



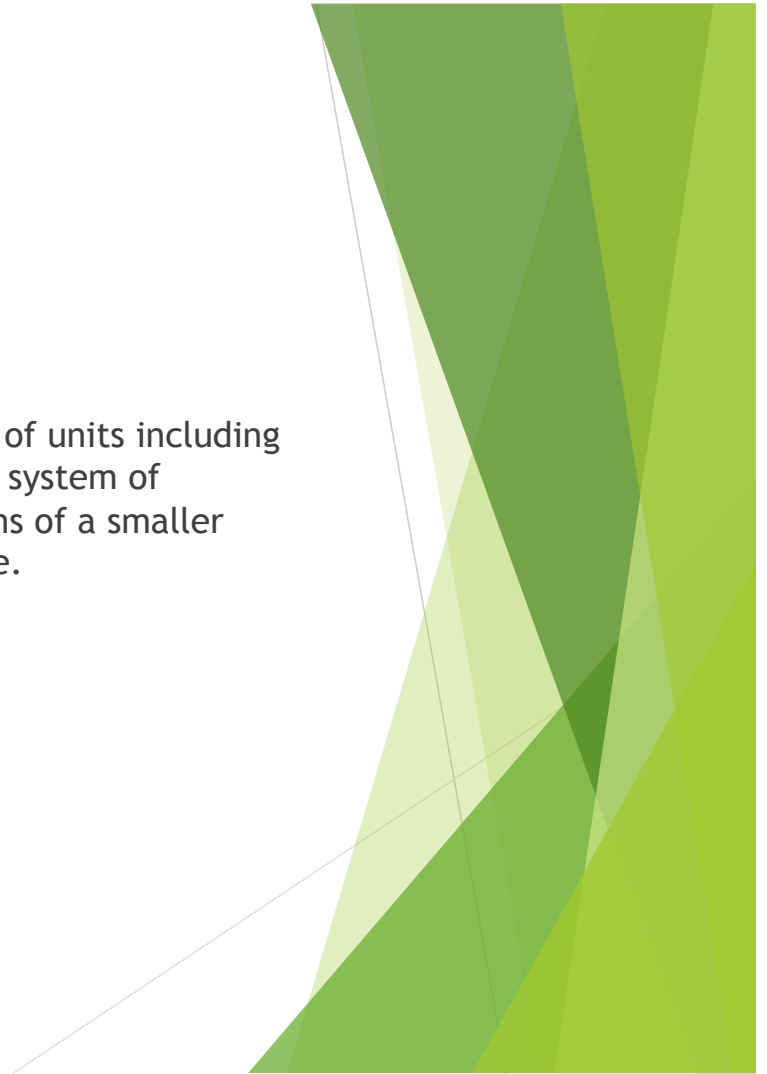
The Metric System

Savanna Wright

Kendall Binder

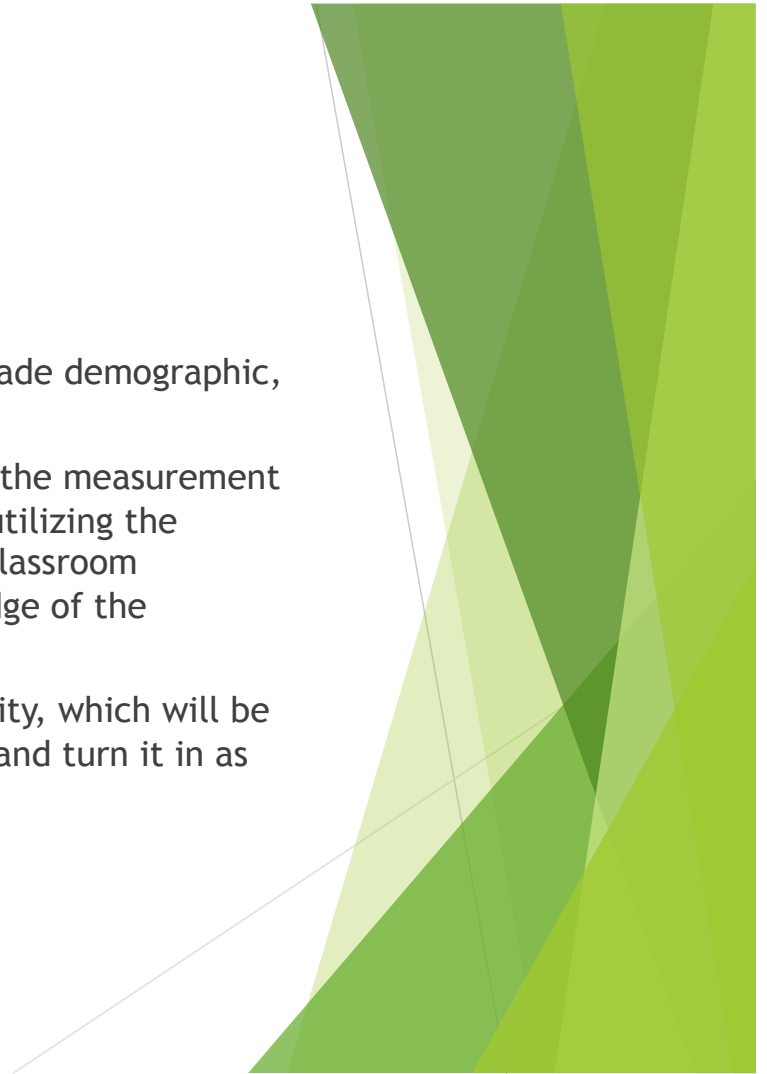
Standard

- ▶ [CCSS.MATH.CONTENT.4.MD.A.1](#)
- ▶ Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.



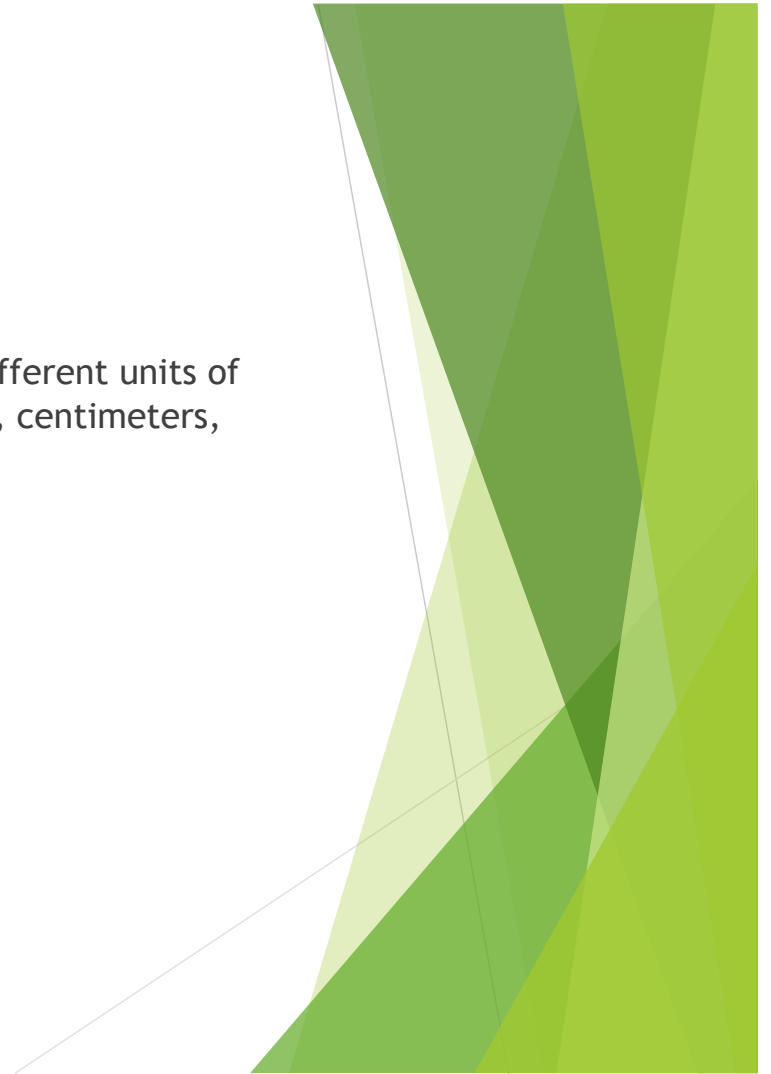
Overview of Lesson

- ▶ This lesson is designed to reach a Spanish-speaking fourth grade demographic, utilizing bilingual language and instructional scaffolds.
- ▶ With the teacher, students will complete an anchor chart of the measurement conversions between meters, centimeters, and millimeters utilizing the gradual release model (I do, We do, You do), followed by a classroom measurement activity, which will demonstrate their knowledge of the content.
- ▶ The students will fill out a worksheet on the classroom activity, which will be completed in pairs. Each student will fill out the worksheet and turn it in as their exit ticket.



Objective

- ▶ SWBAT calculate, in writing, the conversions between the different units of measurement in the metric system specifically using meters, centimeters, and millimeters.



Real World Application and Rationale

- ▶ Global system of measurement
- ▶ The only countries in the world that have not adopted the metric system:
 - ▶ The USA
 - ▶ Burma
 - ▶ Liberia
- ▶ The metric system is a base ten system of measurement, which is used in the majority of countries around the world. Who has ever traveled to a different country before? Who would like to travel to another country at some point in their lives? This is why this lesson is important and relevant to you! 😊

Key Vocabulary and Background Knowledge

Key Vocabulary

- ▶ Metric System: a base 10 measuring system
- ▶ Meter: base unit of measurement
- ▶ Centimeter: one hundredth of a meter
- ▶ Millimeter: one thousandth of a meter
- ▶ Global: pertaining or relevant to the entire world
- ▶ Conversion: the process of changing from one unit of measurement to another

Background Knowledge

- ▶ Base 10
- ▶ Multiplication
- ▶ Multiples



Instructional Modification for a complete lesson

- ▶ Post academic vocabulary definitions on board in English and Spanish
- ▶ Provide oral Spanish language support
- ▶ Group students in heterogeneous pairs according to their differentiated ability level
- ▶ Students will have a choice to complete the exit ticket in English or Spanish



I Do, We Do, You Do Classroom Example

- ▶ Base 10 Metric System: All eyes on the white board
- ▶ Video: <https://www.youtube.com/watch?v=U04nHNUMfPA>

	Meter (Metro)	Centimeter (Centimetro)	Millimeter (millimetro)
I Do	1	100	1,000
We Do	2	200	2,000
	3		
You Do	4		
	5		

Linear Measurement: Hand-Raising-Shout-Out

Would you use meters, centimeters, or millimeters to measure:

- ▶ The length of your classroom?
- ▶ The length of your finger?
- ▶ The length of a truck?
- ▶ The width of a dime?



Classroom Activity and Exit Ticket

- ▶ You will be working with your shoulder partners for this activity.
 - ▶ In pairs, measure the length of the table you are sitting at. How long is it in meters? On your own, convert that measurement into centimeters and then into millimeters. Record your answers on your worksheet.
 - ▶ On your fingers, show us how you feel about using the metric system to measure things.
1. I'm lost
 2. I need more support
 3. I'm close
 4. I can do this
 5. This is easy

For tomorrow's lesson we will practice more with conversions and how to represent these units of measurement using fractions.