</b> Notice and Wonder: Math Picture</p> <p><b>Activity 1: 15 minutes</b> Introduce Math Stories, Add and Subtract</p> <p><b>Activity 2: 25 minutes</b> Centers: Choice Time</p> <p><b>Synthesis: 10 minutes</b></p>
<b>Materials to Gather</b>	<p><b>Materials to Gather</b></p> <ul style="list-style-type: none"> <li>10-frames</li> <li>Connecting cubes or two-color counters</li> </ul>	<p><b>Materials to Gather</b></p> <ul style="list-style-type: none"> <li>10-frames</li> <li>Connecting cubes or two-color counters</li> </ul>	<p><b>Materials to Gather</b></p> <ul style="list-style-type: none"> <li>10-frames</li> <li>Connecting cubes or two-color counters</li> </ul>	<p><b>Materials to Gather</b></p> <ul style="list-style-type: none"> <li>10-frames</li> <li>Connecting cubes or two-color counters</li> <li>Tools for creating a visual display</li> </ul>	<p><b>Materials to Gather</b></p> <ul style="list-style-type: none"> <li>Materials from previous centers</li> </ul>

<p><b>Lesson Materials/ Resources</b></p>	<p><a href="#">Lesson 1 Slides</a></p> <p><a href="#">Teacher Materials</a></p> <p><a href="#">Student Pages</a></p> <p><b>Activity 1 and Activity 2 :</b></p> <ul style="list-style-type: none"> <li>Give students access to <a href="#">10-frames</a> and connecting cubes or two-color counters.</li> </ul>	<p><a href="#">Lesson 2 Slides</a></p> <p><a href="#">Teacher Materials</a></p> <p><a href="#">Student Pages</a></p> <p><b>Activity 1 and Activity 2 :</b></p> <ul style="list-style-type: none"> <li>Give students access to <a href="#">10-frames</a> and connecting cubes or two-color counters.</li> </ul> <p><a href="#">Cool-down: Books on the Shelf</a></p>	<p><a href="#">Lesson 3 Slides</a></p> <p><a href="#">Teacher Materials</a></p> <p><a href="#">Student Pages</a></p> <p><b>Activity 1 and Activity 2 :</b></p> <ul style="list-style-type: none"> <li>Give students access to <a href="#">10-frames</a> and connecting cubes or two-color counters.</li> </ul> <p><b>Activity 3:</b> Centers - see below</p>	<p><a href="#">Lesson 4 Slides</a></p> <p><a href="#">Teacher Materials</a></p> <p><a href="#">Student Pages</a></p> <p><b>Activity 1 and Activity 2 :</b></p> <ul style="list-style-type: none"> <li>Give students access to <a href="#">10-frames</a> and connecting cubes or two-color counters.</li> <li>Give students access to tools to create a visual display.</li> </ul> <p><b>Activity 2 :</b></p> <ul style="list-style-type: none"> <li>Give students access to <a href="#">10-frames</a> and connecting cubes or two-color counters.</li> </ul> <p><a href="#">Cool-down: Mai's Books</a></p>	<p><a href="#">Lesson 5 Slides</a></p> <p><a href="#">Teacher Materials</a></p> <p><a href="#">Student Pages</a></p> <p><b>Activity 1 :</b></p> <ul style="list-style-type: none"> <li>Give each group a set of <a href="#">Math Stories Stage 1 and 4 Pictures</a> and <a href="#">Math Stories Stage 4 Recording Sheet</a></li> </ul> <p><b>Activity 2:</b> Centers - see below</p>
<p><b>Assessment</b></p>	<p><b>Formative Assessment Strategies: observation, questioning, student discourse</b>  See <a href="#">Section A Checkpoint Assessment</a> - (Monitoring Sheet), <a href="#">Section A Checkpoint Teacher's Guide</a></p>				
<p><b>Centers Materials</b></p>			<p><a href="#">Sort and Display, Stage 1</a></p> <p><a href="#">Check it Off, Stages 1 and 2</a></p> <p><a href="#">What's Behind My Back, Stage 2</a></p>		<p><a href="#">Section A Practice Problems</a></p> <p><a href="#">Sort and Display, Stage 1</a></p> <p><a href="#">Math Stories, Stage 4</a></p> <p><a href="#">Find the Pair, Stage 2</a></p>

**LESSON NOTES**

**Making Meaning:**

**Lesson 1: Story Problems and Expressions:** Activities 1,2, & Lesson Synthesis ONLY

- The purpose of this lesson is for students to represent and solve Add To and Take From, Result Unknown story problems in a way that makes sense to them. They also write an expression to represent the action in a story problem.
- [Teacher presentation materials](#)
- [Slides](#)

**Lesson 2: Story Problems and Equations**

- The purpose of this lesson is for students to solve Add To and Take From, Result Unknown story problems, write an addition or subtraction equation to represent each story problem, and orally explain how the equation represents the story problem.
- [Teacher presentation materials](#)
- [Slides](#)

**Lesson 3: A Change is Coming**

- The purpose of this lesson is for students to solve a new type of problem, Add To, Change Unknown. They solve the problems in a way that makes sense to them and identify the answer to a story problem in an equation.
- [Teacher presentation materials](#)
- [Slides](#)

**Checkpoints:** These documents for the above lessons provide teachers with a template for collecting data and information on student understanding of skills and concepts.

[Checkpoint A Teacher Instructions](#)

[Checkpoint A Table](#)

**Investigate:**

**Lesson 4: A Change is Coming**

- The purpose of this lesson is for students to solve a new type of problem, Add To, Change Unknown. They solve the problems in a way that makes sense to them and identify the answer to a story problem in an equation.
- [Teacher presentation materials](#)
- [Slides](#)

**Create and Produce:**

**[Lesson 5: Center Day 1](#)**

- The purpose of this activity is for students to learn stage 4 of the center, Math Stories. Students pose and solve addition and subtraction story problems about pictures. Pages of picture books can also be used to help students generate stories. Students write an equation to represent their story problem.
- [Teacher presentation materials](#)
- [Slides](#)

Students learn a new way to do the Math Stories center. They are going to look at pictures and tell addition or subtraction math stories about them, just like they did in the warm-up. After they tell the story and their partner answers the question, the student will write an equation to match the story.

**Communicate and Present:**

Groups of 2 present one of the math stories they created, and how they solved it using a related addition or subtraction equations.

**Reflection:**

**Lesson 5, Activity 1 Synthesis**

Students reflect by answering:


- “How does their equation match their story?”

**Additional Learning:**

**Notes: Follow lessons in numerical order.**

**Complete File with Resources and Task:**

[Task-Based Learning Plan Format for Unit 2 Topic 1](#)

<b>Topic # 2 (Section B)</b>	<b>Topic Name: Section B - Put Together/Take Apart Story Problems</b>	<b>Duration:</b> Recommended: 5 days
<p><b>Topic Description:</b></p> <p><b>Section Learning Goals</b></p> <ul style="list-style-type: none"> <li>• Solve Put Together/Take Apart problems with the unknown in different positions.</li> <li>• Write equations to represent problems.</li> </ul> <p>In this section, students solve Put Together/Take Apart problems in which the total, one addend, or both addends are unknown. This builds on work from kindergarten when students composed numbers up to 10 in different ways.</p> <p>Students consider problems in the context of Shake and Spill, a game that uses two-color counters. For example:</p> <p style="text-align: center;"><i>Elena is playing Shake and Spill. She has 7 counters.</i>  <i>What are some ways to show some red and some yellow?</i></p> <div style="text-align: center;">  </div> <p>This problem type enables students to see the same situation represented by different equations, such as those where the total is written before the equal sign (<math>7 = 4 + 3</math>) and those illustrating the commutative property (<math>4 + 3 = 7</math> and <math>3 + 4 = 7</math>). When students analyze and connect quantities in story problems with the structure of equations, they are thinking quantitatively and abstractly (MP2).</p> <p>Note that students do not need to use the terms “commutative property” or “associative property.” These are referred to as the “add in any order” property.</p>		
<p><b>Competencies Addressed:</b></p> <p><b>Understanding and Applying Number Systems</b></p>		<p><b>Essential Question and Enduring Understanding Addressed in this Topic:</b></p> <p><b>Essential Question</b></p>

<p>Indicator 2- Count, read, and write whole numbers</p> <p><b>Operations and Algebraic Thinking</b></p> <p>Indicator 1- Add within 20 using strategies</p> <p>Indicator 2- Subtract within 20 using strategies</p> <p>Indicator 3- Represent and solve problems involving addition and subtraction</p>	<p>In what ways can expressions, equations, and operations help us with story problems?</p> <p><b>Enduring Understanding</b>  <b>Story problems help us see how we use math in our everyday lives.</b> They allow us to recognize relationships between different values, and these relationships help us to solve for unknown values. Knowing what is happening in the story problem can help us find solutions to problems in an efficient way. Addition and subtraction are strategies to help us find unknown solutions to story problems. Students will represent addition and subtraction story problems (within 10) with objects or drawings. They will also write equations and explain how their representation matches the story. When students reason about questions, quantities, and relationships in story problems and write equations to represent them, they make sense of problems to solve them and reason quantitatively and abstractly.</p>
<p><b>In this Topic, students will know:</b></p> <ul style="list-style-type: none"> <li>● Quantities of objects can be joined or separated</li> <li>● We can use addition and subtraction expressions to show joining and separating</li> <li>● We can write expressions that match story problems</li> <li>● The actions in the story problem help us determine which operation is needed</li> <li>● The answer to the problem is not always the number after the equal sign</li> <li>● There are different types of story problems that have different actions</li> <li>● Put together and total unknown problems have no action</li> <li>● Addends can be written in either order</li> <li>● Addends represent a specific part of a story</li> <li>● When we compare two quantities, we find the difference between them</li> <li>● Counting on and counting back can help us find the difference</li> <li>● We can write multiple equations that match a story problem</li> <li>● We can use a symbol to represent the unknown in an equation</li> </ul>	<p><b>Topic Vocabulary:</b></p> <p><b>Academic vocabulary</b>  quantities  decompose  subitize</p>

**In this Topic, students will be able to:**

- Retell the story.
- Represent a story problem with objects or drawings.
- Explain how a representation matches the story.
- Represent the story with equations.
- Answer questions correctly.
- Use addition and subtraction (within 10) to solve problems involving: putting together, and taking apart story problems
- Understand the meaning of the equal sign

**Plan for Student Reflection:**

[Student Journal Prompts and Reflection Practices](#)

**Plan for Teacher Reflection:**

**Lesson 6:** Questions

Identify ways the math community you are working to foster is going well. What aspects would you like to work on? What actions can you take to improve those areas?

**Lesson 7:** What evidence have students given that they understand the meaning of the equal sign? Why is it important for students to understand the meaning of the equal sign before solving Addend Unknown problems in the upcoming lessons?

**Lesson 8:** Are students trying new methods when they hear others during the discussion? How can you encourage students to try new methods?

**Lesson 9:** What opportunities are you giving students to reflect on their understanding of the mathematical content?

**Lesson 10:** When in today's lesson were students able to see themselves as productive mathematical reasoners?

**Utilize additional strategies for Teacher Reflection:**

- |  |   |
|--|---|
|  | <ul style="list-style-type: none"><li>● Reviewing formative assessments</li><li>● Developing scaffolds</li><li>● Collaborative scoring</li><li>● PLCs</li><li>● Planning for small groups</li></ul> |
|--|---|

## Topic 2 Task Development

Each Topic has its own Task that serves as a roadmap for instruction during the unit. The task follows the [Learning Cycle Model](#) that drives teaching and learning in Naugatuck Public Schools.

<b>Task Title: Topic 2 - Put Together/Take Apart Story Problems</b>	<b>Grade Level and Unit: Grade 1, Unit</b>
<b>Description of Task:</b> Three pairs of students will work together to look at three different posters and talk about how the problems and representations are the same and how they are different. They will discuss how each equation matches a story problem and where in the equation you see the answer to the question.	<b>Purpose of Task:</b> The purpose of this task is for students to interpret representations of Put Together/Take Apart problems with unknowns in different positions. Students explain how each equation matches the story problem it represents (MP2). Students consider an equation that can match two different story problems, but the answer to the question is in a different place.
<b>Background of Students/Learning Progression:</b> In this section, students solve Put Together/Take Apart problems in which the total, one addend, or both addends are unknown. This builds on work from kindergarten when students composed numbers up to 10 in different ways.	<b>Ensure all competencies are addressed in the task:</b> <input type="checkbox"/> Yes, all competencies are addressed <input type="checkbox"/> No - Task needs modification
<b>Getting Started:</b>  <a href="#">Lesson 6: Problems about Pets</a> : Warm-Up ONLY: Notice and Wonder: Fish Tank <ul style="list-style-type: none"><li>• The purpose of this warm-up is for students to make sense of the structure of a story problem, which will be useful when students solve story problems and write equations in a later activity. The problem does not have numbers, so the focus can remain on making sense of the problem, rather than computing.</li><li>• <a href="#">Teacher presentation materials</a></li><li>• <a href="#">Slides</a></li></ul> <p>Students will work in groups of 2. The following statement is displayed to students: There are some fish in the tank. Some of the fish are red and some are blue. Students are given 1 minute of quiet “think time” to answer the questions: “What do you notice? What do you wonder?”</p> <p>Possible Responses:</p>	

**Students may notice:**

- There are fish in the tank.
- Some of the fish are red and some are blue.
- There are no numbers.
- There is no question.

**Students may wonder:**

- How many fish are there?
- How many fish are red and how many are blue?
- Are there more red fish or blue fish?

Activity Synthesis: “Where might numbers fit into this story problem?” (To tell the number of red fish and the number of blue fish. To tell how many fish there are in all.)

**Learning Cycle Model Process**

**Section B**

IM Lesson	<a href="#">L6: Problems about Pets</a>	<a href="#">L7: Shake and Spill</a>	<a href="#">L8: Shake, Spill, and Cover</a>	<a href="#">L9: Compare Story Problems</a>	<a href="#">L10: Center Day 2</a>
<b>Learning Cycle Model</b>	<b>Getting Started &amp; Making Meaning</b>	<b>Making Meaning</b>	<b>Investigate</b>	<b>Create and Produce</b>	<b>Communicate and Present</b>
<b>Naugatuck Math Competency</b>	<b>Addressing</b> 1.OA.1, 1.OA.2, 1.OA.3	<b>Addressing</b> 1.OA.1, 1.OA.2, 1.OA.3	<b>Addressing</b> 1.NS.2 1.OA.1, 1.OA.2, 1.OA.3	<b>Addressing</b> 1.OA.1, 1.OA.2, 1.OA.3	<b>Addressing</b> 1.OA.1, 1.OA.2, 1.OA.3
<b>Math Practice Standards</b>	MP 6	MP 8	MP 7	MP 7	MP 6, 8
<b>Lesson Purpose</b>	The purpose of this lesson is for students to solve Put Together, Total Unknown problems and write equations to match.	The purpose of this lesson is for students to make sense of, represent, and solve Put Together/Take Apart, Both Addends Unknown story problems. Students write equations and explain how they relate to the story problems.	The purpose of this lesson is for students to solve and represent Put Together/Take Apart, Addend Unknown story problems.	The purpose of this lesson is for students to solve the different Put Together/Take Apart story problems that have been introduced so far.	The purpose of this lesson is for students to practice adding and subtracting within 10.
<b>Teacher Facing Learning Goals</b>	<ul style="list-style-type: none"> <li>• Solve Put Together, Total Unknown story problems in a way that makes sense to them.</li> <li>• Write an equation and explain why it matches a story problem.</li> </ul>	<ul style="list-style-type: none"> <li>• Solve Put Together/Take Apart, Both Addends Unknown story problems in a way that makes sense to them.</li> <li>• Write an equation and explain why it matches a</li> </ul>	<ul style="list-style-type: none"> <li>• Relate different equations to the same story problem.</li> <li>• Solve Put Together/Take Apart, Addend Unknown story problems in a way that makes sense to</li> </ul>	<ul style="list-style-type: none"> <li>• Solve Put Together/Take Apart problems with the result, one addend, or both addends unknown.</li> <li>• Write an equation that matches the story problem, and put a box</li> </ul>	Add and subtract within 10 in a way that makes sense to them.

		story problem.	them.	around the unknown number.	
<b>Vocabulary Focus</b>	Equation Story problem	Equation Story problem Equal sign	Equation Match True Addend	Story problem Equation Match Represent	-
<b>Lesson Structure</b>	<b>Warm-up: 10 minutes</b> Notice and Wonder: The Fish Tank <b>Activity 1: 15 minutes</b> Three Reads: Kiran's Fish <b>Activity 2: 10 minutes</b> Tyler's and Clare's Pets <b>Activity 3: 15 minutes</b> Centers: Choice Time <b>Synthesis: 10 minutes</b>	<b>Warm-up: 10 minutes</b> How Many Do You See: Two-Color Counters <b>Activity 1: 20 minutes</b> Revisit Shake and Spill, Represent <b>Activity 2: 15 minutes</b> Shake and Spill Story Problems <b>Synthesis: 10 minutes</b> <b>Cooldown: 5 minutes</b>	<b>Warm-up: 10 minutes</b> Choral Count: Count on from 10 <b>Activity 1: 20 minutes</b> Introduce Shake and Spill, Cover <b>Activity 2: 15 minutes</b> Shake and Spill, Cover Problems <b>Synthesis: 10 minutes</b> <b>Cooldown: 5 minutes</b>	<b>Warm-up: 10 minutes</b> Number Talk: Addition and Subtraction Expressions <b>Activity 1: 20 minutes</b> Solve and Represent Story Problems <b>Activity 2: 20 minutes</b> Gallery Walk: Compare the Story Problems <b>Synthesis: 10 minutes</b>	<b>Warm-up: 10 minutes</b> Number Talk: Subtraction Methods <b>Activity 1: 20 minutes</b> Introduce Capture Squares, Add Within 10 <b>Activity 2: 20 minutes</b> Centers: Choice Time <b>Synthesis: 10 minutes</b>
<b>Materials to Gather</b>	<b>Materials to Gather</b> <ul style="list-style-type: none"> <li>• 10-frames</li> <li>• Connecting cubes or two-color counters</li> <li>• Materials from previous centers</li> </ul>	<b>Materials to Gather</b> <ul style="list-style-type: none"> <li>• 10-frames</li> <li>• Cups</li> <li>• Two-color counters</li> </ul>	<b>Materials to Gather</b> <ul style="list-style-type: none"> <li>• 10-frames</li> <li>• Cups</li> <li>• Two-color counters</li> </ul>	<b>Materials to Gather</b> <ul style="list-style-type: none"> <li>• 10-frames</li> <li>• Connecting cubes or two-color counters</li> <li>• Materials from a previous activity</li> <li>• Tools for creating a visual display</li> </ul>	<b>Materials to Gather</b> <ul style="list-style-type: none"> <li>• 10-frames</li> <li>• Colored pencils or crayons</li> <li>• Connecting cubes or two-color counters</li> <li>• Materials from previous centers</li> <li>• Number cubes</li> </ul>
<b>Lesson Materials/ Resources</b>	<a href="#">Lesson 6 Slides</a>  <a href="#">Teacher Materials</a>  <a href="#">Student Pages</a>  <b>Activity 1 and 2:</b> <ul style="list-style-type: none"> <li>• Give students access to <a href="#">10-frames</a> and connecting cubes or two-color counters.</li> </ul>	<a href="#">Lesson 7 Slides</a>  <a href="#">Teacher Materials</a>  <a href="#">Student Pages</a>  <b>Activity 1:</b> <ul style="list-style-type: none"> <li>• Give students access to <a href="#">10-frames</a>, two-color counters and a cup (at least 8oz)</li> </ul>	<a href="#">Lesson 8 Slides</a>  <a href="#">Teacher Materials</a>  <a href="#">Student Pages</a>  <b>Activity 1:</b> <ul style="list-style-type: none"> <li>• Give students access to <a href="#">10-frames</a> and connecting cubes or two-color counters and</li> </ul>	<a href="#">Lesson 9 Slides</a>  <a href="#">Teacher Materials</a>  <a href="#">Student Pages</a>  <b>Activity 1:</b> <ul style="list-style-type: none"> <li>• Give students access to <a href="#">10-frames</a> and connecting cubes or two-color counters.</li> </ul>	<a href="#">Lesson 10 Slides</a>  <a href="#">Teacher Materials</a>  <a href="#">Student Pages</a>  <b>Activity 1:</b> <ul style="list-style-type: none"> <li>• Give students access to <a href="#">10-frames</a> and connecting cubes or two-color counters.</li> </ul>

	<p><b>Activity 3:</b> Centers - see below</p>	<ul style="list-style-type: none"> <li>Each student will need a <a href="#">Shake and Spill Stage 3 Recording Sheet Grade 1</a></li> </ul> <p><b>Activity 2:</b></p> <ul style="list-style-type: none"> <li>Give students access to <a href="#">10-frames</a> and two-color counters.</li> </ul> <p><a href="#">Cool Down: Priya Plays Shake and Spill</a></p>	<p>a cup (at least 8oz).</p> <ul style="list-style-type: none"> <li>Each group will need <a href="#">Shake and Spill Stage 4 and 5 Recording Sheet (G1 and 2)</a></li> </ul> <p><b>Activity 2:</b></p> <ul style="list-style-type: none"> <li>Give students access to <a href="#">10-frames</a> and two-color counters.</li> </ul> <p><a href="#">Cool Down: Clare Plays Shake and Spill, Cover</a></p>	<ul style="list-style-type: none"> <li>Students need access to tools to create visual displays.</li> </ul> <p><b>Activity 2:</b></p> <ul style="list-style-type: none"> <li>Each group will need the visual displays they created in the previous activity.</li> </ul>	<ul style="list-style-type: none"> <li>Give each group two number cubes, two different colored crayons or colored pencils, and a <a href="#">Capture Squares Stage 1 Gameboard</a>.</li> </ul> <p><b>Activity 2:</b> Centers - see below</p>
Assessment	<p><b>Formative Assessment Strategies:</b> observation, questioning, student discourse  See <a href="#">Section B Checkpoint Assessment - (Monitoring Sheet)</a>, <a href="#">Section B Checkpoint Teacher's Guide</a></p>				
					<a href="#">Section B Practice Problems</a>
Centers Materials	<a href="#">Math Stories, Stage 4</a> <a href="#">Find the Pair, Stage 2</a> <a href="#">What's Behind My Back, Stage 2</a>				<a href="#">Math Stories, Stage 4</a> <a href="#">Shake and Spill, Stages 3 and 4</a> <a href="#">Capture Squares, Stage 1</a>

## LESSON NOTES

### Making Meaning:

#### [Lesson 6: Problems about Pets](#)

- The purpose of this lesson is for students to solve Put Together, Total Unknown problems and write equations to match.
- [Teacher presentation materials](#)
- [Slides](#)

#### [Lesson 7: Shake and Spill](#)

- The purpose of this lesson is for students to make sense of, represent, and solve Put Together/Take Apart, Both Addends Unknown story problems. Students write equations and explain how they relate to the story problems.
- [Teacher presentation materials](#)
- [Slides](#)

**Checkpoints:** These documents for the above lessons provide teachers with a template for collecting data and information on student understanding of skills and concepts.

[Checkpoint B Teacher Instructions](#)

[Checkpoint B Table](#)

**Investigate:**

**[Lesson 8: Shake, Spill, and Cover](#)**

- The purpose of this lesson is for students to solve and represent Put Together/Take Apart, Addend Unknown story problems.
- [Teacher presentation materials](#)
- [Slides](#)

**Create and Produce:**

**[Lesson 9: Shake, Spill, and Cover:](#)** Warm-Up and Activity 1 ONLY

- The purpose of this lesson is for students to solve the different Put Together/Take Apart story problems that have been introduced so far.
- Teacher presentation materials
- [Slides](#)

The purpose of this Warm-Up, a Number Talk, is to elicit strategies and understandings students have for addition and subtraction. These understandings help students develop fluency and will be helpful later in this lesson when students add and subtract to find unknowns in different positions.

In Activity 1, students solve a variety of Put Together/Take Apart story problems with the unknown in different places. Two of the problems have the same addends and total, with the unknown in different places. The third problem has both addends unknown. Students who are assigned this problem should be encouraged to find multiple combinations for this context. Students may solve in any way that makes sense to them and write equations to match the problem. They write an equation and put a box around the number that represents the answer to the question. After drafting their answer in their books, groups create a poster that includes a labeled drawing and an equation for one of the problems.

**Communicate and Present:**

**Reflection:**

<p><b><a href="#">Lesson 9: Shake, Spill, and Cover:</a></b> Activity 2 and cool down</p> <ul style="list-style-type: none"> <li>• The purpose of this activity is for students to interpret representations of Put Together/Take Apart problems with unknowns in different positions. Students explain how each equation matches the story problem it represents (MP2). Students consider an equation that can match two different story problems, but the answer to the question is in a different place.</li> <li>• <a href="#">Teacher presentation materials</a></li> <li>• <a href="#">Slides</a></li> </ul> <p>Activity: Students work in groups of 6 with pairs who worked on different problems. Each group will need the visual displays they created in the previous activity. (Lesson 9, Activity 1)</p> <p>Three pairs of students will work together to look at three different posters and talk about how the problems and representations are the same and how they are different. They will discuss how each equation matches a story problem and where in the equation you see the answer to the question.</p> <p><b><a href="#">Lesson 10: Center Day 2</a></b></p> <ul style="list-style-type: none"> <li>• The purpose of this lesson is for students to practice adding and subtracting within 10.</li> <li>• <a href="#">Teacher presentation materials</a></li> <li>• <a href="#">Slides</a></li> </ul>	<p>Related to the Gallery Walk:</p> <ol style="list-style-type: none"> <li>1. What is the same about the story problems and representations?</li> <li>2. What is different about the story problems and representations?</li> </ol> <p>Related to the Lesson: “What did you notice about how the story problems and equations were the same and different?”</p> <p>“Are there any other words or phrases that are important to include on our display?”</p>
<p><b>Additional Learning:</b></p>	
<p><b>Notes: Follow lessons in numerical order.</b></p>	<p><b>Complete File with Resources and Task:</b></p> <p><a href="#">Task-Based Learning Plan Format for Unit 2 Topic 2</a></p>

**Topic # 3 (Section C)**

**Topic Name: Section C - Compare Story Problems**

**Duration:** Recommended: 6 days

**Topic Description:**

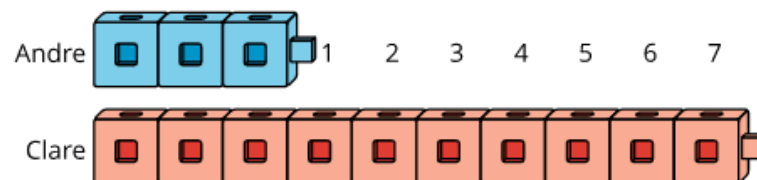
**Section Learning Goals**

- Relate addition and subtraction.
- Solve, Compare, Difference Unknown problems.

In this section, students solve Compare, Difference Unknown problems, reinforcing their understanding of the relationship between addition and subtraction.

Students begin by considering how many to add to a quantity to make the two quantities equal, such as, "How many cubes do we need to add so that both towers have the same number of cubes?"

Once they are familiar with this language, students answer "how many more" and "how many fewer" questions. For example, "How many more cubes does Clare have than Andre?"



In this case, students may count the extra cubes in Clare's tower to find the answer. They may start at 3 and count up to 10 or start at 10 and count back to 3. Students analyze both addition ( $3 + 7 = 10$ ) and subtraction ( $10 - 3 = 7$ ) equations that can be used to represent the same problem.

- When students reason about questions, quantities, and relationships in story problems and write equations to represent them, they make sense of problems to solve them (MP1) and reason quantitatively and abstractly (MP2).

**Competencies Addressed:**

**Understanding and Applying Number Systems**

Indicator 1- I can add within 20 using strategies

Indicator 2- I can subtract within 20 using strategies

Indicator 3- I can represent and solve problems involving addition and subtraction.

**Measurement and Data Investigations**

Indicator 3- I can represent and interpret data.

**Essential Question and Enduring Understanding Addressed in this Topic:**

**Essential Question**

In what ways can expressions, equations, and operations help us with story problems?

**Enduring Understanding**

**Story problems help us see how we use math in our everyday lives.** They allow us to recognize relationships between different values, and these relationships help us to solve for unknown values. Knowing what is happening in the story problem can help us find solutions to problems in an efficient way. Addition and subtraction are strategies to help us find unknown solutions to story problems. Students will represent addition and subtraction story problems (within 10) with objects or drawings. They will also write equations and explain how their representation matches the story. When students reason about questions, quantities, and relationships in story problems and write equations to represent them, they make sense of problems to solve them and reason quantitatively and abstractly.

**In this Topic, students will know:**

- Quantities of objects can be joined or separated
- We can use addition and subtraction expressions to show joining and separating
- We can write expressions that match story problems
- The actions in the story problem help us determine which operation is needed

**Topic Vocabulary:**

**Academic vocabulary**

equivalent  
true

<ul style="list-style-type: none"> <li>● The answer to the problem is not always the number after the equal sign</li> <li>● There are different types of story problems that have different actions</li> <li>● Put together and total unknown problems have no action</li> <li>● Addends can be written in either order</li> <li>● Addends represent a specific part of a story</li> <li>● When we compare two quantities, we find the difference between them</li> <li>● Counting on and counting back can help us find the difference</li> <li>● We can write multiple equations that match a story problem</li> <li>● We can use a symbol to represent the unknown in an equation</li> </ul>	false
<p><b>In this Topic, students will be able to:</b></p> <ul style="list-style-type: none"> <li>● Retell the story.</li> <li>● Represent a story problem with objects or drawings.</li> <li>● Explain how a representation matches the story.</li> <li>● Represent the story with equations.</li> <li>● Answer questions correctly.</li> <li>● Use addition and subtraction (within 10) to solve problems involving: comparing with unknown in all positions story problems</li> <li>● Understand the meaning of the equal sign</li> </ul>	<p><b>Plan for Student Reflection:</b></p> <p><a href="#">Student Journal Prompts and Reflection Practices</a></p> <hr/> <p><b>Plan for Teacher Reflection:</b></p> <p><b>Lesson 11:</b> If you were to teach this lesson over again, what activity would you redo? How would your proposed changes support student learning?</p> <p><b>Lesson 12:</b> How effective were your questions in supporting students' thinking today? What did students say or do that showed they were effective?</p> <p><b>Lesson 13:</b> Which math ideas from today's lesson did students grapple with most? Did this surprise you or was this what you expected?</p> <p><b>Lesson 14:</b> What did you say, do, or ask during the lesson synthesis that helped students be clear on the learning of the day?</p>

**Lesson 15:** What part of the lesson went really well today in terms of students learning? What did you do that made that part go well?

**Lesson 16:** Who got to do math today in class? How can you adjust norms, routines, or groups so all students do math during centers?

**Utilize additional strategies for Teacher Reflection:**

- Reviewing formative assessments
- Developing scaffolds
- Collaborative scoring
- PLCs
- Planning for small groups

### Topic 3 Task Development

Each Topic has its own Task that serves as a roadmap for instruction during the unit. The task follows the [Learning Cycle Model](#) that drives teaching and learning in Naugatuck Public Schools.

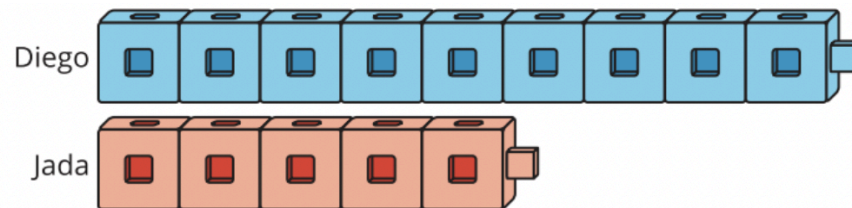
<b>Task Title: Topic 3 - Compare Story Problems</b>	<b>Grade Level and Unit: Grade 1, Unit</b>
<b>Description of Task:</b> Students will solve problems about the picture from Activity 1 (What Questions Can We Ask?). The questions may include some of the questions students asked. Students will show their thinking using drawings, numbers, or words. They will write an equation to match the story problem. If they can, students may write two different equations to match the problem.	<b>Purpose of Task:</b> The purpose of this task is for students to solve a variety of story problems and write addition and subtraction equations that match those problems. Students solve Put Together/Take Apart, Total or Addend Unknown problems and Compare, Difference Unknown problems.
<b>Background of Students/Learning Progression:</b> In this section, students solve Compare, Difference Unknown problems, reinforcing their understanding of the relationship between addition and subtraction. Students begin by considering how many to add to a quantity to make the two quantities equal, such as, "How many cubes do we need to add so that both towers have the same number of cubes?" Once they are familiar with this language, students answer "how many more" and "how many fewer" questions.	<b>Ensure all competencies are addressed in the task:</b> <input type="checkbox"/> Yes, all competencies are addressed <input type="checkbox"/> No - Task needs modification

## Getting Started:

**Lesson 11: Make Them The Same:** Warm-up ONLY: Notice and Wonder: Cube Towers

- The purpose of this warm-up is to elicit the idea that quantities can be compared, which will be useful when students compare connecting cube towers in order to make them have the same number of cubes, in a later activity. While students may notice and wonder many things about this image, comparing the quantity of cubes in each tower is the important discussion point. When students use the language “Jada has less cubes than Diego”, the teacher should revoice using the grammatically correct language “fewer” to support students with developing precise language (MP6).
- [Teacher presentation materials](#)
- [Slides](#)

Students will work in groups of 2. An image is displayed and students are given 1 minute of quiet “think time” to answer the questions:  
 “What do you notice? What do you wonder?”



Possible Responses:

### Students may notice:

- Diego’s tower has 9 cubes.
- Jada’s tower has fewer cubes than Diego’s.
- There are 14 cubes altogether.

### Students may wonder:

- Why don’t they have the same amount?
- What are we using these for?

Activity Synthesis: “We will use connecting cube towers and think about how to make them have the same number of cubes.”

## Learning Cycle Model Process

### Section C

IM Lesson	<a href="#">L11: Make Them the Same</a>	<a href="#">L12: School Supplies</a>	<a href="#">L13: Compare Favorite Art Supply Data</a>	<a href="#">L14: Compare with Addition &amp; Subtraction</a>	<a href="#">L15: Different Types of Story Problems</a>	<a href="#">L16: Center Day 3</a>
Learning Cycle Model	Getting Started & Making Meaning	Making Meaning	Making Meaning	Making Meaning	Create & Produce	Communicate and Present
Naugatuck Math Competency	Addressing 1.OA.3	Addressing 1.OA.1, 1.OA.2, 1.OA.3	Addressing 1.OA.3 1.MD.3	Addressing 1.OA.1, 1.OA.2, 1.OA.3	Addressing 1.OA.1, 1.OA.2, 1.OA.3	Addressing 1.OA.1, 1.OA.2, 1.OA.3
Math Practice Standards	MP 8	MP 7, 8	MP 7, 8		MP 2	MP 2

<b>Lesson Purpose</b>	The purpose of this lesson is for students to represent and solve Compare, Difference Unknown problems, in a way that makes sense to them.	The purpose of this lesson is for students to solve Compare, Difference Unknown story problems in a way that makes sense to them.	The purpose of this lesson is for students to solve Compare, Difference Unknown story problems in a data context.	The purpose of this lesson is for students to solve Compare, Difference Unknown story problems and match addition and subtraction equations to the problems.	The purpose of this lesson is for students to solve a variety of story problems and write equations that match each problem.	The purpose of this lesson is for students to practice adding and subtracting within 10.
<b>Teacher Facing Learning Goals</b>	Solve Compare, Difference Unknown problems, in a way that makes sense to them.	<ul style="list-style-type: none"> <li>• Relate counting to addition and subtraction.</li> <li>• Solve Compare, Difference Unknown story problems in a way that makes sense to them.</li> </ul>	<ul style="list-style-type: none"> <li>• Solve Compare, Difference Unknown story problems through a data context.</li> <li>• Write an equation to represent the story problem.</li> </ul>	<ul style="list-style-type: none"> <li>• Match addition and subtraction equations to a story problem.</li> <li>• Solve Compare, Difference Unknown story problems.</li> </ul>	<ul style="list-style-type: none"> <li>• Solve a variety of types of story problems.</li> <li>• Write addition and subtraction equations to represent story problems.</li> </ul>	<ul style="list-style-type: none"> <li>• Add and subtract within 10.</li> <li>• Tell and solve math stories based on a representation.</li> </ul>
<b>Vocabulary Focus</b>	Connecting cube Relate Addition Adding more	Story problem Comparing	True False Equation Match Difference	Equation Match Position Represent	Story problem Equation Match	
	<b>Warm-up: 10 minutes</b> Notice and Wonder: Cube Towers <b>Activity 1: 15 minutes</b> Cube Towers <b>Activity 2: 20 minutes</b> Cube Tower Problems <b>Synthesis: 10 minutes</b> <b>Cooldown: 5 minutes</b>	<b>Warm-up: 10 minutes</b> Notice and Wonder: School Supplies <b>Activity 1: 15 minutes</b> Not Enough Pencils <b>Activity 2: 20 minutes</b> Compare Problems <b>Synthesis: 10 minutes</b> <b>Cooldown: 5 minutes</b>	<b>Warm-up: 10 minutes</b> Notice and Wonder: More and Fewer <b>Activity 1: 20 minutes</b> Compare Data (Part 1) <b>Activity 2: 15 minutes</b> Compare Data (Part 2) <b>Synthesis: 10 minutes</b> <b>Cooldown: 5 minutes</b>	<b>Warm-up: 10 minutes</b> True or False: Equal Sign <b>Activity 1: 15 minutes</b> Is it Addition or Subtraction? <b>Activity 2: 10 minutes</b> Which Equation? <b>Activity 3: 15 minutes</b> Centers: Choice Time <b>Synthesis: 10 minutes</b>	<b>Warm-up: 10 minutes</b> Which One Doesn't Belong: Equations <b>Activity 1: 10 minutes</b> What Questions Can We Ask? <b>Activity 2: 15 minutes</b> Different Types of Problems <b>Activity 3: 15 minutes</b> Centers: Choice Time <b>Synthesis: 10 minutes</b>	<b>Warm-up: 10 minutes</b> Number Talk: Subtraction <b>Activity 1: 20 minutes</b> Introduce Capture Squares, Subtract Within 10 <b>Activity 2: 20 minutes</b> Centers: Choice Time <b>Synthesis: 10 minutes</b>
<b>Materials to Gather</b>	<b>Materials to Gather</b> <ul style="list-style-type: none"> <li>• Connecting cubes in towers of 10 and singles</li> </ul>	<b>Materials to Gather</b> <ul style="list-style-type: none"> <li>• Connecting cubes or two-color counters</li> </ul>	<b>Materials to Gather</b> <ul style="list-style-type: none"> <li>• Connecting cubes or two-color counters</li> </ul>	<b>Materials to Gather</b> <ul style="list-style-type: none"> <li>• Connecting cubes or two-color counters</li> <li>• Materials from previous centers</li> </ul>	<b>Materials to Gather</b> <ul style="list-style-type: none"> <li>• Connecting cubes or two-color counters</li> <li>• Materials from previous centers</li> </ul>	<b>Materials to Gather</b> <ul style="list-style-type: none"> <li>• Colored pencils or crayons</li> <li>• Connecting cubes or two-color counters</li> </ul>

						<ul style="list-style-type: none"> <li>Materials from previous centers</li> <li>Number cards 0–10</li> </ul>
<b>Lesson Materials/ Resources</b>	<a href="#">Lesson 11 Slides</a> <a href="#">Teacher Materials</a> <a href="#">Student Pages</a> <b>Activity 1:</b> <ul style="list-style-type: none"> <li>Create a tower of 9 blue connecting cubes and a tower of 5 red connecting cubes.</li> <li>Each group of 2 needs 4 towers of 10 connecting cubes.</li> </ul> <b>Activity 2:</b> <ul style="list-style-type: none"> <li>Gather 1 red tower of 8 connecting cubes, 1 yellow tower of 3 connecting cubes, &amp; a handful of yellow cubes.</li> <li>Each group of 2 needs 4 towers of 10 connecting cubes.</li> </ul> <a href="#">Cool Down: Make Them the Same</a>	<a href="#">Lesson 12 Slides</a> <a href="#">Teacher Materials</a> <a href="#">Student Pages</a> <b>Activity 1 and 2:</b> <ul style="list-style-type: none"> <li>Give students access to connecting cubes or two-color counters.</li> </ul> <a href="#">Cool Down: Homework Papers</a>	<a href="#">Lesson 13 Slides</a> <a href="#">Teacher Materials</a> <a href="#">Student Pages</a> <b>Activity 1 and 2:</b> <ul style="list-style-type: none"> <li>Give students access to connecting cubes or two-color counters.</li> </ul> <a href="#">Cool Down: Clare's Desk</a>	<a href="#">Lesson 14 Slides</a> <a href="#">Teacher Materials</a> <a href="#">Student Pages</a> <b>Activity 1 and 2:</b> <ul style="list-style-type: none"> <li>Give students access to connecting cubes or two-color counters.</li> </ul> <b>Activity 3:</b> Centers - see below	<a href="#">Lesson 15 Slides</a> <a href="#">Teacher Materials</a> <a href="#">Student Pages</a> <b>Activity 1:</b> <ul style="list-style-type: none"> <li>No copies needed</li> </ul> <b>Activity 2:</b> <ul style="list-style-type: none"> <li>Give students access to connecting cubes or two-color counters.</li> </ul> <b>Activity 3:</b> Centers - see below	<a href="#">Lesson 16 Slides</a> <a href="#">Teacher Materials</a> <a href="#">Student Pages</a> <b>Activity 1:</b> <ul style="list-style-type: none"> <li>Give each group a set of <a href="#">Numbers 0-10</a> cards, two different colored crayons or colored pencils, a <a href="#">Capture Squares Stage 2 Gameboard</a>, and access to connecting cubes or two-color counters</li> </ul> <b>Activity 2:</b> Centers - see below
	<b>Assessment</b>	<b>Formative Assessment Strategies: observation, questioning, student discourse</b> See <a href="#">Section C Checkpoint Assessment - (Monitoring Sheet)</a> , <a href="#">Section C Checkpoint Teacher's Guide</a>				
<b>Centers Materials</b>				<a href="#">Capture Squares, Stage 1</a> <a href="#">Math Stories, Stage 4</a>	<a href="#">Capture Squares, Stage 1</a>	<a href="#">Math Stories, Stage 4</a> <a href="#">Shake and Spill, Stages 3 and 4</a>

				<a href="#">Shake and Spill, Stages 3 and 4</a>	<a href="#">Shake and Spill, Stages 3 and 4</a> <a href="#">What's Behind My Back, Stage 2</a>	<a href="#">What's Behind My Back, Stage 2</a>
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## Making Meaning:

### [Lesson Lesson 11: Make Them The Same](#)

- The purpose of this lesson is for students to represent and solve Compare, Difference Unknown problems, in a way that makes sense to them.
- [Teacher presentation materials](#)
- [Slides](#)

### [Lesson Lesson 12: School Supplies](#)

- The purpose of this lesson is for students to solve Compare, Difference Unknown story problems in a way that makes sense to them.
- [Teacher presentation materials](#)
- [Slides](#)

### [Lesson Lesson 13: Compare Favorite Art Supply Data](#)

- The purpose of this lesson is for students to solve Compare, Difference Unknown story problems in a data context.
- [Teacher presentation materials](#)
- [Slides](#)

### [Lesson Lesson 14: Compare with Addition and Subtraction](#)

- The purpose of this lesson is for students to solve Compare, Difference Unknown story problems and match addition and subtraction equations to the problems.
- [Teacher presentation materials](#)
- [Slides](#)

**Checkpoints:** These documents for the above lessons provide teachers with a template for collecting data and information on student understanding of skills and concepts.

[Checkpoint C Teacher Instructions](#)

[Checkpoint C Table](#)

**Investigate:**

[Lesson Lesson 15: Different Types of Story Problems](#)

- The purpose of this lesson is for students to solve a variety of story problems and write equations that match each problem.
- [Teacher presentation materials](#)
- [Slides](#)

**Create and Produce:**

[Lesson Lesson 15: Different Types of Story Problems](#)

- The purpose of this activity is for students to solve a variety of story problems and write addition and subtraction equations that match those problems. Students solve Put Together/Take Apart, Total or Addend Unknown problems and Compare, Difference Unknown problems.
- [Teacher presentation materials](#)
- [Slides](#)

Students will solve problems about the picture from Activity 1 (What Questions Can We Ask?). The questions may include some of the questions students asked. Students will show their thinking using drawings, numbers, or words. They will write an equation to match the story problem. If they can, students may write two different equations to match the problem.

**Communicate and Present:**

Lesson 15, Activity 2

Students will be placed in partners to share 1 problem they solved, to clearly explain how they solved it, and their written equations to match the problem.

[Lesson Lesson 16: Center Day 3](#)

- The purpose of this lesson is for students to practice adding and subtracting within 10.
- [Teacher presentation materials](#)
- [Slides](#)

**Reflection:**

**Lesson 15, Activity 2: Activity Synthesis**

Display: Elena has 4 pattern blocks. Tyler has 6 pattern blocks. How many fewer patterns blocks does Elena have than Tyler?

- “How did you solve this problem? What equation did you write?”
- Record student methods and equations.
- Repeat for the other problems with the same numbers.
- “How are these problems the same? How are they different?” (They both have Elena and Tyler. They both have 4 and 6. In one we find the difference and in the other one we find the total. The answers are different.)
- If needed, ask, “Is the total important to solving the first problem? Why or why not?” (No, because we are comparing the students.)

**Additional Learning:**

**Notes: Follow lessons in numerical order.**

**Complete File with Resources and Task:**

[Task-Based Learning Plan Format for Unit 2 Topic 3](#)

<b>Topic # 4 (Section D)</b>	<b>Topic Name: Section D - All Kinds of Story Problems</b>	<b>Duration:</b> Recommended: 6 days
<p><b>Topic Description:</b></p> <p><b>Section Learning Goals</b></p> <ul style="list-style-type: none"> <li>● Apply understanding of the meaning of the equal sign to make sense of equations with a symbol for the unknown.</li> <li>● Solve different types of story problems, limited to those learned in this unit.</li> </ul> <p>In this section, students bring together the work of the unit to solve and compare a variety of problem types, write equations to represent problems, and make sense of equations with a symbol for the unknown. (They are not required to use symbols in the equations they write.) Students also reason in the other direction: writing stories and questions that correspond to given equations, and using drawings, numbers, and words to find the answers.</p>		
<p><b>Competencies Addressed:</b></p> <p><b>Understanding and Applying Number Systems</b></p> <p>Indicator 2- I can count, read, and write whole numbers.</p> <p><b>Operations and Algebraic Thinking</b></p> <p>Indicator 1- I can add within 20 using strategies.</p> <p>Indicator 2- I can subtract within 20 using strategies.</p> <p>Indicator 3- I can represent and solve problems involving addition and subtraction.</p>		<p><b>Essential Question and Enduring Understanding Addressed in this Topic:</b></p> <p><b>Essential Question</b></p> <p>In what ways can expressions, equations, and operations help us with story problems?</p> <p><b>Enduring Understanding</b></p> <p><b>Story problems help us see how we use math in our everyday lives.</b> They allow us to recognize relationships between different values, and these relationships help us to solve for unknown values. Knowing what is happening in the story problem can help us find solutions to problems in an efficient way. Addition and subtraction are strategies to help us find unknown solutions to story problems. Students will represent addition and subtraction story problems (within 10) with</p>

	<p>objects or drawings. They will also write equations and explain how their representation matches the story. When students reason about questions, quantities, and relationships in story problems and write equations to represent them, they make sense of problems to solve them and reason quantitatively and abstractly.</p>
<p><b>In this Topic, students will know:</b></p> <ul style="list-style-type: none"> <li>● Quantities of objects can be joined or separated</li> <li>● We can use addition and subtraction expressions to show joining and separating</li> <li>● We can write expressions that match story problems</li> <li>● The actions in the story problem help us determine which operation is needed</li> <li>● The answer to the problem is not always the number after the equal sign</li> <li>● There are different types of story problems that have different actions</li> <li>● Put together and total unknown problems have no action</li> <li>● Addends can be written in either order</li> <li>● Addends represent a specific part of a story</li> <li>● When we compare two quantities, we find the difference between them</li> <li>● Counting on and counting back can help us find the difference</li> <li>● We can write multiple equations that match a story problem</li> <li>● We can use a symbol to represent the unknown in an equation</li> </ul>	<p><b>Topic Vocabulary:</b></p> <p><b>Academic vocabulary:</b>  Value  pattern  Ten-frame  related</p>
<p><b>In this Topic, students will be able to:</b></p> <ul style="list-style-type: none"> <li>● Retell the story.</li> <li>● Represent a story problem with objects or drawings.</li> <li>● Explain how a representation matches the story.</li> <li>● Represent the story with equations.</li> <li>● Answer questions correctly.</li> <li>● Use addition and subtraction (within 10) to solve problems involving all kinds of story problems</li> <li>● Understand the meaning of the equal sign</li> </ul>	<p><b>Plan for Student Reflection:</b></p> <p><a href="#">Student Journal Prompts and Reflection Practices</a></p> <hr/> <p><b>Plan for Teacher Reflection:</b></p> <p><b>Lesson 17:</b> How does writing equations help students make sense of the story problems?</p> <p><b>Lesson 18:</b> Reflect on how comfortable your</p>

students are asking questions of you and of each other. What can you do to encourage students to ask questions?

**Lesson 19:** How do you see your students demonstrating an understanding of the relationship between addition and subtraction? Are students working flexibly with addition and subtraction in order to find missing values?

**Lesson 20:** Think about which students haven't shared their thinking in class lately. Were there missed opportunities to highlight their thinking during recent lessons? How can you take advantage of those opportunities when they arise?

**Lesson 21:** Students had many opportunities throughout the unit to practice adding and subtracting within 10. Reflect on the progress students have made in building fluency within 10. Think about ways you can continue this practice by incorporating addition and subtraction into other parts of the school day.

**Lesson 22:** Think about a recent time from class when your students were confused. What did you do to support them in reasoning about their confusion together as a community of learners?

**Utilize additional strategies for Teacher Reflection:**

- Reviewing formative assessments
- Developing scaffolds
- Collaborative scoring
- PLCs
- Planning for small groups

## Topic 4 Task Development

Each Topic has its own Task that serves as a roadmap for instruction during the unit. The task follows the [Learning Cycle Model](#) that drives teaching and learning in Naugatuck Public Schools.

<b>Task Title: Topic 4 - All Kinds of Story Problems</b>	<b>Grade Level and Unit: Grade 1, Unit</b>
<p><b>Description of Task:</b> In Activity 1, students write equations to represent the data they collected in Unit 1. Students can write any equation that makes sense to them. This activity is intended to follow the last lesson of Unit 1. If that lesson was not completed, students can use sample data from the blackline master to complete this task.</p> <p>When students use real-world data that they collect and determine ways of fitting their data into an existing mathematical model—put-together problems with unknowns in various positions—they model with mathematics (MP4).</p> <p>To make this activity more challenging, students can share only their equation. Then their partner looks at the data and determines what story the writer intended to represent.</p> <p>In Activity 2, students can use their data to generate questions and represent the answer using an equation. Then students take turns asking and answering each other’s questions.</p>	<p><b>Purpose of Task:</b> The purpose of this task is for students to build their understanding of the relationship between addition and subtraction and the meaning of the equal sign to represent data with equations.</p>
<p><b>Background of Students/Learning Progression:</b> In this section, students bring together the work of the unit to solve and compare a variety of problem types, write equations to represent problems, and make sense of equations with a symbol for the unknown. (They are not required to use symbols in the equations they write.) Students also reason in the other direction: writing stories and questions that correspond to given equations, and using drawings, numbers, and words to find the answers.</p>	<p><b>Ensure all competencies are addressed in the task:</b></p> <ul style="list-style-type: none"><li><input type="checkbox"/> Yes, all competencies are addressed</li><li><input type="checkbox"/> No - Task needs modification</li></ul>
<p><b>Getting Started:</b></p> <p><a href="#">Lesson 17: How Do the Stories Compare?</a>: Warm-Up - Which One Doesn’t Belong: Equations</p>	

- This warm-up prompts students to analyze and compare equations. In addition to calculating the value of each expression, students also think about the structure of each expression, including both the operations and the numbers.
- [Teacher presentation materials](#)
- [Slides](#)

Which one doesn't belong?

A.  $6 + 4 = 10$

B.  $10 - 4 = 6$

C.  $2 + 2 + 2 = 6$

D.  $6 = 2 + 4$

Students work in groups of 2. An image is displayed with 4 equations. Students will pick one that doesn't belong and prepare to share why it doesn't belong.

Sample responses:

- A doesn't belong because it doesn't have a value of 6 on both sides of the equal sign.
- B doesn't belong because it doesn't use addition.
- C doesn't belong because the addition expression has 3 numbers.
- D doesn't belong because the sum is in front of the equal sign.

Activity Synthesis:

- Display equations A and B.
- "How are the equations the same? How are they different?" (They are related facts. They both have a total of 10 and 6 and 4 as parts. One is addition and one is subtraction.)

## Learning Cycle Model Process

### Section D

IM Lesson	<a href="#">L17: How Do the Stories Compare?</a>	<a href="#">L18: Equation with Unknowns</a>	<a href="#">L19: Story Problems and Equations</a>	<a href="#">L20: What's the Story?</a>	<a href="#">L21: Center Day 4</a>	<a href="#">L22: Story Problems and Equations</a>
Learning Cycle Model	Getting Started & Making Meaning	Making Meaning	Making Meaning	Investigate	Investigate	Create and Produce
Naugatuck Math Competency	Addressing 1.OA.1, 1.OA.2, 1.OA.3	Addressing 1.OA.1, 1.OA.2, 1.OA.3	Addressing 1.NS.2 1.OA.1, 1.OA.2, 1.OA.3	Addressing 1.OA.1, 1.OA.2, 1.OA.3	Addressing 1.OA.1, 1.OA.2, 1.OA.3	Addressing 1.OA.1, 1.OA.2, 1.OA.3
Math Practice Standards	MP 3	MP 7	MP 1, 7	MP 1, 5, 6	MP 1, 5	MP 4
Lesson Purpose	The purpose of this lesson is for students to compare and solve	The purpose of this lesson is for students to interpret equations	The purpose of this lesson is for students to write two different	The purpose of this lesson is for students to write story	The purpose of this lesson is for students to practice adding and	The purpose of this lesson is for students to build their

	story problems of different types they have seen throughout the unit.	with a symbol for the unknown and connect them to story problems.	equations to match a story problem.	problems to match equations.	subtracting within 10.	understanding of the relationship between addition and subtraction and the meaning of the equal sign to represent data with equations.
<b>Teacher facing Learning Goals</b>	<ul style="list-style-type: none"> <li>Identify how a variety of story types are the same and different.</li> <li>Solve a story problem and write an equation to match the problem.</li> </ul>	<ul style="list-style-type: none"> <li>Interpret equations with a symbol for the unknown in relation to story problems.</li> <li>Solve a variety of story problem types.</li> </ul>	<ul style="list-style-type: none"> <li>Solve a variety of story problem types.</li> <li>Write two different equations to match a story problem.</li> </ul>	Write a story problem to match an equation.	Add and subtract within 10 in a way that makes sense to them.	<ul style="list-style-type: none"> <li>Use data to ask and answer questions.</li> <li>Use data to write equations.</li> <li>Write equations that represent a story problem.</li> </ul>
<b>Vocabulary Focus</b>	Story problem Equation Match	Story problem Equation Addition Subtraction	Story problem Equation Unknown value	Story problem Equation Match Unknown value Represent	-	Survey Equation Data Investigating
	<b>Warm-up: 10 minutes</b> Which One Doesn't Belong: Equations <b>Activity 1: 20 minutes</b> Compare Stories <b>Activity 2: 20 minutes</b> Outdoor Activities <b>Synthesis: 10 minutes</b> <b>Cooldown: 5 minutes</b>	<b>Warm-up: 10 minutes</b> Notice and Wonder: Equations with an Unknown <b>Activity 1: 20 minutes</b> Match Stories and Equations <b>Activity 2: 15 minutes</b> Which Equations? <b>Synthesis: 10 minutes</b> <b>Cooldown: 5 minutes</b>	<b>Warm-up: 10 minutes</b> Choral Count: 0 - 100 and Back Again <b>Activity 1: 20 minutes</b> Loteria <b>Activity 2: 15 minutes</b> What's Your Question? <b>Synthesis: 10 minutes</b> <b>Cooldown: 5 minutes</b>	<b>Warm-up: 10 minutes</b> How Many Do You See: 10-Frames <b>Activity 1: 15 minutes</b> Write Story Problems <b>Activity 2: 10 minutes</b> I've Got the Answer <b>Activity 3: 15 minutes</b> Centers: Choice Time <b>Synthesis: 10 minutes</b>	<b>Warm-up: 10 minutes</b> Number Talk: Missing Values <b>Activity 1: 15 minutes</b> Introduce Number Puzzles, Within 10 <b>Activity 2: 25 minutes</b> Centers: Choice Time <b>Synthesis: 10 minutes</b>	<b>Warm-up: 10 minutes</b> Notice and Wonder: Equations <b>Activity 1: 20 minutes</b> Revisit Data <b>Activity 2: 20 minutes</b> Questions and Answers <b>Synthesis: 10 minutes</b>
<b>Materials to Gather</b>	<b>Materials to Gather</b> <ul style="list-style-type: none"> <li>Tools for creating a visual display</li> </ul>	<b>Materials to Gather</b> <ul style="list-style-type: none"> <li>Connecting cubes or two-color counters</li> </ul>	<b>Materials to Gather</b> <ul style="list-style-type: none"> <li>Connecting cubes or two-color counters</li> </ul>	<b>Materials to Gather</b> <ul style="list-style-type: none"> <li>Connecting cubes or two-color counters</li> </ul>	<b>Materials to Gather</b> <ul style="list-style-type: none"> <li>Materials from previous centers</li> </ul>	<b>Materials to Gather</b> <ul style="list-style-type: none"> <li>Materials from a previous activity</li> <li>Materials from a</li> </ul>

		<ul style="list-style-type: none"> <li>Materials from a previous lesson</li> </ul>		<ul style="list-style-type: none"> <li>Materials from previous centers</li> </ul>		previous lesson
<b>Lesson Materials/ Resources</b>	<a href="#">Lesson 17 Slides</a> <a href="#">Teacher Materials</a> <a href="#">Student Pages</a>  <b>Activity 1:</b> No additional materials needed  <b>Activity 2:</b> <ul style="list-style-type: none"> <li>Groups of 2–4, so there are 9 groups</li> <li>Give each group tools for creating a visual display and one of the <a href="#">Story Problem Cards Grade 1</a>. </li> </ul>	<a href="#">Lesson 18 Slides</a> <a href="#">Teacher Materials</a> <a href="#">Student Pages</a>  <b>Activity 1:</b> <ul style="list-style-type: none"> <li>Give each group of 2 a set of <a href="#">Story Problem Cards Grade 1</a> and <a href="#">Equation Cards Grade 1</a>.</li> </ul> <b>Activity 2:</b> <ul style="list-style-type: none"> <li>Give students access to connecting cubes or two-color counters.</li> </ul> <a href="#">Cooldown: Lin’s Bingo Chips</a>	<a href="#">Lesson 19 Slides</a> <a href="#">Teacher Materials</a> <a href="#">Student Pages</a>  <b>Activity 1 and 2:</b> <ul style="list-style-type: none"> <li>Give students access to connecting cubes or two-color counters.</li> </ul> <a href="#">Cooldown: Beans and Rocks</a>	<a href="#">Lesson 20 Slides</a> <a href="#">Teacher Materials</a> <a href="#">Student Pages</a>  <b>Activity 1 and 2:</b> <ul style="list-style-type: none"> <li>Give students access to connecting cubes or two-color counters.</li> </ul> <b>Activity 2:</b> No additional materials needed  <b>Activity 3:</b> Centers - see below	<a href="#">Lesson 21 Slides</a> <a href="#">Teacher Materials</a> <a href="#">Student Pages</a>  <b>Activity 1:</b> <ul style="list-style-type: none"> <li>Give each group of 2 a set of <a href="#">Number Puzzles Digit Cards</a> and a <a href="#">Number Puzzles Addition and Subtraction Stage 1 Gameboard</a>.</li> </ul> <b>Activity 2:</b> Centers - see below	<a href="#">Lesson 22 Slides</a> <a href="#">Teacher Materials</a> <a href="#">Student Pages</a>  <b>Activity 1:</b> <ul style="list-style-type: none"> <li>Gather survey data from the <b>last lesson in Unit 1, Animals in the Jungle</b>.</li> <li>Give each group the data or posters from the previous unit or the sample data from <a href="#">Revisit Data</a>.</li> </ul> <b>Activity 2:</b> <ul style="list-style-type: none"> <li>Students need access to the survey data used in the previous activity.</li> </ul>
<b>Assessment</b>	<b>Formative Assessment Strategies: observation, questioning, student discourse</b> See <a href="#">Section D Checkpoint Assessment - (Monitoring Sheet)</a> , <a href="#">Section D Checkpoint Teacher’s Guide</a> <a href="#">Unit 2 Assessment</a> , <a href="#">Unit 2 Assessment Teacher Guide</a>					
						<a href="#">Section D Practice Problems</a>
<b>Centers Materials</b>				<a href="#">Capture Squares, Stages 1 and 2</a>  <a href="#">Shake and Spill, Stages 3 and 4</a>	<a href="#">Capture Squares, Stages 1 and 2</a>  <a href="#">Math Stories, Stage 4</a>  <a href="#">What’s Behind My Back, Stage 2</a>	

## Making Meaning:

### [Lesson 17: How Do the Stories Compare?](#)

- The purpose of this lesson is for students to compare and solve story problems of different types they have seen throughout the unit.
- [Teacher presentation materials](#)
- [Slides](#)

### [Lesson 18: Equations with Unknowns](#)

- The purpose of this lesson is for students to interpret equations with a symbol for the unknown and connect them to story problems.
- [Teacher presentation materials](#)
- [Slides](#)

### [Lesson 19: Story Problems and Equations](#)

- The purpose of this lesson is for students to write two different equations to match a story problem.
- [Teacher presentation materials](#)
- [Slides](#)

**Checkpoints:** These documents for the above lessons provide teachers with a template for collecting data and information on student understanding of skills and concepts.

[Checkpoint D Teacher Instructions](#)

[Checkpoint D Table](#)

## Investigate:

### [Lesson 20: What's the Story?](#)

- The purpose of this lesson is for students to write story problems to match equations.
- [Teacher presentation materials](#)
- [Slides](#)

### [Lesson 21: Center Day 4](#)

- The purpose of this lesson is for students to practice adding and subtracting within 10.
- [Teacher presentation materials](#)
- [Slides](#)

**Create and Produce:**

**Lesson 22: Story Problems and Equations**

- The purpose of this lesson is for students to build their understanding of the relationship between addition and subtraction and the meaning of the equal sign to represent data with equations.
- [Teacher presentation materials](#)
- [Slides](#)

In Activity 1, students write equations to represent the data they collected in Unit 1. Students can write any equation that makes sense to them. This activity is intended to follow the last lesson of Unit 1. If that lesson was not completed, students can use sample data from the blackline master to complete this task.

When students use real-world data that they collect and determine ways of fitting their data into an existing mathematical model—put-together problems with unknowns in various positions—they model with mathematics (MP4).

To make this activity more challenging, students can share only their equation. Then their partner looks at the data and determines what story the writer intended to represent.

In Activity 2, students can use their data to generate questions and represent the answer using an equation. Then students take turns asking and answering each other’s questions.

**Communicate and Present:**

Lesson 22, Activity 2: Questions and Answers

Students take turns asking and answering questions with their partner. After asking the questions, each student shows their work in their book.

**Reflection:**

**Lesson 22, Activity Synthesis**

“What new thing did you learn from this data that you had not realized the first time?”

**Notes: Follow lessons in numerical order.**

**Complete File with Resources and Task:**

[Task-Based Learning Plan Format for Unit 2 Topic 4](#)