SCIENCE EXPERIMENT

Testing the Load-Bearing Capacity of Egg Shells

Name: _____ Date: _____

BACKGROUND

Eggshells may look fragile, but they are designed to protect what's inside. Their curved shape helps distribute weight and resist cracking. In this experiment, you will test how much weight an egg shell can hold before it breaks.

QUESTION

How much weight can an eggshell hold before it cracks?

HYPOTHESIS

I think the eggshell will hold _____

before it cracks because _____

_____ .

MATERIALS

- 3 eggs
- Small cup or ring stand (to hold the egg)
- Coins (or washers)
- Paper towels
- Ruler or scale (optional)
- Data sheet (this page)
- Tray (to catch mess)



PROCEDURE

1. Place a cup or ring stand on a tray. Gently place one egg on top, pointed end up.
2. Add coins one at a time to the top of the egg.
3. Count each coin as you add it.
4. Stop when the eggshell cracks or collapses.
5. Record the number of coins the egg held in the data table.
6. Repeat steps 1–5 with the other two eggs.
7. Calculate the average load-bearing capacity.

DATA TABLE

Trial	Egg #	Number of Coins Before Crack	Estimated Weight (grams) *	Did the Shell Crack or Collapse?	Notes
1	Egg 1				
2	Egg 2				
3	Egg 3				
AVERAGE (mean)					

* If using coins: Weigh one coin and multiply by the number of coins to estimate the weight in grams.

OBSERVATIONS

Describe what you noticed during the experiment.

_____

_____

_____

_____

CONCLUSION

What did you learn? How did your results compare to your hypothesis?

_____

_____

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_____

SAFETY FIRST: Wash your hands before and after the experiment. Clean up all materials when finished.