

Measuring with Inches

Supports Bridges Grade 2, Unit 4, Module 1, [Session 4](#) & [Session 5](#)

Overview

This Tech-Enhanced Activity is based on learning in Sessions 4–5. The work supports understanding of how to estimate and measure in inch-like units and familiarizes students with the need for standard units and measurement tools. We recognize that depending on the devices used, the inchworms may not be an exact inch.

Preview this content with a short [video](#).

Please note: Students do not make the inchworm ruler as part of this TEA. However, the Unit 4 Module 2 TEA provides students with experience measuring with inches, feet, and yards. Consider giving students a paper copy of the [Inchworm Strips](#) (printed at actual size) for use with the Unit 4 Module 2 TEA. Both the foot-long ruler and yard-long ruler are made from the 1-page Inchworm Strips. If students make inchworm rulers at school, they can use these at school and also have one for use at home.

	Students will:	Assets
Part 1	Discover that measurements must be made in straight lines without any gaps or overlaps. Then students will use this understanding to measure two objects with inchworms.	Inchworm [Slides]
Part 2	Compare finding a measurement with individual inchworms to measuring with an inchworm ruler. They estimate lengths in inches and measure to confirm.	Inchworm Ruler [Slides]
Part 3	Examine and compare estimates and measurements their classmates made at home. Then they will measure paths in a garden and make their own paths to measure.	Practice with Measurement [Slides]

Some tech skills your students will need:

- Drag and drop elements
- Insert an image into Google Slides
- Rotate an image

Content notes:

1. Part 1 of this TEA includes the text from the Meet the Inchworm Teacher Master from Session 3, step 2. The remaining content of Part 1 and the content in Part 2 is unique to the TEA and not directly adapted from Bridges resources. Instead of making and measuring with inchworm rulers, students estimate and measure objects in the slides using the virtual inchworm units. While the virtual inchworm may not represent a “real” inch, it will be proportional to the objects being measured within the slides and will convey the idea of an iterated unit.
2. Part 3 of this TEA provides an opportunity to use a virtual inchworm ruler to measure the garden path from Inchworm’s Garden & Fives Practice Home Connection in Session 5. An optional and unique extension activity invites students to draw and measure their own path.
3. The introduction of Work Place 4A Estimate & Measure Inches and the Estimate & Measure Inches Problems & Investigations from Session 5 have not been included in the content of this TEA.

Part 1: Inchworm

Students discover that measurements must be made in straight lines without any gaps or overlaps. Then students use this understanding to measure two objects using inchworms.

You will need your copy of:

Google Slides: Inchworm (asynchronous or synchronous learning)

- English: [preview](#) | [copy](#)
- Spanish: [preview](#) | [copy](#)

1. Distribute the slides to students via Google Classroom, email, or another preferred method and **make a copy for each student.**
2. Choose your delivery method:

If delivering asynchronously	If delivering synchronously
<ul style="list-style-type: none">• Students self-pace through the slides.• Students study each slide, share their thinking about what some inchworms still need to learn about measuring, and submit their work after measuring the tree trunk and branch on the last two slides.• Review responses on the slide titled “Which inchworms know how to measure?” and the last two slides for evidence of students’ understanding of how to measure.	<ul style="list-style-type: none">• Start a Zoom or Google Meet session.• Open the slides and share your screen. Students do not yet need to open their copy.• Facilitate a discussion of the inchworm. Focus on what inchworms have to learn to perform accurate measurements.• On the slide titled, “Which inchworms know how to measure?” lead a conversation about what students notice about the inchworms who are not measuring accurately. Record student thinking on the slide.• Have students open their copy of the slides.• Preview the last two slides and invite students to measure the tree trunk and branch with inchworms.• Review students’ measurements for evidence of students’ understanding of how to measure.

Part 2: Inchworm Ruler

Students compare finding a measurement with individual inchworms to measuring with an inchworm ruler. They estimate lengths in inches and measure to confirm.

You will need your copy of:

Google Slides: Inchworm Ruler (asynchronous or synchronous learning)

- English: [preview](#) | [copy](#)
- Spanish: [preview](#) | [copy](#)

1. Preview the Google Slides. If facilitating synchronously, review the teacher note on the last slide and duplicate the slides so there's one for each student.
2. Remove the note to teachers before distributing to students and choose your delivery method:

If delivering asynchronously	If delivering synchronously
<ul style="list-style-type: none">• Distribute the slides to students via Google Classroom, email, or another preferred method and make a copy for each student.• Students self-pace through the slides.• Students use inchworms and an inchworm ruler to estimate and measure. They consider tools they could use at home to measure inches and submit their work after estimating and measuring one object at home.• Review students' measurements of the feather and nest and their responses on the last slide.	<ul style="list-style-type: none">• Distribute the slides to students via Google Classroom, email, or another preferred method so <i>students can edit the file.</i>• Start a Zoom or Google Meet session.• Open the slides and share your screen. Students do not yet need to open their copy.• After reviewing the slide titled, "The measurements are the same!" facilitate a discussion about similarities and differences in the measurements.• On the slide titled "What is about 1 inch?" discuss objects at home that may be about 1 inch. Invite students to find an object and describe how they could use it to measure.• Have students open the slideshow.• Preview the last slide. Invite students to find an object in their home to estimate and measure. Encourage students who have an inch ruler to use that to measure. They may want to use their 1-inch object to help them estimate.• Have students find and complete the slide with their name on it.

3. Prior to Part 3, review student work on the last slide, taking note of the accuracy of their measurements. Student responses from this slide can be used to customize the slides for Part 3 of this activity. If working asynchronously, consider choosing 2–4 samples that feature accurate use of a ruler or other objects. If working synchronously, you may want to include 1 or 2 samples that could be adjusted to make the measurement more accurate. Plan on facilitating a discussion about this.

Part 3: Practice with Measurement

Students examine and compare estimates and measurements their classmates made at home. Then they measure paths in a garden and make their own paths to measure.

You will need your copy of:

Google Slides: Practice with Measurement (asynchronous or synchronous learning)

- English: [preview](#) | [copy](#)
- Spanish: [preview](#) | [copy](#)

1. Preview the Google Slides. If desired, replace the sample student work with your own students' work. See teacher notes in the slides.
2. Remove the notes to teachers before distributing to students and choose your delivery method:

If delivering asynchronously	If delivering synchronously
<ul style="list-style-type: none">• Distribute the slides to students via Google Classroom, email, or another preferred method and make a copy for each student. If you are able to have students work in pairs or small groups, make a copy of the slideshow for each group.• Students study each slide, read or listen to the descriptions of student's measurement experiences, measure garden paths, and draw their own paths to measure.• Have students turn in their completed slides when finished.	<ul style="list-style-type: none">• Distribute the slides to students via Google Classroom, email, or another preferred method so students can edit the file.• Start a Zoom or Google Meet session.• Open the slideshow and share your screen. Students do not yet need to open their copy.• Facilitate a discussion of the sample student work and annotate the slides with summarized student input.• Have students open the slideshow.• If possible, allow students to work in pairs or small groups in breakout rooms to measure the garden paths before discussing with the whole group.• On the last slide, students draw and measure their own paths. Encourage them to draw on paper and use an inch ruler (if available) to measure. Have them take a photo of their work to insert into the slide.

3. Plan to review responses on the last two slides for evidence of students' understanding of measuring in inches.