

## Measuring Up Metric

### Scene: Switching to the Metric System

*Setting: Darryl bursts through the study hall door waving a piece of paper.*

**Darryl:** Hey, guys! Check out this wack letter that Mr. Veliz wrote to the teachers.

**Emanuel:** Wait a minute! What are you doing with a letter from the principal?

**Darryl:** When Ms. Rodas needs papers recycled, I'm her go-to guy. This letter was in her recycling bin. So now it's mine!

**Maggy:** Darryl, I thought you were a diver on the swim team, not a dumpster diver.

**Deyanna:** That's low, Maggy. Darryl, are you sure that letter shouldn't be shredded?

**Darryl:** Nah, it's not confidential. In fact, Ms. Rodas told me I should read it. It's going to affect us.

*Dear Faculty,*

*Thank you for your deliberations regarding the question, "Shall we go metric?" The official Metric Committee of Valley View Middle School has concluded that yes, the school will **convert** to the metric system. On the first day of school this coming August, all measurements within our hallowed halls will be metric.*

**Emanuel:** Hallowed halls? We have beat-up lockers in the halls, and Mr. Veliz thinks they are sacred?

**Deyanna:** Forget the halls, what's this about the school measuring everything using the metric system?

**Darryl:** Yeah, it's crazy. There's a lot more.

*As you know, other than the United States and a few other countries, all of the world uses the metric system, which is also known as the Systeme International d'Unites (SI). It is time that Valley View students experience their surroundings using the same measurements as their international counterparts. We will use metric measurement for length, area, volume, temperature, and mass. Not only will our students then be capable of using the system known best around the world, they will also learn to appreciate the simplicity of the metric system.*

**Emanuel:** *Learn* to appreciate? That doesn't sound good, but Mr. Veliz is right about people in other countries not understanding how we measure. My cousins in Costa Rica measure lengths in **meters** and centimeters. They don't know what I'm talking about when I say I'm 5 feet, 3 and three-quarter inches tall.

**Darryl:** Check this out. Mr. Veliz wrote about Ms. Hidalgo, my history teacher:

*Ms. Hidalgo brought an historical perspective to the Valley View Metric Committee. She stated that in the 1970s the United States was on the verge of shifting to the metric system. For example, interstate highway signs stated distances in both kilometers and miles. Speed limits were written in miles per hour and kilometers per hour. Even earlier, in 1790, Thomas Jefferson, then Secretary of State for President Washington, proposed that the United States adopt a decimal-based measurement system. He thought having a system with **factors** of 10 between units would be simpler and more exact.*

**Deyanna:** Thomas Jefferson had a good point. By third grade kids can multiply and divide by 10 and 100. So it is easy to **convert** using the metric system. The U.S. system isn't so easy. Ok, I know 4 quarts equals a gallon, and 4 cups equals a quart. But what's with a pint? And what is a bushel or a fathom? So yeah, I'm totally for changing to metric.

**Darryl:** Wait, there is more on the back.

**Maggy:** Of course, Mr. Veliz talks forever. Go on...

**Darryl:** *(reading)*

*Because all scientists exclusively use the metric system, or SI, our science classes should also only use metric units of measure. For example, all beakers that measure quarts, pints, and cups will be replaced with beakers marked in liters and milliliters. Metric rulers will replace yardsticks. Our new **scales** will measure grams and kilograms, not ounces and pounds.*

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### Scene (continued) / Comprehension Questions

**Deyanna:** Dr. Phan will be fine with that. She'll get new science equipment and another chance to remind us, "Remember your Ps & Qs: Precisely Quantify, Precisely Quantify." She's totally into measuring.

**Darryl:** Dr. Phan'll be cool with going metric, but how about when Mr. Patmore teaches his cooking class? His recipes all call for cups, teaspoons, and tablespoons! Can you see Mr. Patmore throwing out his precious measuring cups?

**Maggy:** And he had us use candy thermometers too, remember? And I think they were Fahrenheit, not Celsius thermometers.

**Deyanna:** I don't know if I'll ever figure the temperature thing out. Twenty-six **degrees** will never sound like a warm day to me!


**Emanuel:** Hey Deyanna, I'm your science lab partner. Have you been asleep all year? Temperatures in the lab are already Celsius! It's easy. Water freezes at 0 **degrees** and boils at 100. Darryl, finish the letter.

**Darryl:** (*reading*)

*"Finally I wish to thank you for your assistance in the transformation of Valley View to an all-metric school."*

**Emanuel:** An all-metric school. Wait, does this mean all the sports stuff will be in metric, too?

**Maggy:** This could get confusing!

 **Respond in writing to the questions, then compare and discuss your answers with someone else.**

Complete the following sentence to summarize the letter that Darryl found:

The school principal is communicating to the teachers that

\_\_\_\_\_

\_\_\_\_\_

Darryl said that the letter from the principal is "not confidential." That means that the letter was:


- A. secret
- B. personal
- C. public
- D. important

Mr. Veliz said that Valley View students would be using the same measurements as their "international counterparts." By this he means:

- A. exchange students
- B. students in other countries
- C. industries
- D. immigrants

Ms. Hidalgo mentioned that the United States was "on the verge of" switching to the metric system in the 1970s. By this she means:

- A. confused about
- B. resistant to
- C. eager to
- D. about to

 **Your teacher will assign you one or more of these questions to discuss in a group. After that, be ready to share what you talked about with the rest of the class.**

Mr. Veliz wrote that students "will learn to appreciate" the simplicity of the metric system, but Emanuel thinks that implies something. What's Emanuel's concern?

Thomas Jefferson liked the idea of a measurement system that used **factors** of 10. Most people find multiplying and dividing by 10 easier than by other numbers. Do you agree? Why do you think it is easier for many people to divide or multiply by 10?

Deyanna pointed out that cups, quarts, gallons, and pints (part of our customary system) do not relate using **factors** of 10. Rephrase or explain her point.

Why do you think Mr. Veliz called out science class as an example when describing the transition to metric?

Deyanna and Emanuel seem to disagree about whether the metric temperature **scale** is sensible. What do you think? Why does Emanuel argue that the Celsius **scale** is easy? What is the nature of Deyanna's confusion?

If your school adopted a policy like Valley View's that all measurements will be metric, would your sports programs have to adjust? How easy or difficult would that be?