Overall Structure

1. **Explore, Play, and Discuss**: These activities provide opportunities for students to explore the initial ideas of the section. This section can be completed asynchronously using digital manipulatives and response tools, or using physical manipulatives and the student workbook pages with guiding questions for caregivers. If planning for a section per week, these activities would ideally be assigned earlier in the week.

2. **Deep Dive**: These activities are key learning opportunities for students around the section goals. **If there are chances for in-person or virtual synchronous time, these would be the activities to do collaboratively to share ideas and build community.** If done asynchronously, opportunities to view and respond to peer work or sample student work as well as receive feedback from teachers (and perhaps peers), is essential for these activities. Formative assessment is also a part of this section to check in on student understanding. If planning for a section per week, these activities would ideally be done mid-week.

3. **Synthesize and Apply**: These activities are ways for students to synthesize the learning of the section and for teachers to assess student understanding toward the section learning goals. These activities can be completed asynchronously, with either written, in-person, or automated feedback. If planning for a section per week, these activities would ideally be done toward the end of the section.

4. **Ongoing Practice**: These provide opportunities for students to practice unit topic ideas and build toward computational fluency. In K–5, the activities in this section are typically practice problems and center games that can be played independently, with a family member, or with classmates. In IM 6–12, each lesson includes a distributed practice set. Many existing digital platforms already have IM 6–12 practice problems loaded in so that students can complete and submit them online. Some can be autoscored.

5. **Anytime Resources:** The activities in this section have the flexibility to be used anytime during a section. In K–5, these are center activities that provide opportunities for students to build computational fluency across the year. In 6–12, these activities are modeling prompts that offer students the opportunities to engage in mathematical modeling.

Grade 2, Unit 3: Measure Length

Abbreviated Unit Narrative

In this unit, students study standard units of length measurement within the metric system (centimeters and meters) and customary system (inches and feet). They learn to choose appropriate units to estimate and measure the length of objects, and generalize how two measurements of the same object using different units relate to the size of the unit chosen.

Throughout the unit, students solve one- and two-step story problems involving addition and subtraction of lengths expressed in the units they are studying. To solve these problems, students use the strategies they have learned in prior units, including strategies based on place value, to add and subtract within 100.

To close the unit, students learn that line plots can be used to represent and interpret numerical data. They create line plots using measurement data, and answer questions based on the data in the line plot. The concept of linear measurement and use of the ruler, yardstick, and line plot lay a foundation for students in the next unit, in which they locate numbers on a number line. The number line is an essential representation that will be used in future grades and throughout students' mathematical experiences.

Section A Goals

- Measure length in centimeters and meters
- Represent and solve one-step story problems within 100.

In this section, students build on the grade 1 work of iterating units to understand and measure with metric units. Students use base-ten blocks, which have lengths of 1 cm and 10 cm, to measure objects in the classroom. Students use these tools to create their own centimeter ruler. They see the tick marks as noting the distance in centimeters from the 0 mark and the accumulation of length units as they move along the ruler.

As the lessons progress, students compare the ruler they created to a standard centimeter ruler and examine the tick marks (including the one representing zero) and what they represent. They learn the importance of placing the end of an object at the starting point of zero and discuss that the numbers on the ruler represent lengths from zero.

Students also learn about the meter, which is equivalent to 100 centimeters. They make estimations about metric units and measure shorter objects with centimeters and longer objects with meters. They consider the advantages of measuring with each unit and make choices about which units to use to measure a given length. To close the section, students apply their knowledge of measurement to compare the lengths of objects and solve Compare story problems involving measurement in metric units within 100.

Explore, Play, and Discuss	**Activity Suggestions** ● Lesson 2, Warm-up ○ Add a ruler underneath the images. ○ In text or video, introduce the term centimeter and abbreviation cm. ● Lesson 3, Warm-up ● Lesson 3, Activity 2 ○ Use a 'real' ruler to measure, they do not have to construct one if it is not possible. ● Scavenger Hunt (optional) ○ Example items: ■ Find something that is longer than 10 cm. ■ Find something that is between 20-30 cm.	**Assessment Suggestions** ● Lesson 3, Cool-down

Deep Dive	**Activity Suggestions** ● Lesson 4, Warm Up: Which One Doesn't Belong? ● Lesson 4, Activity 1 ○ If virtual, ask students to find objects around them to share and measure. They could share items from the scavenger hunt. ● Lesson 5, Activity 1 ○ Show a meter stick and discuss that there are 100 cm in 1 meter.	**Assessment Suggestions** ● Lesson 6, Activity 1 ○ Choose 1 problem.

	○ Ask students to find things around them that would be more than 1 meter or 100 cm long. Share. ○ Ask students to find things around them that would be less than 1 meter but more than 50 cm. Share. ● Revisit the Math Community poster from Unit 1 ○ "What should we revise? What should we add?"	

Synthesize and Apply	**Activity Suggestions**	**Assessment Suggestions**
	● Student Lesson Summary (end of Lesson 6) ● Lesson 6, Cool-down	● Section A Checkpoint

Ongoing Practice	
	● Practice Problems ○ Pre-unit ○ Lesson ● Lesson 6, Activity 1 ○ Use the problem that was not used as an assessment

Anytime Resources	
	● Practice Problems: ○ Exploration Problems ● Centers from Unit 2: ○ Math Stories, Stage 5 ○ Board Games, Stage 2 and Stage 3

	○ Less than 10, Stage 1 and Stage 2 ● IM Talking Math

Section B Goals

- Measure length in feet and inches
- Represent and solve one- and two-step story problems within 100.

This section transitions from measurement in metric units to customary units of linear measurement (inches and feet). Students apply length measurement concepts and skills from the previous section in order to measure and estimate with customary units. They develop the generalization that when a unit of measure is longer, it requires fewer of those units to measure the length of the object. As in the previous section, students make choices about which tool would be appropriate based on the size of the object.

To solidify their understanding of measurement concepts, students also solve one- and two step story problems involving addition and subtraction of lengths within 100 expressed in the units they study in this section. Some problems involve measurements using a "torn tape" where the zero cannot be used as a starting point.

Explore, Play, and Discuss	**Activity Suggestions**
	• Lesson 8, Warm-up
	• Lesson 8, Activity 1
	  ○ Introduce inches on the ruler.
	• Lesson 8, Activity 2
	  ○ If students do not have the pages to measure the shapes, ask them to draw their own rectangle and triangle and measure the sides.
	• Lesson 10, Warm-up: True or False
	• Scavenger Hunt (optional)
	  ○ Example items:
	  ■ Find something that is longer than 5 inches.
	  ■ Find something that is between 5-15 inches.
		Assessment Suggestions
		• Lesson 8, Cool-down

Deep Dive	**Activity Suggestions** • Lesson 9, Warm Up Estimation Exploration • Revisit student work from the Explore activities to discuss how they measured the shapes in inches. • (Lesson 9, Activity 1 *if in person) • Lesson 9, Activity 2 • If time, revisit student responses from Activity 10, Warm-up in the Explore section.	**Assessment Suggestions** • Lesson 9, Cool-down

Synthesize and Apply	**Activity Suggestions**
	• Lesson 10, Activity 1 and 2
	  ○ Can be combined into one activity.
	• Lesson 11, Activity 1 and 2
	  ○ Can be combined into one activity.
		Assessment Suggestions
		• Section B Checkpoint

Ongoing Practice	• Practice Problems • Lesson 12 Activities 1 and 2 • Lesson 13 - Optional Center Day Activities

Anytime Resources	

	• Practice Problems:
	  ◦ Exploration Problems
	• Centers from Unit 2:
	  ◦ Math Stories, Stage 5
	  ◦ Board Games, Stage 2 and Stage 3
	  ◦ Less than 10, Stage 1 and Stage 2
	• IM Talking Math

Section C Goals

- Represent numerical data on a line plot

This section allows students to apply their understanding of measurement and data to create and interpret line plots. Students learn that the horizontal scale is marked off in whole number units that represent the counting sequence (which is identical to the number line they will be introduced to in Unit 3). They use a template to create line plots and represent measurement data. They interpret line plots to demonstrate understanding that each data point is represented by an *x* made above the number on the number line representing the length of the object. They label line plots with titles and the measurement unit used.

Explore, Play, and Discuss	**Activity Suggestions**
	• Lesson 14, Warm-up
	  ○ Collect these responses to launch the Deep Dive Activities
	• Lesson 14, Activity 1
	  ○ It may help to give students a written or video demonstration of this activity if completing it asynchronously.
		Assessment Suggestions
		• None

Deep Dive	**Activity Suggestions** • Lesson 15, Warm-up • Share the responses from the Lesson 14 Warm-up and Activity 1 in the Explore section. • Lesson 14, Activity 2 • Lesson 15, Activity 2	**Assessment Suggestions** • Lesson 14, Cool-down

Synthesize and Apply	**Activity Suggestions** ● Lesson 15, Lesson Synthesis or Student Lesson Summary ● Lesson 16, Activity 1 and 2 ○ Can be combined into 1 activity.	**Assessment Suggestions** ● End-of-unit Assessment

Ongoing Practice	● Practice Problems ○ Lesson

Anytime Resources	● Practice Problems: ○ Exploration Problems ● Centers from Unit 2: ○ Math Stories, Stage 5 ○ Board Games, Stage 2 and Stage 3 ○ Less than 10, Stage 1 and Stage 2 ● IM Talking Math