WHERE THIS FITS IN YOUR YEAR

Ontario

Grade 1 mathematics | Measuring with a unit you lay end to end

NATURAL UNIT

Spatial Sense: attributes and measurement This unit fits most naturally in Ontario's Grade 1 work on identifying length and ordering everyday objects by it.

Place it after children can count reliably to twenty and compare visibly different lengths, but before ruler work becomes routine. Lesson 1 establishes a common starting point and orders three lengths. Lessons 2 through 5 then make the measurement structure explicit: children repeat one unit without gaps or overlaps, state the unit with the number, compare results produced by different-sized units, and reject a mixed set whose pieces do not represent one consistent unit.

The strongest evidence comes from the repeated measuring actions, not from the books' topics. In Lessons 2 and 3, students mark each endpoint and count one placement for each copy of the unit. Lesson 4 deliberately produces unstable counts with unequal sticks and stable counts with equal sticks. Lesson 5 shows why a number without a unit is incomplete. Lesson 6 composes one foot from twelve one-inch cards and serves as a bridge toward standard tools and units.

Use the checkpoints to see whether children can produce a repeatable whole-number measurement and explain what their number counts. Ontario Grade 1 emphasizes comparison and ordering; the unit’s repeated-unit investigations provide useful conceptual depth beyond those expectations. The regional references below identify only the actions students actually perform; they do not claim that this six-lesson resource replaces the rest of the Grade 1 measurement programme.

STRONGEST CURRICULUM CONNECTIONS - OUR SUMMARY

REINFORCES	E2.1 - Identify measurable attributes, including length, of two-dimensional shapes and threedimensional objects. Lessons: 1, 2, 3, 4, 5 Students identify length as the attribute being compared and measured across varied objects. Limitation: The expectation also includes area, mass, capacity, and angle, which this unit does not teach.
REINFORCES	E2.2 - Compare several everyday objects and order them according to length, area, mass, and capacity. Lessons: 1 Students align three objects at a common baseline, compare them, and order them from shortest to longest. Limitation: The unit orders objects by length but does not compare and order them by area, mass, or capacity.

Teacher must add: Extend the comparing and ordering work to area, mass, capacity and angle, so students order objects by attributes other than length as well.

Official curriculum source: https:/
/
www.dcp.edu.gov.on.ca/
en/
curriculum/
elementary
-mathematics/
grades/
g1
-math/
strand
-e/
e2

MATH UNIT

Measuring with a unit you lay end to end

Grade 1 | 6 lessons | 6 x 30 minutes | 3 source books | 180 minutes

THE QUESTION THIS UNIT FOLLOWS

What is a number a number of?

ABOUT THIS UNIT

Grade 1 measurement often goes wrong in a particular way: a child produces a number and thinks the job is done. This unit makes the number insufficient on purpose. Children compare before counting, iterate one unit, discover why different-sized units produce different numbers, reject non-uniform units, and learn to state every measurement with its unit.

The revised sequence now ends with an exact composition: twelve one-inch units make one foot. The former weight-and-benchmark lesson has been removed because it interrupted the length-measurement arc.

HOW TO USE THIS GUIDE

Open the source lesson before teaching.

Each day identifies an existing lesson. This guide supplies the sequence, connection, evidence, and close; the source lesson carries its full printable materials and answers.

Thirty minutes a day.

Use five minutes to connect, twenty minutes for the source core, and five minutes to close. If time is short, preserve the core.

Teach a lesson on its own if needed.

Every day includes a book-specific entry point that works without the preceding lessons.

THE MATHEMATICAL ARC

LESSON	MATHEMATICAL MOVE
1	Compare directly before assigning a number
2	Iterate one unit and count its placements
3	Explain two honest measurements of one object
4	Require the repeated unit to remain one size
5	Name the unit as well as the number
6	Compose one foot from twelve one-inch units

WHERE THIS FITS IN YOUR YEAR

When to teach it Any term after students can count reliably to twenty. It pairs naturally with science work on comparing materials.

What students need first Children can count to twenty and can place objects in a row. The unit explicitly teaches how to eliminate gaps and overlaps.

What this unit develops Direct comparison; comparative and superlative language; unit iteration; uniform units; naming the unit; the effect of unit size; and the relation between inches and feet.

What it prepares students for Grade 2 ruler measurement and the general idea that a measurement consists of a number, a unit, and a repeatable procedure.

CURRICULUM CONNECTIONS

The verified connection for your region, with the lessons it covers and its stated limitation, is on the regional placement page at the front of this guide. Individual source lessons carry their own classifications on their own pages, checked lesson by lesson.

UNIT AT A GLANCE		

# MOVE	SOURCE	COLLECT
1 Settle a comparison with no number at all	Measure It!	/math-library/478.html	lesson 3, Longer, Shorter, Shortest	Three feathers ordered from a common line, plus both comparison sentences about the snakes.
2 A length is a count of copies of one unit	Measure It!	/math-library/478.html	lesson 1, Six Rulers Tall	The counting strip and the measurement stated as “six one-foot units,” then renamed “six feet.”
3 Two people measure one mat and get two honest numbers	Royal Treasure Measure	/math-library/543.html	lesson 1, Heel to Toe, and Count	One mat with two measurements and two complete statements naming object, number, and unit.
4 A repeated unit must stay one size	Royal Treasure Measure	/math-library/543.html	lesson 3, Why the Swords Lost	Mixed-stick counts of three and five, followed by two matching-stick counts that both equal five.
5 Ten of what? The unit word changes the result	Royal Treasure Measure	/math-library/543.html	lesson 6, Ten of What?	Two strips made by counting to ten, labelled with both number and unit.
6 Twelve small units compose one larger unit	Pounds, Feet, and Inches	/math-library/484.html	lesson 2, Twelve Clips Make a Foot	A completed row of twelve one-inch cards filling one foot, with the equivalence stated aloud.

UNIT VOCABULARY

unit The equal-sized object or interval repeated from end to end.

longer, shorter, shortest Comparison words; shortest requires considering every object in the set.

measure To compare a length with repeated copies of a named unit.

inch, foot Related standard length units; twelve inches compose one foot.

UNIT MATERIALS AND ASSESSMENT

New for the unit: checkpoint pages; one strip per child cut to exactly six identical paperclip units; a second set of identical sticks, each exactly two paperclip units long; twelve one-inch paperclip-shaped cards per pair; culminating-task page.

Daily evidence: keep the Lesson 2 counting strip, both Lesson 3 measurements of one mat, the Lesson 4 comparison record, and both Lesson 5 ten-unit strips.

Checkpoint 1 - after Lesson 3: Measure a strip with identical units and state the number and unit. Look for a flush start, no gaps or overlaps, one count per placement, and a complete measurement statement.

Checkpoint 2 - after Lesson 5: Measure the same strip with a longer uniform unit. Explain why one strip has two different measurement numbers by naming both units.

LESSON 1 Settle a comparison with no number at all

Measure It! | /math-library/478.html | lesson 3, Longer, Shorter, Shortest | 20-minute source core
Direct comparison and the difference between longer and shortest.

I CAN

I can line things up to see which is longer.

BIG IDEA

Line objects up at one end. Longer compares two objects; shortest requires the whole set.

SUCCESS

The child orders three feathers from a common line and explains why the shortest cannot be named when one is hidden.

CONNECT |	5 MIN

Hold two strips at different heights and ask which is longer. Then align them at one end and ask again.

TAUGHT ON ITS OWN

The book asks which snake is longer and later which feather is shortest. Those are related but different questions.

SOURCE CORE |	20 MIN

Pairs align two snake strips at one end and name the longer and shorter. They then align three feathers, order them, and name the shortest.

COLLECT

Three feathers ordered from a common line, plus both comparison sentences about the snakes.

CLOSE |	5 MIN

Cover one feather. Ask whether shortest can still be named. Uncover it and have the child explain why all three are needed.

Materials:	Two snake strips; three clearly different feather strips; a paper baseline; sentence frame; longer, shorter, shortest, than cards.

Watch for: Objects compared from different starting points. Require every near end to touch the same ruled line.

LESSON 2 A length is a count of copies of one unit

Measure It! | /math-library/478.html | lesson 1, Six Rulers Tall | 20-minute source core Iterating one unit without gaps or overlaps.

I CAN

I can measure by moving one unit along and counting.

BIG IDEA

A length is produced by repeating one unit from end to end and counting every placement.

SUCCESS

The counting strip has one box marked for each ruler placement, and the count matches the measured strip.

CONNECT |	5 MIN

Yesterday you compared without a number. Today one unit must be moved repeatedly to produce a number.

TAUGHT ON ITS OWN

The book supplies a one-foot unit and says the ostrich is six feet tall, but it does not show six copies of the unit.

SOURCE CORE |	20 MIN

Pairs place the unmarked one-foot strip flush with the start, mark its end, move it to that mark, and repeat.

They mark one counting box per placement.

COLLECT

The counting strip and the measurement stated as “six one-foot units,” then renamed “six feet.”

CLOSE |	5 MIN

Measure a one-unit snake strip the same way. Compare the two counts and explain why the snake needs fewer placements.

Materials:	One unmarked one-foot strip per pair; six-unit ostrich strip; one-unit snake strip; tape; pencil; six-box counting strip.

Watch for: The unit creeps forward and leaves a gap. Mark the endpoint before lifting the unit every time.

LESSON 3 Two people measure one mat and get two honest numbers

Royal Treasure Measure | /math-library/543.html | lesson 1, Heel to Toe, and Count | 20-minute source core The measurement number depends on the size of the unit.

I CAN

I can say what my number is a number of.

BIG IDEA

Two people can measure the same mat correctly and get different numbers because their foot units differ.

SUCCESS

The child names the object, number, and unit, and accepts a different correct result from a partner.

CONNECT |	5 MIN

Yesterday every pair used the same-size unit. Today the unit is each child’s own foot.

TAUGHT ON ITS OWN

Arzo wins by placing one foot after another and counting. The mathematical question is what each count counts.

SOURCE CORE |	20 MIN

Each child traces and cuts one paper copy of their own foot, then iterates that single unit from the START line to measure the mat. Partners record both results side by side.

COLLECT

One mat with two measurements and two complete statements naming object, number, and unit.

CLOSE |	5 MIN

Partners say both statements and explain how both can be true.

Materials:	One traced-and-cut paper foot unit per child; one START mat strip; pencil for marking each endpoint; recording card.

Watch for: Children assume somebody miscounted. Compare the two foot units directly before discussing the mat.

CHECKPOINT AFTER THIS LESSON: How long, and how do you know?

LESSON 4 A repeated unit must stay one size

Royal Treasure Measure | /math-library/543.html | lesson 3, Why the Swords Lost | 20-minute source core Why non-uniform units do not produce a dependable measurement.

I CAN

I can show why the measuring units have to match.

BIG IDEA

A count describes length only when every repeated unit is the same size.

SUCCESS

The child records three mixed sticks in the first trial, five in the second, and five matching sticks in both comparison trials.

CONNECT |	5 MIN

Yesterday different people got different numbers from different foot units. Today one measurer uses a unit that changes size.

TAUGHT ON ITS OWN

The contestants use swords of different lengths. Their counts cannot settle the length because “one sword” is not one consistent unit.

SOURCE CORE |	20 MIN

Use a ribbon exactly five template units long and a mixed set containing one three-unit stick and five one-unit sticks. Trial 1 uses the long stick plus two short sticks: three sticks. Trial 2 uses five short

sticks: five sticks. Then pairs measure twice with five identical one-unit sticks and obtain five both times.

COLLECT

Mixed-stick counts of three and five, followed by two matching-stick counts that both equal five.

CLOSE |	5 MIN

Choose which set can support a trustworthy measurement and justify the choice using the recorded results.

Materials:	One three-unit stick and five one-unit sticks; five additional identical one-unit sticks; one ribbon cut to five template units; four-space recording page.

Watch for: Children may call every object “one stick” without noticing that the represented unit changes size. Compare the long and short sticks directly before discussing the counts.

LESSON 5 Ten of what? The unit word changes the result

Royal Treasure Measure | /math-library/543.html | lesson 6, Ten of What? | 20-minute source core A measurement order needs both a number and a unit.

I CAN

I can hear which unit a measuring order is asking for.

BIG IDEA

Counting to ten can produce different lengths. The number alone is only half a measurement.

SUCCESS

The child makes two ten-unit strips and identifies the changed unit word as the reason their lengths differ.

CONNECT |	5 MIN

Yesterday every repeated unit had to match. Today both sets match internally, but the order must name which set to use.

TAUGHT ON ITS OWN

The tailor’s arithmetic is not the problem: orders such as “ten long” omit the unit that determines the result.

SOURCE CORE |	20 MIN

Children lay ten equal spoon units along one paper strip and cut at the tenth endpoint. They repeat with ten equal sausage units three times as long.

COLLECT

Two strips made by counting to ten, labelled with both number and unit.

CLOSE |	5 MIN

Give a partner a measurement order for a named object. If the result is ambiguous, revise the order by adding the missing unit.

Materials:	Twelve equal spoon units and twelve equal paper-sausage units per child; two paper strips; scissors; order cards.

Watch for: Children cut before the tenth unit lands. Count the units on the strip before cutting.

CHECKPOINT AFTER THIS LESSON: Two numbers, one strip.

LESSON 6 Twelve small units compose one larger unit

Pounds, Feet, and Inches | /math-library/484.html | lesson 2, Twelve Clips Make a Foot | 20-minute source

core

Composing one foot from twelve one-inch units.

I CAN

I can fill one foot with twelve one-inch units.

BIG IDEA

A larger unit can be composed from a fixed number of equal smaller units: twelve inches make one foot.

SUCCESS

Twelve one-inch unit cards fill the twelve-inch strip exactly, without gaps or overlaps.

CONNECT |	5 MIN

Yesterday changing the unit changed the length produced. Today the two units are related exactly.

TAUGHT ON ITS OWN

The book states that twelve inches make one foot. The lesson makes that relationship visible and countable.

SOURCE CORE |	20 MIN

Pairs place twelve paperclip-shaped cards cut to exactly one inch end to end along a twelve-inch strip, counting each placement aloud and checking the final endpoint.

COLLECT

A completed row of twelve one-inch cards filling one foot, with the equivalence stated aloud.

CLOSE |	5 MIN

Choose inches or feet for three sample lengths, measure to check, and explain which unit gives the more useful description.

Materials:	Twelve paperclip-shaped one-inch cards per pair; twelve-inch strip or ruler; three comparison strips; inch and foot cards.

Watch for: Cards overlap or leave gaps. Have students locate and correct the joint rather than changing the count.

CULMINATING PERFORMANCE TASK

Give an order nobody can get wrong

Each child measures the same strip twice: first with identical paperclip units, then with identical sticks that are each exactly two paperclip units long. The child records both measurements with both unit words and explains why the numbers differ.

The child then gives a partner a measurement order for a named classroom object. The order must include the object, a number, and a unit. The partner follows it without asking for clarification. If the result does not match the intended length, the child revises the order.

Collect Both measurements with unit labels, the explanation connecting unit size to count, and the partner’s finished measurement.

What it assesses Direct comparison, unit iteration, uniformity, the effect of changing unit size, and stating a measurement as a number plus a unit.

TEACHER KEY AND RUBRIC

Checkpoint 1: six paperclip units for a strip cut to six paperclip lengths. A result of five or seven indicates a gap, overlap, or counting mismatch.

Checkpoint 2: three identical sticks when each stick is exactly two paperclip units long. A complete explanation names both units and states that the longer unit requires fewer copies.

Culminating task: six paperclip units and three two-clip sticks. The partner order passes only if it contains an object, number, and named unit and can be followed as intended.

STRAND	SECURE	DEVELOPING	NOT YET
Iteration	Starts flush; units touch without gaps or overlaps.	Corrects a gap or overlap after prompting.	Leaves unresolved gaps/overlaps or does not iterate.
Counting	One count per placement; result is repeatable.	Count is correct with tracking support.	Count and placements do not correspond.
Meaning	States number and unit every time.	Names the unit after prompting.	Gives a bare number as the measurement.
Explanation	Connects a smaller unit with a larger count.	Notices different counts but gives an incomplete reason.	Treats different correct counts as an error.
Communication	Gives an order with object, number, and unit.	Order needs one prompted revision.	Order remains ambiguous after feedback.

TEACHER PLANNING AND HANDOFF

Children who still give bare numbers need another pass through Lesson 5 before moving to ruler work.

Children who count correctly but leave gaps or overlaps need Lesson 2 again. Children who reject two different correct results need Lesson 3 again.

Lesson 6 is the bridge to standard units. Its paperclip-shaped cards are deliberately cut to exactly one inch; ordinary paperclips are not used as inch units.

CHECKPOINT 1 | GRADE 1

How long, and how do you know?

Name _____ Date _____ Measure the teacher-provided strip with identical paperclip units. Lay them end to end with no gaps or overlaps.

My strip is _____ paperclips long.

Show or tell how you know.

CHECKPOINT 2 | GRADE 1

Two numbers, one strip

Name _____ Date _____ Measure the same strip with the identical two-clip sticks. Record the new measurement and explain why the number changed.

My strip is _____ sticks long.

The number changed because _____.

CULMINATING TASK | GRADE 1 Give an order nobody can get wrong

Name _____ Date _____ Measure your strip with both unit sets. Then write a measurement order that a partner can follow without asking a question.

Paperclips: _____ **Sticks:** _____

Why are the numbers different?

My order: Measure _____ to _____ _____.