

Just In Time Quick Check
Standard of Learning (SOL) 1.10

Strand: Measurement and Geometry

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The student will use nonstandard units to measure and compare length, weight, and volume.

Grade Level Skills:

- Measure the length of objects, using various nonstandard units (e.g., connecting cubes, paper clips, erasers).
- Compare the length of two objects, using the terms *longer/shorter*, *taller/shorter*, or *same as*.
- Measure the weight of objects, using a balance or pan scale with various nonstandard units (e.g., paper clips, bean bags, cubes).
- Identify a balance scale or a pan scale as a tool for measuring weight.
- Compare the weight of two objects, using the terms *lighter*, *heavier*, or *the same*, using a balance scale.
- Measure the volume of objects, using various nonstandard units (e.g., connecting cubes, blocks, rice, water).
- Compare the volumes of two containers to determine whether the volume of one is *more*, *less*, or *equivalent* to the other, using nonstandard units of measure (e.g., a spoonful or scoopful of rice, sand, jelly beans).
- Compare the volumes of two containers to determine whether the volume of one is *more*, *less*, or *equivalent* to the other by pouring the contents of one container into the other.

Just in Time Quick Check

Just in Time Quick Check Teacher Notes

Supporting Resources:

- VDOE Mathematics Instructional Plans (MIPS)
 - [1.10 - How Much Does it Hold?](#) (Word) / [PDF Version](#)
 - [1.10 - Measuring the Principal](#) (Word) / [PDF Version](#)
 - [1.10 - Weigh to Have Fun](#) (Word) / [PDF Version](#)
- VDOE Word Wall Cards: Grade 1 [\(Word\)](#) | [\(PDF\)](#)
 - Length: Longer/Shorter
 - Height: Taller/Shorter
 - Weight: Heavier/Lighter
 - Balance Scale: Weight
 - Volume: Less and More
 - Volume: Equivalent

Supporting and Prerequisite SOL: [K.9](#)

SOL 1.10 - Just in Time Quick Check

Note: The teacher will need to provide the following items in order for students to complete this quick check: nonstandard units to measure length, a pan or balance scale with objects to weigh using nonstandard units, and two containers to use when measuring volume with nonstandard units. (Numbers 2 and 3 of this Quick Check involves interviewing and observing.)

1. Length

Use a nonstandard unit to measure the length of the **paint brush**. _____ units

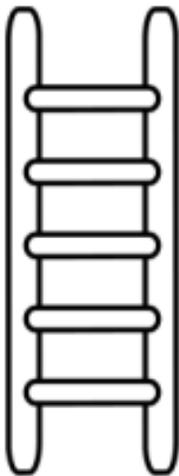


Use a nonstandard unit to measure the length of the **crayon**. _____ units

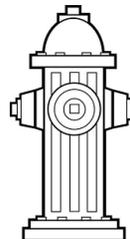


- Which is **longer**? paint brush or crayon
- Which is **shorter**? paint brush or crayon

Use a nonstandard unit to measure the length of the **ladder** and the **fire hydrant**.



_____ units



_____ units

- Which is **shorter**? ladder or fire hydrant
- Which is **taller**? ladder or fire hydrant

2. Weight

Provide student with a balance scale or pan scale. What is this tool used for?

Student response:

Ask student to use the scale and a nonstandard unit to weigh two different objects.

Object 1: _____ number of units _____

Object 2: _____ number of units _____

- Which is heavier?

- Which is lighter?

3. Volume

Provide the student 2 containers of different sizes and nonstandard units for the student to measure the volume of each container.

Ask student to use the nonstandard units to fill each container to see how much each will hold.

Container 1: _____ number of units _____

Container 2: _____ number of units _____

- Which container holds more?

- Which container holds less?

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Common Errors/Misconceptions and their Possible Indications

1. Length

Some students may struggle to iterate a unit along the length of the objects provided. They may leave gaps between subsequent units or overlap units, both producing inaccurate answers. Providing experiences for students to share their results with their peers will allow for discussions around why answers may vary. This will provide opportunities to share how to appropriately measure and why touching one unit with the next, without overlapping, matters. Students should have many experiences measuring with nonstandard units. Inch color tiles and other manipulatives are a good transition from nonstandard units to a ruler because students can use both the color tiles and a ruler to measure the length of objects. Many students do not recognize that all measurements, other than counts of discrete objects, are approximate.

2. Weight

Some students may use two different-sized nonstandard units to measure the objects, thereby not understanding that in order to compare weights, the same unit needs to be used. Students need many experiences measuring and comparing the weights of real objects with nonstandard units. Students also benefit from measuring the weight of the same object using a wide variety of nonstandard units of different weights. These experiences reinforce that the unit's size matters and that the heavier the unit, the fewer the number of units needed to measure weight.

3. Volume

Some students will struggle to compare the number of nonstandard units that each container can hold accurately. These students may not be able to count objects using one-to-one correspondence. Activities that engage these students in counting a variety of concrete objects of different shapes and sizes will be beneficial. Providing a hundred chart or number path as a support in matching objects (one per number) will help to improve accuracy.