

# Grade 3 Unit 4 Bridges Preparation List

## Module 1-4

### Measurement & Fractions

#### **\*Unit 4 Module 1:**

#### **Module 1 Measuring Time & Mass Preparation:**

#### **Module 1 Session 1 Unit 4 Pre-Assessment Preparation:**

##### **Materials**

Copies	Kit Materials	Classroom Materials
<b>Assessment</b> Unit 4 Pre-Assessment		
<b>TM T1-T4</b> Unit 4 Pre-Assessment	<ul style="list-style-type: none"> <li>• student clocks</li> <li>• pattern blocks (see Preparation)</li> </ul>	<ul style="list-style-type: none"> <li>• scratch paper (class set)</li> </ul>
<b>Work Places in Use</b>		
<b>2C</b> Cover Up (introduced Unit 2, Module 2, Session 5) <b>2D</b> Doubles Help (introduced Unit 2, Module 3, Session 5) <b>3A</b> Round Ball Tens (introduced in Unit 3, Module 1, Session 2) <b>3B</b> Add & Round Tens (introduced in Unit 3, Module 1, Session 3) <b>3C</b> Round Ball Hundreds (introduced in Unit 3, Module 1, Session 4) <b>3D</b> Round & Add Hundreds (introduced in Unit 3, Module 3, Session 1)		
<b>Daily Practice</b>		
<b>SB 103</b> Karate Problems		

HC – Home Connection, SB – Student Book, TM – Teacher Master  
 Copy instructions are located at the top of each teacher master.

##### **Vocabulary**

An asterisk [\*] identifies those terms for which Word Resource Cards are available.

- centimeter (cm)\*
- digital clock
- equation\*
- fraction\*
- gram (g)\*
- half\*
- hour (hr.)
- kilogram (kg)\*
- length
- liquid volume\*
- liter (l)\*
- mass\*
- meter (m)\*
- minute (min.)
- thirds
- volume\*

- Organize your pattern blocks for students to use at their tables or desks during the assessment. Each student will need access to several of the following shapes: hexagons, trapezoids, blue rhombuses, and triangles. The squares and white rhombuses won't be needed at all today and should be removed from the sets.
- Write the list of Workplaces from which students can choose today. You can write just the numbers (2C–3D) or write out the full names if you prefer. (See the list in the Workplaces in Use row of the Materials Chart for the complete list of Workplaces used today.)
- Note that you will need to score the Unit 4 Pre-Assessment before Session 3. (See the Grade 3 Assessment Guide for scoring and intervention suggestions.) If you cannot mark the Unit 4 Pre-Assessment by Session 3, make room for reflection time during another session in this module.

#### **Module 1 Session 2 Telling Time Preparation:**

## Materials

Copies	Kit Materials	Classroom Materials
<b>Problems &amp; Investigations</b> Telling Time		
<b>SB 104</b> Roll, Tell & Record the Time	<ul style="list-style-type: none"> <li>• 2 blue 1–6 dice</li> <li>• 1 green 1–6 die</li> <li>• 1 white 4–9 die</li> <li>• student clocks, 1 per student pair</li> </ul>	<ul style="list-style-type: none"> <li>• large teacher display clock (e.g., Judy Clock)</li> </ul>
<b>Work Places</b> Introducing Work Place 4A Tic-Tac-Tock		
<b>TM T5</b> Work Place Guide 4A Tic-Tac-Tock <b>TM T6</b> 4A Tic-Tac-Tock Record Sheet <b>SB 105*</b> Work Place Instructions 4A Tic-Tac-Tock	<ul style="list-style-type: none"> <li>• 2 blue 1–6 dice</li> <li>• 1 green 1–6 die</li> <li>• 1 white 4–9 die</li> <li>• student clocks, 1 per student pair</li> </ul>	
<b>Work Places in Use</b>		
<b>2D</b> Doubles Help (introduced Unit 2, Module 3, Session 5) <b>3A</b> Round Ball Tens (introduced in Unit 3, Module 1, Session 2) <b>3B</b> Add & Round Tens (introduced in Unit 3, Module 1, Session 3) <b>3C</b> Round Ball Hundreds (introduced in Unit 3, Module 1, Session 4) <b>3D</b> Round & Add Hundreds (introduced in Unit 3, Module 3, Session 1) <b>4A</b> Tic-Tac-Tock (introduced in this session)		
<b>Home Connection</b>		
<b>HC 61–62</b> Writing Time in Different Ways		
<b>Daily Practice</b>		
<b>SB 106</b> Telling Time on Two Kinds of Clocks		

HC – Home Connection, SB – Student Book, TM – Teacher Master

Copy instructions are located at the top of each teacher master.

\*Run 1 copy of this page to be kept in a clear plastic sleeve in the Work Place bin.

- In today’s session, you’ll introduce Workplace 4A Tic-Tac-Tock, which replaces 2C Cover Up. Before this session, you should review the Workplace Guide as well as the Workplace Instructions. Make copies of the 4A Tic-Tac-Tock Record Sheet for use today, and store the rest in the Workplace 4A bin, along with the materials listed on the guide. This guide also includes suggestions for differentiating the game to meet students’ needs.
- You will need one copy of the 4A Tic-Tac-Tock Record Sheet for display, and a class set to use in introducing the game today.
- Write a list of Workplaces from which students can choose today. You can just write the numbers (2D–4A) or write out the full names if you prefer. (See the Workplaces in Use Row of the Materials Chart for the complete list of Workplaces in use today.)
- In the next session, students will reflect on their Unit 4 Pre-Assessments, so you need to score them by then.

## Vocabulary

An asterisk [\*] identifies those terms for which Word Resource Cards are available.

analog clock  
digital clock  
hour (hr.)  
minute (min.)  
time

## Module 1 Session 3 Time on a Number Line Preparation:

## Materials

Copies	Kit Materials	Classroom Materials
<b>Assessment</b> Reflecting on the Unit 4 Pre-Assessment		
<b>TM T7</b> Unit 4 Pre-Assessment Student Reflection Sheet		• Scored Unit 4 Pre-Assessments (TM T1-T4 from Session 1)
<b>Problems &amp; Investigations</b> Time on a Number Line		
<b>TM T8</b> Timelines <b>SB 107–108</b> What Is The Time?		• piece of copy paper to mask portions of the teacher master • half-sheets of scratch paper or individual whiteboards, pens, and erasers (class set)
<b>Daily Practice</b>		
<b>SB 109–110</b> Telling Time on Analog & Digital Clocks		

HC – Home Connection, SB – Student Book, TM – Teacher Master  
Copy instructions are located at the top of each teacher master.

## Vocabulary

An asterisk [\*] identifies those terms for which Word Resource Cards are available.

half-hour  
hour (hr.)  
minute (min.)  
time  
timeline

## Module 1 Session 4 Measurement—Big, Strong, Fast Preparation: Materials

Copies	Kit Materials	Classroom Materials
<b>Problems &amp; Investigations</b> Measurement—Big, Fast, Strong		
<b>TM T9</b> What's the Capacity?	<ul style="list-style-type: none"> <li>• <i>Biggest, Strongest, Fastest</i> by Steve Jenkins</li> <li>• pattern blocks (see Preparation)</li> <li>• 1-cup/250-ml measuring cups (1 per group of 3 students)</li> <li>• 1-quart/1-liter measuring cup</li> <li>• tape measures (optional, one for each group of 3 students)</li> <li>• Word Resource Cards for <i>cup, customary system, gallon, gram, kilogram, liquid volume, liter, mass, metric system, milliliter, ounce, pound, quart</i> (see Preparation)</li> </ul>	<ul style="list-style-type: none"> <li>• 1 teaspoon</li> <li>• 1 ping-pong ball</li> <li>• 1 regular paperclip per student</li> <li>• 1 book for each group of 3 students (see Preparation)</li> <li>• one 2-liter container (see Preparation)</li> <li>• objects of varying mass (see Preparation)</li> <li>• chart paper</li> <li>• markers</li> <li>• standard pocket chart (optional, see Preparation)</li> </ul>
<b>Home Connection</b>		
<b>HC 63–64</b> Annie's School Day		
<b>Daily Practice</b>		
<b>SB 110</b> Alex Walks Home from School		

HC – Home Connection, SB – Student Book, TM – Teacher Master  
Copy instructions are located at the top of each teacher master.

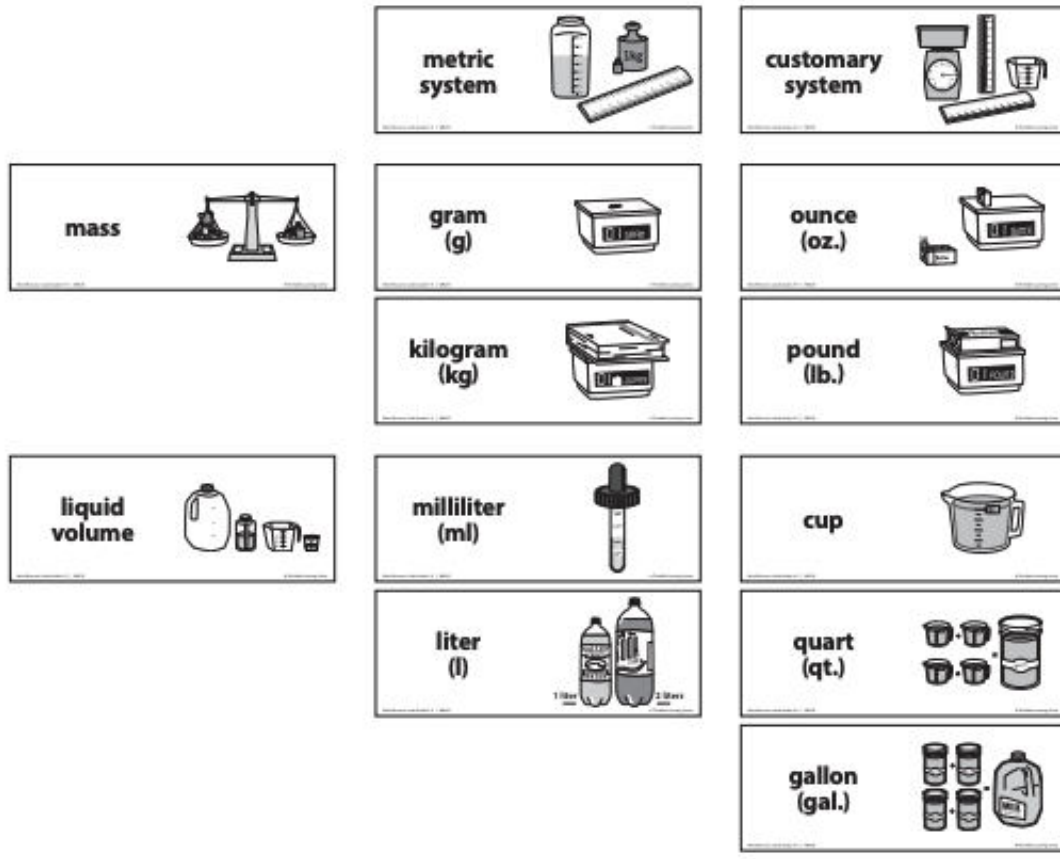
## Vocabulary

An asterisk [\*] identifies those terms for which Word Resource Cards are available.

benchmark  
capacity  
cup\*  
customary system\*  
gallon (gal.)\*  
gram (g)\*  
kilogram (kg)\*  
liquid volume\*  
liter (l)\*  
mass\*  
metric system\*  
milliliter (ml)\*  
ounce (oz.)\*  
pound (lb.)\*  
quart (qt.)\*  
referent  
weight

- Read the book *Biggest, Strongest, Fastest* by Steve Jenkins before the session to familiarize yourself with the content.
- Have several containers of pattern blocks available for students to find their own blue rhombus, or gather about 30 rhombuses before the session.
- Gather books with a mass of approximately 1 kilogram (a little more than 2 pounds) for each group of three students.

- Find several objects in the room that have a mass of more than a kilogram and several with less than a kilogram. Also gather several items with a mass of less than a gram and several with a mass of more than a gram. (A feather, a toothpick, and a plastic coin all have a mass less than a gram.)
- Measure 1 liter of water into an unmarked 2-liter container (such as a soda bottle). Have it and a 1 quart/1 liter measuring cup available for a demonstration.
- Display the Word Resource Cards listed in the Materials Chart in a pocket chart or on the wall where everyone can see them clearly. Organize the display in a manner similar to that shown here.



**Module 1 Session 5 Measuring Mass Preparation:**

## Materials

Copies	Kit Materials	Classroom Materials
<b>Problems &amp; Investigations</b> Measuring Mass		
	<ul style="list-style-type: none"> <li>1 pan balance scale</li> <li>plastic cubes (20 gram cubes per pair of students, plus 50 gram cubes in a zip-top bag)</li> </ul>	<ul style="list-style-type: none"> <li>15 one-quarter pound sticks of modeling clay (see Preparation)</li> <li>20 regular paperclips per pair of students</li> <li>10 boxes of 100 regular paperclips</li> <li>chart paper</li> <li>markers</li> <li>additional pan balance scales, if available</li> </ul>
<b>Work Places in Use</b>		
<p><b>2D</b> Doubles Help (introduced Unit 2, Module 3, Session 5)  <b>3A</b> Round Ball Tens (introduced in Unit 3, Module 1, Session 2)  <b>3B</b> Add &amp; Round Tens (introduced in Unit 3, Module 1, Session 3)  <b>3C</b> Round Ball Hundreds (introduced in Unit 3, Module 1, Session 4)  <b>3D</b> Round &amp; Add Hundreds (introduced in Unit 3, Module 3, Session 1)  <b>4A</b> Tic-Tac-Tock (introduced in Unit 4, Module 1, Session 2)</p>		
<b>Daily Practice</b>		
<b>SB 111</b> Mass of Clay		

## Vocabulary

An asterisk [\*] identifies those terms for which Word Resource Cards are available.

gram (g)\*  
kilogram (kg)\*  
mass\*  
metric system\*  
pan balance scale

HC – Home Connection, SB – Student Book, TM – Teacher Master  
Copy instructions are located at the top of each teacher master.

- Use one stick of modeling clay to form two lumps of clay for each pair of students in your class. Cut the stick of clay off-center to make one lump of about 45 grams and another of about 60 grams. Mash the clay into lumps—do not keep them rectangular. Each pair of students receives one lump of each size.
- During today’s session, students will mix their lumps of clay together. If you want to maintain the four colors, be sure to group students with like colors of clay.
- Set up a pan balance scale for your demonstration. Practice using the clips to balance the scale.
- Put 50 plastic cubes (each cube is 1 gram) in a zip-top bag for your demonstration and show students a box of 100 paperclips.
- Write a list of Workplaces from which students can choose today. You can just write the numbers (2D–4A) or write out the full names if you prefer. (See the Workplaces in Use row of the Materials Chart for the complete list of Work Places in use today.)
- If you have access to additional pan balance scales, set them up as workstations for students to use while they work in groups today.
- Give each pair of students 20 paperclips, 20 one-gram cubes and the two unequal lumps of clay.

## Module 1 Session 6 Estimate, Measure & Compare the Mass Preparation:

## Materials

Copies	Kit Materials	Classroom Materials
<b>Problems &amp; Investigations</b> Estimate, Measure & Compare the Mass		
<b>SB 112–113*</b> Estimate, Measure & Compare the Mass	<ul style="list-style-type: none"> <li>pan balance scale with metric weights</li> <li>25 plastic cubes</li> <li>25 plastic cubes per group (optional, see Preparation)</li> </ul>	<ul style="list-style-type: none"> <li>a few new, unsharpened pencils</li> <li>a rock of a little less than 1 kilogram</li> <li>several objects with a mass under 100 grams (see Preparation)</li> <li>25 regular paperclips per 6 students</li> <li>5 boxes of 100 regular paperclips</li> <li>student math journals</li> <li>basket(s) of objects to measure (see Preparation)</li> <li>additional pan balances, if available (optional, see Preparation)</li> </ul>
<b>Home Connection</b>		
<b>HC 65–66</b> Measuring Mass & Weight		
<b>Daily Practice</b>		
<b>SB 114</b> Grams & Kilograms		

HC – Home Connection, SB – Student Book, TM – Teacher Master  
Copy instructions are located at the top of each teacher master.

\* Run 1 copy of this page for display.

- Find a rock with a mass of about 1 kilogram.
- Find the mass of several items under 100 grams, and have them available for students to measure during the demonstration. Suggestions include erasers, rolls of tape, a ball of string, a computer mouse, or various batteries. You'll need enough items that they, plus the metric measures and 25 gram cubes, will balance the rock.
- At the end of this session, students will practice estimating and measuring mass. If you have access to additional pan balances, students can do this activity in small groups. In this case, plan to divide the class into as many groups as you have pan balances, and make sure each balance has some metric weights and gram cubes with it.
  - » Make a basket of small items to measure (if you'll divide the class into groups, make a basket for each group). The items should have a mass of between 5 grams and 1 kilogram and should fit in the pan balances. Make sure these items are different from the items you use during the demonstration. A suggested assortment of items for the baskets:  
calculator    pebble    small book    marker    stick of clay

Suggestions of objects they could use

## Vocabulary

An asterisk (\*) identifies those terms for which Word Resource Cards are available.

gram (g)\*  
kilogram (kg)\*  
mass\*  
metric system\*  
pan balance scale

Objects we're using to measure the mass of the rock	Mass (in grams)	Number Used
eraser	66 g	I
roll of tape	82 g	I
ball of string	87 g	I
C battery	60 g	II
computer mouse	95 g	I
paperclip box	100 g	IIII
metric measures	10 g	IIII
gram cubes	1 g	III

## \*Unit 4 Module 2:

### Measuring Volume & Solving Measurement Story Problems

## Unit 4 Module 2 Session 1 Measuring Liquid Volume:

### Module 2 Session 1 Measuring Liquid Volume Preparation: Materials

Copies	Kit Materials	Classroom Materials
<b>Assessment</b> Time Checkpoint		
<b>TM T1</b> Time Checkpoint	• student clocks	
<b>Problems &amp; Investigations</b> Measuring Liquid Volume		
<b>SB 115–116*</b> Which Container Is Best?	<ul style="list-style-type: none"> <li>• 1-cup/250-ml measuring cups (1 per group of 3 students)</li> <li>• 1-quart/1-liter measuring cups (1 per group of 3 students)</li> </ul>	<ul style="list-style-type: none"> <li>• 4–6 cafeteria trays (see Preparation)</li> <li>• 4–6 bath towels or paper towels (see Preparation)</li> <li>• 4–6 pitchers or other containers with pour spouts (see Preparation)</li> <li>• empty half-liter water bottle (1 per 3 students)</li> <li>• 1 empty 50 ml container (e.g., travel-size shampoo, lotion, or contact lens solution bottle)</li> <li>• beverage containers of varying capacity, labeled (8 or more per table of 6 students; see Preparation)</li> </ul>
<b>Daily Practice</b>		
<b>SB 117</b> Liquid Volume		

### Vocabulary

An asterisk [\*] identifies those terms for which Word Resource Cards are available.

cup\*  
 customary system\*  
 liquid volume\*  
 liter (l)\*  
 metric system\*  
 milliliter (ml)\*  
 quart (qt.)\*

HC – Home Connection, SB – Student Book, TM – Teacher Master  
 Copy instructions are located at the top of each teacher master.

\* Run 1 copy of this page for display.

- Before this session, use one of the 250-ml measures to pour 250 ml of water four times into one of the liter measures. Observe the relative levels of accuracy of the two measures so that you'll be prepared to discuss accuracy with students if it comes up during today's activity.
- Students will work in groups of 3 to do the measuring activities today. You will want to organize the room and the materials so that 2 groups—6 students total—can work at each

table or cluster of desks. Organize the following materials onto a cafeteria tray for each table:

- » A pitcher or other container with a pour spout, such as a half-gallon milk carton, filled with about 2 quarts of water.
- » A small bath towel or a handful of paper towels for clean-up of spilled water.
- Hold in reserve an empty half-liter water bottle for each group of 3 students.
- Later in the session, each table of 6 students will also need access to 8 or more beverage containers of varying capacity, each container labeled with an alphabet letter. Examples of containers include pop cans, water bottles of various sizes, toddlers’ cups, coffee mugs, drink containers from fast food places—including extra-large or super-size cups.

## Module 2 Session 2 Measurement Scavenger Hunt Preparation:

### Materials

Copies	Kit Materials	Classroom Materials
<b>Work Places</b> Introducing 4B Measurement Scavenger Hunt		
<b>TM T2</b> Work Place Guide 4B Measurement Scavenger Hunt <b>TM T3</b> 4B Measurement Scavenger Hunt Record Sheet <b>TM T4</b> Unit 4 Work Place Log (see Preparation) <b>SB 118*</b> Work Place Instructions 4B Measurement Scavenger Hunt	<ul style="list-style-type: none"> <li>• 1 spinner overlay</li> <li>• 1 measuring tape</li> <li>• 1 pan balance</li> <li>• 1-quart/1-liter measuring cup</li> </ul>	<ul style="list-style-type: none"> <li>• meter stick marked in millimeters</li> <li>• modeling clay, about 2 pounds</li> <li>• a pitcher or other container with a pour spout, filled with about 1 liter of water</li> <li>• several containers of varying volume</li> <li>• dish towel or paper towel</li> <li>• students’ Work Place folders (see Preparation)</li> </ul>
<b>Work Places in Use</b>		
<b>3A</b> Round Ball Tens (introduced in Unit 3, Module 1, Session 2) <b>3B</b> Add & Round Tens (introduced in Unit 3, Module 1, Session 3) <b>3C</b> Round Ball Hundreds (introduced in Unit 3, Module 1, Session 4) <b>3D</b> Round & Add Hundreds (introduced in Unit 3, Module 3, Session 1) <b>4A</b> Tic-Tac-Tock (introduced in Unit 4, Module 1, Session 2) <b>4B</b> Measurement Scavenger Hunt (introduced in this session)		
<b>Home Connection</b>		
<b>HC 67–68</b> Metric Measures of Mass & Liquid Volume		
<b>Daily Practice</b>		
<b>SB 119</b> More or Less?		

### Vocabulary

An asterisk [\*] identifies those terms for which Word Resource Cards are available.

- gram (g)\*
- kilogram (kg)\*
- liquid volume\*
- liter (l)\*
- metric system\*
- milliliter (ml)\*
- millimeter (mm)\*

HC – Home Connection, SB – Student Book, TM – Teacher Master

Copy instructions are located at the top of each teacher master.

\* Run 1 copy of this page to be kept in a clear plastic sleeve in the Work Place bin.

- Remove the Unit 2 Workplace Log Teacher Master from the back of each student’s Workplace folder and replace it with a copy of the Unit 4 Workplace Log Teacher Master, stapled at all four corners. Leave the Unit 3 Workplace Log stapled to the front of each folder. This will allow students to keep track of the number of times they have visited the Unit 3 Workplaces that will remain in use during Unit 4, and also track their progress through the new Workplaces as they’re introduced, starting today.



- In today’s session, you’ll introduce Workplace 4B Measurement Scavenger Hunt, which replaces Workplace 2D Doubles Help. Before this session, you should review the Workplace Guide, as well as the Workplace Instructions. Make a copy of the 4B Measurement Scavenger Hunt Record Sheet for use today in introducing the activity and store the rest in the Workplace 4B Measurement Scavenger Hunt bin. See the set-up note on the guide for this Workplace. You will need to find a place in your classroom to set up and leave out several sets of measuring materials, rather than storing the materials in the Workplace bin the way you usually do.
- Write the list of Workplaces from which students can choose today. You can just write the numbers (3C–4B) or write out the full names if you have time. (See the list in the Workplaces in Use row of the Materials Chart for the complete list of Workplaces used today.)

**Module 2 Session 3 Measurement Story Problems Preparation:  
Materials**

Copies	Kit Materials	Classroom Materials
<b>Work Places</b> Introducing Target One Thousand		
<b>TM T5</b> Work Place Guide 4C Target One Thousand  <b>TM T6</b> 4C Target One Thousand Record Sheet  <b>SB 120**</b> Work Place Instructions 4C Target One Thousand	<ul style="list-style-type: none"> <li>• Number Cards, 1 deck with the wild cards removed</li> </ul>	<ul style="list-style-type: none"> <li>• Addition Strategies chart (saved from Unit 3, Module 1, Session 6)</li> <li>• Subtraction Strategies chart (saved from Unit 3, Module 2, Session 4)</li> <li>• scratch paper, class set</li> </ul>
<b>Problems &amp; Investigations</b> Measurement Story Problems		
<b>TM T7</b> Bird Measurement Problems Forum Planner  <b>SB 121–122*</b> Bird Measurement Problems		<ul style="list-style-type: none"> <li>• chart paper or space to write on the whiteboard</li> </ul>
<b>Work Places in Use</b>		
<b>3B</b> Add & Round Tens (introduced in Unit 3, Module 1, Session 3) <b>3C</b> Round Ball Hundreds (introduced in Unit 3, Module 1, Session 4) <b>3D</b> Round & Add Hundreds (introduced in Unit 3, Module 3, Session 1) <b>4A</b> Tic-Tac-Tock (introduced in Unit 4, Module 1, Session 2) <b>4B</b> Measurement Scavenger Hunt (introduced in Unit 4, Module 2, Session 2) <b>4C</b> Target One Thousand (introduced in this session)		
<b>Daily Practice</b>		
<b>SB 123</b> Mr. Measure		

**Vocabulary**

An asterisk [\*] identifies those terms for which Word Resource Cards are available.

- gram (g)\*
- mass\*
- milliliter (ml)\*
- sum or total\*

HC – Home Connection, SB – Student Book, TM – Teacher Master  
 Copy instructions are located at the top of each teacher master. \* Run 1 copy of this page for display.  
 \*\* Run 1 copy of this page to be kept in a clear plastic sleeve in the Work Place bin.

- Post the Addition and Subtraction Strategies charts from Unit 3 where everyone can see them.
- In today’s session, you’ll introduce Workplace 4C Target One Thousand, which replaces Workplace 3A Round Ball Tens. Before this session, you should review the Workplace Guide and Workplace Instructions, and assemble the bin for Workplace 4C, using the materials

listed on the guide. The Workplace Guide also includes suggestions for differentiating the game to meet students' needs.

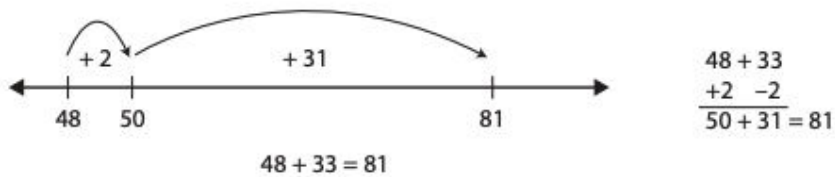
- You will need two copies of the 4C Target One Thousand Record Sheet for use in introducing the game to the class today, one for yourself, and one for the students.
- Write a list of Workplaces from which students can choose today. You can just write the numbers (3B–4C) or write out the full names if you prefer. (See the Workplaces in Use row of the Materials Chart for the complete list of Work Places in use today.)
- Read Session 4 to see how students might share their work from today's session. Before tomorrow's forum, use the Bird Measurement Problems Forum Planner to help select students to share their work.

\*Before they start work, draw students' attention to the Addition and Subtraction Strategies charts you posted in preparation for this session. Can they spot any strategy that looks like it might be particularly helpful with one or more of the measurement problems?

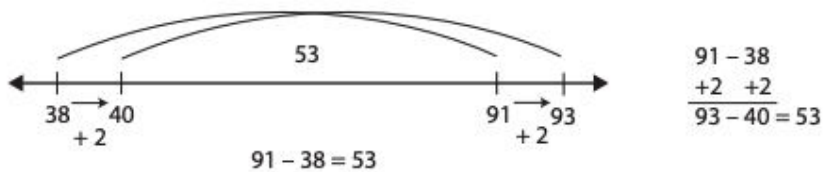
\* Remind students that they used jumps on the open number line to solve problems about time just a few sessions ago.

\*Take a few minutes to quickly review the compensation strategy for addition and the constant difference strategy for subtraction, as these may be especially helpful given some of the combinations students will be working with.

**Compensation (Give & Take) Strategy for Addition**



**Constant Difference Strategy for Subtraction**



**Module 2 Session 4 More Measurement Problems Preparation:**

## Materials

Copies	Kit Materials	Classroom Materials
<b>Math Forum</b> Measurement Problems		
		<ul style="list-style-type: none"> <li>• Bird Measurement Problems Student Book page (completed during Session 3)</li> <li>• Bird Measurement Problems Forum Planner (with notes from Session 3)</li> <li>• chart paper</li> </ul>
<b>Problems &amp; Investigations</b> More Measurement Problems		
<b>TMT8</b> More Measurement Problems Forum Planner <b>SB 124–125</b> More Measurement Problems		
<b>Home Connection</b>		
<b>HC 69–70</b> Grasshopper Math		
<b>Daily Practice</b>		
<b>SB 126</b> Millie Millipede		

HC – Home Connection, SB – Student Book, TM – Teacher Master  
 Copy instructions are located at the top of each teacher master.

- Use the Bird Measurement Problems Forum Planner to decide which four or five students you want to have share in today’s forum and in what order.
- Post one or more pieces of chart paper where everyone can see them during the math forum.
- Students will work on today’s assignment with a partner, and in this case, you’ll probably want to pre-assign the partners.
- Read Session 5 to learn about tomorrow’s math forum. Before tomorrow’s forum, use the More Measurement Problems Forum Planner to help select students to share their work.

## Vocabulary

An asterisk [\*] identifies those terms for which Word Resource Cards are available.

- gram (g)\*
- kilogram (kg)\*
- milliliter (ml)\*
- pan balance scale

## Module 2 Session 5 Multi-Step Measurement Problems Forum Preparation:

## Materials

Copies	Kit Materials	Classroom Materials
<b>Math Forum</b> More Measurement Problems		
		<ul style="list-style-type: none"> <li>• More Measurement Problems Student Book page (completed during Session 3)</li> <li>• More Measurement Problems Forum Planner (with notes from Session 3)</li> <li>• chart paper</li> </ul>
<b>Work Places in Use</b>		
<b>3B</b> Add & Round Tens (introduced in Unit 3, Module 1, Session 3) <b>3C</b> Round Ball Hundreds (introduced in Unit 3, Module 1, Session 4) <b>3D</b> Round & Add Hundreds (introduced in Unit 3, Module 3, Session 1) <b>4A</b> Tic-Tac-Tock (introduced in Unit 4, Module 1, Session 2) <b>4B</b> Measurement Scavenger Hunt (introduced in Unit 4, Module 2, Session 2) <b>4C</b> Target One Thousand (introduced in Unit 4, Module 2, Session 3)		
<b>Daily Practice</b>		
<b>SB 127</b> Arnie Orangutan		

HC – Home Connection, SB – Student Book, TM – Teacher Master  
 Copy instructions are located at the top of each teacher master.

- Use the More Measurement Problems Forum Planner to decide which four or five students you want have to share in today’s forum and in what order.
- Post one or more pieces of chart paper where everyone can see them during the math forum.
- Write a list of Workplaces from which students can choose today. You can just write the numbers (3B–4C) or write out the full names if you prefer. (See the Workplaces in Use row of the Materials Chart for the complete list of Work Places in use today.)
- During Workplaces you will have a chance to work with students in small groups. Think about students who would benefit from small group instruction on skills and concepts addressed recently. You may want to use some of the problems that have appeared in Daily Practice pages over the past couple of weeks to help focus your time with these students.

## Vocabulary

An asterisk [\*] identifies those terms for which Word Resource Cards are available.

gram (g)\*  
 kilogram (kg)\*  
 milliliter (ml)\*  
 pan balance scale

## \*Unit 4 Module 3 Fractions as Fair Shares

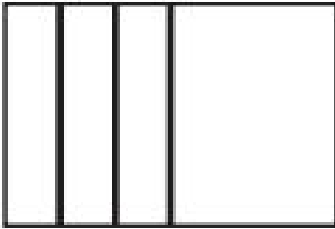
### Unit 4 Module 3 Session 1 Fair Shares, Unit Fractions Preparation:

## Materials

Teacher Masters	Kit Materials	Classroom Materials
<b>Assessment</b> Measurement Checkpoint		
<b>TM T1-T2</b> Measurement Checkpoint		
<b>Problems &amp; Investigations</b> Fair Shares, Unit Fractions		
		<ul style="list-style-type: none"> <li>• six 4" × 6" rectangles of copy paper per student, plus extra</li> <li>• one 6" × 9" rectangle of copy paper (see Preparation)</li> <li>• rulers marked in inches</li> <li>• small envelopes, 1 per students</li> </ul>
<b>Home Connection</b>		
<b>HC 71-72</b> Sharing Candy Bars & Measuring		
<b>Daily Practice</b>		
<b>SB 128</b> Choose a Measurement Unit		

**HC** – Home Connection, **SB** – Student Book, **TM** – Teacher Master  
*Copy instructions are located at the top of each teacher master.*

Cut one 6" × 9" rectangle from a piece of copy paper. Fold the rectangle into four sections as shown here. Make the lines dark with a marker so that they are easy to see.



## Vocabulary

*An asterisk [\*] identifies those terms for which Word Resource Cards are available.*

congruent\*  
 eighth/eighths  
 equivalent  
 fair share  
 fourth/fourths  
 fraction\*  
 half\*  
 sixth/sixths  
 third/thirds  
 unit fraction\*

## Module 3 Session 2 Comparing & Ordering Unit Fractions Preparation:

## Materials

Copies	Kit Materials	Classroom Materials
<b>Problems &amp; Investigations</b> Comparing & Ordering Unit Fractions		
		<ul style="list-style-type: none"> <li>several sheets of 9" × 12" yellow construction paper (see Preparation)</li> <li>several pieces of 4" × 6" white copy paper for demonstration purposes</li> <li>students' folded and labeled paper rectangles from the previous session</li> <li>scissors, class set</li> <li>six 1" × 12" strips of red construction paper</li> <li>masking tape or magnets</li> <li>glue sticks (optional)</li> <li>12" × 18" construction paper, any color (optional, class set)</li> </ul>
<b>Daily Practice</b>		
<b>SB 129</b> Comparing Unit Fractions		

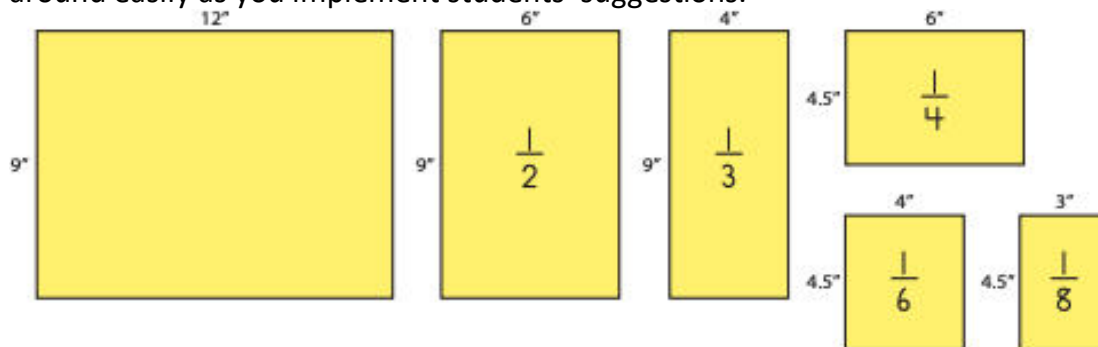
## Vocabulary

An asterisk [\*] identifies those terms for which Word Resource Cards are available.

common fractions  
compare  
denominator\*  
fraction\*  
greatest  
least  
less than  
more than  
numerator\*  
order  
unit fraction\*

HC – Home Connection, SB – Student Book, TM – Teacher Master  
Copy instructions are located at the top of each teacher master.

- Use the sheets of yellow construction paper to cut and label a set of unit fractions, as shown in the illustration. You will also need one sheet left whole and unlabeled for now. Have these ready to stick on your whiteboard with magnets or tape. You will be ordering the fractions from least to greatest as a class, so you need to be able to move the pieces around easily as you implement students' suggestions.



As a class, create a set of unit fractions  $\frac{1}{2}$ ,  $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{1}{6}$ ,  $\frac{1}{8}$  from the strips of construction paper.

- Hold up the first strip, and work with input from the students to label it as the amount one person would get if she didn't share it with anyone else. ( $\frac{1}{1} = 1$ )
- Hold up the second strip. Ask students to suggest how to find one person's share if that person is sharing the licorice strip with one friend. Follow their instructions to fold and cut the strip. Then work with their input to label one of the resulting pieces with its fraction name. ( $\frac{1}{2}$ )
- Repeat for  $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{1}{6}$ , and  $\frac{1}{8}$ .
- Have students post the licorice strip fractions on the board from greatest to smallest.

Giant Cookies

$\frac{1}{2} > \frac{1}{3}$      $\frac{1}{8} < \frac{1}{6}$   
 $\frac{1}{2}$  is the biggest,  $\frac{1}{8}$  is the smallest  
 If you put all the fraction pieces together, it would be more than 1 whole cookie.  
 That same number of pieces makes one whole cookie, like 3 thirds makes a whole and 4 fourths makes a whole.

Licorice Whips

**Module 3 Session 3 Pattern Block Fractions Preparation:**

## Materials

Copies	Kit Materials	Classroom Materials
<b>Problems &amp; Investigations</b> Pattern Block Fractions		
<b>TM T3</b> Pattern Block Fractions <b>SB 130</b> More Pattern Block Fractions	<ul style="list-style-type: none"> <li>• pattern blocks (see Preparation)</li> </ul>	<ul style="list-style-type: none"> <li>• one piece of 6" × 9" dark-colored construction paper for each student</li> <li>• a piece of copy paper to mask portions of the display master</li> </ul>
<b>Work Places</b> Hexagon Spin & Fill		
<b>TM T4</b> Work Place Guide 4D Hexagon Spin & Fill <b>TM T5</b> 4D Hexagon Spin & Fill Record Sheet <b>SB 131*</b> Work Place Instructions 4D Hexagon Spin & Fill	<ul style="list-style-type: none"> <li>• pattern blocks</li> <li>• clear spinner</li> </ul>	
<b>Home Connection</b>		
<b>HC 73–74</b> Measurement & Fractions		
<b>Daily Practice</b>		
<b>SB 132</b> Comparing Fractions		

HC – Home Connection, SB – Student Book, TM – Teacher Master

Copy instructions are located at the top of each teacher master.

\* Run 1 copy of this page to be kept in a clear plastic sleeve in the Work Place bin.

- Organize your pattern blocks for use by students at their tables or desks. Each student will need access to several of the following shapes: hexagons, trapezoids, blue rhombuses, and triangles. The squares and white rhombuses won't be needed at all today; if you think they'll be distracting, you might have a few student helpers remove them from the sets before you conduct this session.
- In today's session, you'll introduce Workplace 4D Hexagon Spin & Fill, which replaces Workplace 3B Add & Round Tens. Before this session, you should review the Workplace Guide, as well as the Workplace Instructions. Make one copy of the 4D Hexagon Spin & Fill Record Sheet for use today, and store the rest in the Workplace 4D Hexagon Spin & Fill bin, along with any materials listed on the guide. The Workplace Guide also includes suggestions for differentiating the game to meet students' needs.

## Module 3 Session 4 Fractions as Distances Preparation:



## Materials

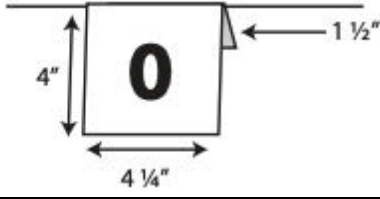
Copies	Kit Materials	Classroom Materials
<b>Problems &amp; Investigations</b> Pattern Block Fractions		
<b>TM T3</b> Pattern Block Fractions <b>SB 130</b> More Pattern Block Fractions	<ul style="list-style-type: none"> <li>pattern blocks (see Preparation)</li> </ul>	<ul style="list-style-type: none"> <li>one piece of 6" × 9" dark-colored construction paper for each student</li> <li>a piece of copy paper to mask portions of the display master</li> </ul>
<b>Work Places</b> Hexagon Spin & Fill		
<b>TM T4</b> Work Place Guide 4D Hexagon Spin & Fill <b>TM T5</b> 4D Hexagon Spin & Fill Record Sheet <b>SB 131*</b> Work Place Instructions 4D Hexagon Spin & Fill	<ul style="list-style-type: none"> <li>pattern blocks</li> <li>clear spinner</li> </ul>	
<b>Home Connection</b>		
<b>HC 73–74</b> Measurement & Fractions		
<b>Daily Practice</b>		
<b>SB 132</b> Comparing Fractions		

HC – Home Connection, SB – Student Book, TM – Teacher Master

Copy instructions are located at the top of each teacher master.

\* Run 1 copy of this page to be kept in a clear plastic sleeve in the Work Place bin.

- Write a list of Workplaces from which students can choose today. You can just write the numbers (3C–4D) or write out the full names if you prefer. (See the Workplaces in Use row of the Materials Chart for the complete list of Work Places in use today.)
- Run a half-class set of the Double Number Line Teacher Master on card stock, and cut the sheets in half.
- Cut a length of heavy cotton string a little longer than 12 feet to serve as a life-sized number line. Hang it across the front of your classroom or in another location where all the students can see it, and where you can leave it up for the remainder of this unit. It should be stretched fairly tight and anchored firmly at either end, at a level students can easily reach. (You can use the magnets with hooks provided in your Bridges kits, tacks, or blue masking tape to anchor the two ends of the string.)
- To make the number cards students will hang on the line, cut several sheets of copy paper in quarters to form  $4 \frac{1}{4}'' \times 5 \frac{1}{2}''$  pieces. Fold down the top of each piece, making a small crease that can then be used to hang the number card on the number line. (See illustration.)



- Use a wide-tipped marker to write the numbers 0, 1,  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{3}{4}$ ,  $\frac{1}{8}$ ,  $\frac{7}{8}$ ,  $\frac{1}{3}$ ,  $\frac{2}{3}$ ,  $\frac{1}{6}$ , and  $\frac{5}{6}$ , one on each card. You will need the cards for 0, 1,  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{3}{4}$ , and  $\frac{1}{8}$  today, and the others next session.

**Note:** Resist the temptation to use heavier paper or to hang the cards with clothespins until you've tried the folded paper cards at least once. Even though they sound a little flimsy, they work really well because they're fast and easy to make and to replace. They slide very easily along the string and the crease you make in each card actually holds it on the line quite well.

### Module 3 Session 5 Fractions on the Number Line Preparation:

#### Materials

Teacher Masters	Kit Materials	Classroom Materials
<b>Problems &amp; Investigations</b> Fractions on the Number Line		
<b>SB 134–135*</b> Number Line Sketches		<ul style="list-style-type: none"> <li>• class number line (from Session 4)</li> <li>• additional number cards (see Preparation)</li> <li>• students' double number lines and paperclips (from Session 4)</li> </ul>
<b>Work Places in Use</b>		
<b>3C</b> Round Ball Hundreds (introduced in Unit 3, Module 1, Session 4) <b>3D</b> Round & Add Hundreds (introduced in Unit 3, Module 3, Session 1) <b>4A</b> Tic-Tac-Tock (introduced in Unit 4, Module 1, Session 2) <b>4B</b> Measurement Scavenger Hunt (introduced in Unit 4, Module 2, Session 2) <b>4C</b> Target One Thousand (introduced in Unit 4, Module 2, Session 3) <b>4D</b> Hexagon Spin & Fill (introduced in Unit 4, Module 3, Session 3)		
<b>Home Connection</b>		
<b>HC 75–76</b> Fractions, Fractions & Fractions		
<b>Daily Practice</b>		
<b>SB 136</b> The Broken Ruler, Part 2		

#### Vocabulary

An asterisk [\*] identifies those terms for which Word Resource Cards are available.

distance  
eighth  
fraction\*  
half\*  
fourth

HC – Home Connection, SB – Student Book, TM – Teacher Master  
Copy instructions are located at the top of each teacher master.

\*Run 1 copy of this page for display.

- If you had to take down the class number line from the previous session, hang it back up in the same place with the number cards for 0, 1,  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{3}{4}$ , and  $\frac{1}{8}$  placed correctly. You will need the rest of the number cards you prepared prior to last session:  $\frac{7}{8}$ ,  $\frac{1}{3}$ ,  $\frac{2}{3}$ ,  $\frac{1}{6}$ , and  $\frac{5}{6}$ .

- Write a list of Workplaces from which students can choose today. You can just write the numbers (3C–4D) or write out the full names if you prefer. (See the Workplaces in Use row of the Materials Chart for the complete list of Work Places in use today.)

## \*Unit 4 Module 4 Fractions on a Line Plot

### Module 4 Session 1 Creating & Measuring Beanstalks Preparation:

#### Materials

Copies	Kit Materials	Classroom Materials
<b>Problems &amp; Investigations</b> Creating & Measuring Beanstalks		
<b>TM T1</b> Creating & Measuring the Beanstalk	<ul style="list-style-type: none"> <li>• measuring tapes marked in inches (half-class set)</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Jim and the Beanstalk</i> by Raymond Briggs (optional, see Preparation)</li> <li>• 8" × 36" strips of white butcher paper (half-class set plus 2 extra)</li> <li>• green and red crayons (class set)</li> <li>• green and red markers (class set)</li> <li>• rulers (class set; see Note)</li> </ul>
<b>Daily Practice</b>		
<b>SB 137</b> Mass, Volume & Length Review		

#### Vocabulary

An asterisk [\*] identifies those terms for which Word Resource Cards are available.

inch (in.)\*  
length  
measure  
nearest half-inch (in.)  
nearest quarter-inch (in.)

HC – Home Connection, SB – Student Book, TM – Teacher Master  
Copy instructions are located at the top of each teacher master.

#### Note

During this session, students will be measuring to the nearest half- and quarter-inch for the first time. This will be easier for them, especially those who are likely to struggle with the fractions involved, if you can locate several rulers that are marked only to fourths or eighths. Rulers marked to sixteenths may present real difficulties for some of the individuals in your class.

- If possible, locate a copy of the story *Jim and the Beanstalk* by Raymond Briggs in your school or local library. If your school is using *Bridges in Mathematics* throughout the grade levels, you might be able to borrow a copy from one of the second-grade teachers, as the book is provided in the Grade 2 Bridges Kit.
- Prepare your own example of a beanstalk following these steps (see sample at right):
  - » Take a strip of 8" × 36" white butcher paper and draw a thick "stalk" down the center of the paper (lengthwise) using a green marker. Make it wider at the bottom and narrower at the top. End with a spiraling vine at the top if you like.



- » Draw some large and small green leaves along both sides of the stalk up and down the length of the paper with the green marker. You should have at 20 leaves or more. Add veins to some or all of the leaves if you like.
- » Color in your whole beanstalk with the green crayon.

**Module 4 Session 2 Gathering & Recording Beanstalk Data Preparation: Materials**

Copies	Kit Materials	Classroom Materials
<b>Problems &amp; Investigations</b> Gathering & Recording Beanstalk Data		
<b>TM T2-T4</b> Line Plot Scale (see Preparation) <b>SB 138*</b> Beanstalk Data	<ul style="list-style-type: none"> <li>• measuring tapes marked in inches (half-class set)</li> </ul>	<ul style="list-style-type: none"> <li>• your beanstalk from the previous session (see Preparation)</li> <li>• students' beanstalks from the previous session</li> <li>• red markers</li> <li>• 1 ½" x 2" sticky notes</li> </ul>
<b>Home Connection</b>		
<b>HC 77-78</b> Snack Time: Mass, Volume & Length		
<b>Daily Practice</b>		
<b>SB 139</b> Beanstalk Line Plot		

**Vocabulary**

An asterisk [\*] identifies those terms for which Word Resource Cards are available.

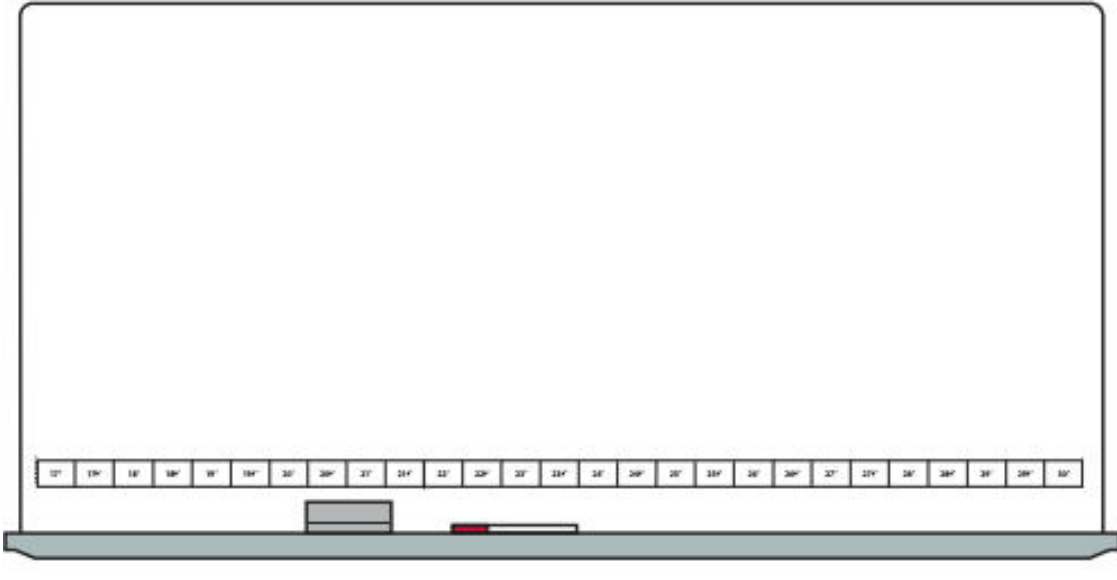
- distance
- height\*
- horizontal scale
- inch (in.)\*
- length
- line plot\*
- measure
- nearest half-inch (in.)
- nearest quarter-inch (in.)

HC – Home Connection, SB – Student Book, TM – Teacher Master  
 Copy instructions are located at the top of each teacher master.

\* Run 1 copy of this page for display.

- Prepare a horizontal scale for the line plot you will construct with students this session. You can do this by drawing a 7-foot line across the bottom of your whiteboard, marking it at increments of 2 1/4 inches, and numbering the marks starting at 12 and continuing through 30, with the halves marked as well (i.e., 12, 12 1/2, 13, 13 1/2, 14, 14 1/2, and so on). Or, if you prefer, you can run 1 copy of the Line Plot Scale Teacher Masters, cut out the strips, and glue or tape them together

to form a scale. If you choose this option, fasten the strip across the bottom of your whiteboard as shown here. (You might also laminate the strip for use in future years.)



- Finish measuring and recording the lengths of the leaves on your sample beanstalk. Have a measuring tape, red marker, sticky notes, and a copy of the Beanstalk Data Student Book page handy.

### Module 4 Session 3 Beanstalk Leaf Line Plots Preparation:

#### Materials

Copies	Kit Materials	Classroom Materials
<b>Problems &amp; Investigations</b> Beanstalk Leaf Line Plots		
<b>SB 140*</b> Another Beanstalk Line Plot		<ul style="list-style-type: none"> <li>• your beanstalk (from Session 2; see Preparation)</li> <li>• students' beanstalks (from Session 2)</li> </ul>
<b>Work Places in Use</b>		
<b>3C</b> Round Ball Hundreds (introduced in Unit 3, Module 1, Session 4) <b>3D</b> Round & Add Hundreds (introduced in Unit 3, Module 3, Session 1) <b>4A</b> Tic-Tac-Tock (introduced in Unit 4, Module 1, Session 2) <b>4B</b> Measurement Scavenger Hunt (introduced in Unit 4, Module 2, Session 2) <b>4C</b> Target One Thousand (introduced in Unit 4, Module 2, Session 3) <b>4D</b> Hexagon Spin & Fill (introduced in Unit 4, Module 3, Session 3)		
<b>Home Connection</b>		
<b>HC 79–80</b> Time & Fraction Review		
<b>Daily Practice</b>		
<b>SB 141</b> Beanstalk Measurements		

HC – Home Connection, SB – Student Book, TM – Teacher Master  
 Copy instructions are located at the top of each teacher master.

\* Run 1 copy of this page for display.

#### Vocabulary

An asterisk [\*] identifies those terms for which Word Resource Cards are available.

data\*  
 line plot\*  
 nearest quarter-inch (in.)  
 table\*

- Display your beanstalk where everyone can see it.

- Write a list of Workplaces from which students can choose today. You can just write the numbers (3C–4D) or write out the full names if you prefer. (See the Workplaces in Use row of the Materials Chart for the complete list of Work Places in use today.)

### Module 4 Session 4 Unit 4 Post-Assessment Preparation:

#### Materials

Copies	Kit Materials	Classroom Materials
<b>Assessment</b> Unit 4 Post-Assessment		
<b>TM T5–T8</b> Unit 4 Post-Assessment	<ul style="list-style-type: none"> <li>• student clocks</li> <li>• pattern blocks (see Preparation)</li> </ul>	<ul style="list-style-type: none"> <li>• scratch paper (class set)</li> </ul>
<b>Work Places in Use</b>		
<b>3C</b> Round Ball Hundreds (introduced in Unit 3, Module 1, Session 4) <b>3D</b> Round & Add Hundreds (introduced in Unit 3, Module 3, Session 1) <b>4A</b> Tic-Tac-Tock (introduced in Unit 4, Module 1, Session 2) <b>4B</b> Measurement Scavenger Hunt (introduced in Unit 4, Module 2, Session 2) <b>4C</b> Target One Thousand (introduced in Unit 4, Module 2, Session 3) <b>4D</b> Hexagon Spin & Fill (introduced in Unit 4, Module 3, Session 3)		
<b>Daily Practice</b>		
<b>SB 142</b> Measurement & Fractions		

HC – Home Connection, **SB** – Student Book, **TM** – Teacher Master  
 Copy instructions are located at the top of each teacher master.

#### Vocabulary

An asterisk [\*] identifies those terms for which Word Resource Cards are available.

centimeter (cm)\*  
 digital clock  
 equation\*  
 fraction\*  
 gram (g)\*  
 half\*  
 hour (hr.)  
 kilogram (kg)\*  
 length  
 liquid volume\*  
 liter (l)\*  
 mass\*  
 meter (m)\*  
 minute (min.)  
 thirds  
 volume\*

- Organize your pattern blocks for use by students at their tables or desks during the assessment. Each student will need access to several of the following shapes: hexagons, trapezoids, blue rhombuses, and triangles. The squares and white rhombuses won't be needed at all today and should be removed from the sets.
- Look around the room and think about what you want to take down or cover before students take the post-assessment.
- Write a list of Workplaces from which students can choose today. You can just write the numbers (3C–4D) or write out the full names if you prefer. (See the Workplaces in Use row of the Materials Chart for the complete list of Work Places in use today.)