

Comparing Volumes of Cereal Boxes



In this project you will measure the volumes of two different cereal boxes and consider the amount of extra space in each box.

Requirements:

1. Find two *unopened* cereal boxes of different brands and sizes.
2. Measure the height, width, and depth of each box to the nearest centimeter. Record your data in a table. *(h) (w) (d) (length) $V = l \times w \times h$*
Create a table or clear way to represent your data.
3. Calculate the volume of each box. Add this data to your table.
4. Open each cereal box. Mark a line on the outside of the box to show the height of the cereal inside the box. Next, measure the height of the cereal in each box and add this data to your table.
5. Calculate the volume of the cereal in each box using the height of the cereal in Step 4 and the width and depth of the box in Step 2. Add this data to your table.
6. Subtract the amount of cereal in the box from the volume. How many cubic centimeters of empty space are in each box?
7. What is the reason for the empty space in the box? Explain your thinking.

Extra Credit: Design a cereal box that will hold the volume of cereal in one original box with minimal empty space. Write a letter to convince the cereal company why your design is better than the original.

Think of a creative way to present your project!

Project Due Date: 10/17/16

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Name:

Date:

Requirements	4	3	2	1
Accuracy	Accurately calculates the volume of the two cereal boxes, the cereal, and the empty space inside each box	Makes one minor calculation error when calculating the volume of the two boxes, the cereal and the empty space inside each box	Not all work is shown or work contains several calculation errors	Work is not shown or work contains many calculation errors
Table <i>with title and your name</i>	A table is used to present the data effectively All table headings are appropriate (e.g. Height of Box, Width of Box, Depth of Box, Volume of Box, Height of Cereal, Volume of Cereal)	A table is used to present the data effectively Most table headings are appropriate	Some data or sections of the table are missing	A table is not included.
Explanation	Provides a clear and logical explanation for the empty space in the cereal boxes Includes evidence of research on the topic	Provides a clear and logical explanation for the empty space in the cereal boxes	Part of the explanation is clear	Explanation is unclear or is not included
Mechanics • spelling • punctuation • capitalization	No errors in spelling, punctuation or capitalization	1-2 errors in spelling, punctuation or capitalization	3-4 errors in spelling, punctuation or capitalization that interfere with reader's understanding	More than 5 errors in spelling, punctuation or capitalization that interfere with reader's understanding
Presentation	Project is presented in a very organized, creative and effective way Extra credit component is completed effectively	Project is presented in an organized, creative and effective way	Some parts of the project are presented in an organized, creative and effective way	Project is not presented in an organized, creative or effective way

Total: /20