

**Just In Time Quick Check**  
**Standard of Learning (SOL) 5.9a**

**Strand: Measurement and Geometry**

**Standard of Learning (SOL) 5.9a**

*The student will, given the equivalent measure of one unit, identify equivalent measurements within the metric system.*

**Grade Level Skills:**

- Given the equivalent measure of one unit, identify equivalent measurements within the metric system for the following:
  - length (millimeters, centimeters, meters, and kilometers)
  - mass (grams and kilograms)
  - liquid volume (milliliters and liters).

**Just in Time Quick Check**

**Just in Time Quick Check Teacher Notes**

**Supporting Resources:**

- VDOE Mathematics Instructional Plans (MIPS)
  - [5.9ab - Measurement Mania](#) (Word) / [PDF Version](#)
- VDOE Co-Teaching Mathematics Instruction Plans (MIPS)
  - [5.9 - Measurement](#) (Word) / [PDF Version](#)
- VDOE Word Wall Cards: Grade 5 ([Word](#)) | ([PDF](#))
  - Kilometer
  - Meter
  - Centimeter
  - Millimeters
  - Kilograms
  - Grams
  - Milliliter
  - Liter
- VDOE Instructional Videos for Teachers
  - [Converting Units \(grades 3-8\)](#)

**Supporting and Prerequisite SOL:** [4.8a](#), [4.8b](#), [4.8c](#), [3.7a](#), [3.7b](#)

## SOL 5.9a - Just in Time Quick Check

1.

10 millimeters = 1 centimeter 100 centimeters = 1 meter
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Determine the equivalent measurements.

2 meters = \_\_\_\_\_ centimeters

5 centimeters = \_\_\_\_\_ millimeters

2.

1,000 meters = 1 kilometer
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Determine the equivalent measurements and fill in the missing spaces in the chart below.

<u>Kilometer(s)</u>	<u>Meter(s)</u>
1	
3	
	5,000
	10,000
12	

3.

1,000 grams = 1 kilogram
--------------------------

Determine the equivalent measures and fill in the missing spaces in the chart below.

<u>Kilogram(s)</u>	2		6	7	
<u>Gram(s)</u>		3,000			15,000

4.

1,000 milliliters = 1 liter
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Determine the equivalent measurements.

5 liters = \_\_\_\_\_ milliliters

2.5 liters = \_\_\_\_\_ milliliters

5. There are 10 millimeters in 1 centimeter. Using this information, fill in the missing spaces in the chart below.

<b><u>Millimeter(s)</u></b>	5		48	
<b><u>Centimeter(s)</u></b>		2.2		12.3

6.

10 millimeters = 1 centimeter 100 centimeters = 1 meter
--

Determine the equivalent measurement.

2.5 meters = \_\_\_\_\_ millimeters

## SOL 5.9a - Just in Time Quick Check Teacher Notes

### Common Errors/Misconceptions and their Possible Indications

1.

10 millimeters = 1 centimeter 100 centimeters = 1 meter
--

Determine the equivalent measurements.

2 meters = \_\_\_\_\_ centimeters

5 centimeters = \_\_\_\_\_ millimeters

*Some students may have difficulty determining the relationship between units, even though the unit measurement is provided, preventing them from applying the pattern or rule necessary to fill in the missing information. Teachers may wish to provide experiences with manipulatives, such as meter sticks and centimeter rulers, to help students see the relationship between the unit measurement and how it shrinks and grows multiplicatively.*

2.

1,000 meters = 1 kilometer
----------------------------

Determine the equivalent measurements and fill in the missing spaces in the chart below.

<u>Kilometer(s)</u>	<u>Meter(s)</u>
1	
3	
	5,000
	10,000
12	

*Some students may have difficulty finding the relationship between meters and kilometers because they may want to fill in the columns on the chart instead of working across the rows. Teachers may wish to focus row by row, identifying the horizontal rule as they move down the chart. Teachers may wish to provide experiences with input/output tables to help students see the connection between the given unit and the table.*

*Additionally, some students may have difficulty in conceptualizing the relative comparison between the actual length of a meter and a kilometer. This may indicate that the students need to engage in conversations about familiar locations that are about one kilometer apart from each other, and compare them to the length of a meter stick.*

3.

1,000 grams = 1 kilogram
--------------------------

Determine the equivalent measures and fill in the missing spaces in the chart below.

<b><u>Kilogram(s)</u></b>	2		6	7	
<b><u>Gram(s)</u></b>		3,000			15,000

*Students may have difficulty with this chart because of its orientation. Teachers may wish to expose students to horizontal and vertical tables.*

4.

1,000 milliliters = 1 liter
-----------------------------

Determine the equivalent measurements.

5 liters = \_\_\_\_\_ milliliters

2.5 liters = \_\_\_\_\_ milliliters

*Some students may have difficulty with this problem because it involves a decimal equivalency. Teachers may wish to have students explore non-whole number relationships by using manipulatives such as hundreds and thousands grids to discover these decimal equivalencies.*

5. There are 10 millimeters in 1 centimeter. Using this information, fill in the missing spaces in the chart below.

<b><u>Millimeter(s)</u></b>	5		48	
<b><u>Centimeter(s)</u></b>		2.2		12.3

*Students may have difficulty with this chart because of the non-whole number relationship that requires students to discover the decimal that is equivalent to the specified amount of millimeters. Teachers may wish to have students explore non-whole number, power of ten relationships by using manipulatives to discover these decimal equivalencies.*

6.

10 millimeters = 1 centimeter 100 centimeters = 1 meter
--

Determine the equivalent measurement.

2.5 meters = \_\_\_\_\_ millimeters

*Students may have difficulty with this problem because it requires students to identify and relate 2 separate unit equivalencies to fill in the blank. Teachers may wish to have students explore multiple unit relationships by using manipulatives and charts with multiple columns.*