



Leaning Tower of Noodles

Introducing Collaboration & Creativity

NAME:

DATE:

BLOCK:

INTRODUCTION: In the thrilling world of science, collaboration is a cornerstone. The most groundbreaking discoveries often arise from a symphony of shared knowledge and collective effort. Consider the monumental revelation of DNA's double-helix structure. Rosalind Franklin's meticulous imaging of the molecule set the stage for James Watson and Francis Crick to unravel the mysteries of DNA, showcasing the power of collaboration in advancing scientific frontiers.

Creativity, too, is a driving force in science. Scientists are akin to artists, crafting innovative solutions to complex problems. Think of Sir Isaac Newton, who, inspired by the simple act of an apple falling, formulated the profound theory of gravity. This blend of observation and creative thinking propels science forward, turning curiosity into discovery.

Today, you will channel this spirit of collaboration and creativity in our basic engineering lab. Your mission: to construct the tallest marshmallow tower using only noodles and tape. The catch? You have a limited time and supply of materials, challenging you to think outside the box and maximize efficiency. This task will demand patience, innovation, and, most importantly, teamwork. Embrace the trial-and-error process and value every idea, for the most unexpected suggestion might lead to the most triumphant structure. Let's get building!

MATERIALS RECEIPT:

Marshmallows (1/group)	\$1.00 (10oz)
Masking Tape (3ft/group)	\$1.00 (55yd)
Raw Spaghetti (25/group)	\$1.00 (16oz)
Meter Stick	---
Timer (Phone)	---
TOTAL	\$3.00

TOWER BUILDING RULES:

- I. Only use the provided materials.
- II. The marshmallow must be placed on top of the tower.
- III. The tower must stand on its own, without external support.
- IV. You can tape the tower to the table.
- V. Spaghetti can be broken, but broken pieces won't be replaced.
- VI. The marshmallow must remain whole.

PROCEDURE:

1. Before building, discuss and sketch your potential tower design.
2. Construct your tower in 20 minutes, following all tower building rules above.
3. After building, draw your final tower.
4. Measure and record the height of each group's tower.





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DATA/OBSERVATIONS:

<u>BEFORE SKETCH</u>	<u>AFTER SKETCH</u>

TABLE #1: TOWER HEIGHTS										
Group #										
Height, cm										

POST-LAB QUESTIONS:

1. How accurate was your initial sketch compared to the final tower? Explain.
2. Which group built the tallest tower? Use data from the table to justify your answer.
3. What strategies worked well for your group? Why?
4. What challenges did your group encounter? Explain.