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I spend countless hours writing, researching, editing and generating graphics/charts for each question. I want to continue creating useful content for you to use - however, I also want to ensure my work is fairly compensated.

Therefore, below are the terms and conditions for use of our materials.

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- Distributing and/or posting our content online (for example, on social media or a blog).

Thank you for supporting us. And, we look forward to helping you with your teaching practice. Please feel free to reach out to us if you have any questions or suggestions.

Sincerely,

Kent
REAL Science Challenge Founder
Science Department Head (Burnaby South Secondary)

Estimating and Measuring Volume

Sample Lab Procedure

1. Before the lab, get various bottles and fill with water and different food coloring. Label each bottle A, B, C...etc. Also, bring out 3 types of graduated cylinders for students to use: 10ml, 25ml, and 100 ml graduated cylinders.
2. Have each group grab one labeled bottle and all three types of graduated cylinders back to their lab bench.
3. On their data table (see lab handout below), students need to write down the letter of their bottle. Then, students will estimate how much liquid they think is in the bottle. Then, they will record this estimate on their data table.
4. Using their estimate, students will choose the correct graduated cylinder to use. Students need to choose the smallest graduated cylinder that will hold all the liquid they have estimated that is contained in the bottle.
5. Students will pour the liquid from the bottle into the correct graduated cylinder and measure. Then, they'll record the measurement on their data table.
6. Students will transfer the liquid from the graduated cylinder back into the bottle, close the bottle, return the bottle and grab another. Then, students will repeat steps 2-5 for the next bottle and all other bottles that the teacher has put out.

Assessment

I check to see if students are including the correct number of digits - that is, the correct number of decimal places - in their measurement.

Also, I check to see how well they've explained their response to the reflection question (see below).

Sample Lab Handout

Data and Observations

Bottle	Estimated Volume	Actual Volume

Reflection Question

How could you estimate volume more accurately? Propose a solution and explain how it would work.