



#PerkinsPerfectAtHome

# Make Eggs BOUNCE with Science!



## 1. MAKE AN OBSERVATION ASK A QUESTION

Egg shells are made of brittle calcium carbonate.

What will happen if we soak eggs in an acid (vinegar) to break down the calcium carbonate?



## 2. PREPARE AND RESEARCH

Gather:  
An uncooked chicken egg in the shell  
A glass or cup of ordinary vinegar

Smell the vinegar. Can you detect its acidity?

## 3. CONDUCT THE EXPERIMENT



Delicately place the egg in the cup of vinegar.

Leave undisturbed for at least one day.

Remove egg and rinse in water.

## 4. ANALYZE

Observe (and remove) the shell.  
Record observations in your lab notebook.

Poke the egg with your finger.

Gently drop the egg on a table.  
Now try it outside!



## 5. REVISE HYPOTHESIS IF NECESSARY

Does your egg bounce?

Did you expect this result?

Discuss with others.



## 6. MAKE CONCLUSIONS

Vinegar 'eats up' the calcium carbonate in the egg shell, leaving the inner membrane of the egg behind.

When calcium carbonate (the egg shell) and acetic acid (the vinegar) combine, a chemical reaction takes place and carbon dioxide gas is released. That's why you see the bubbles.

The reaction is:  $\text{CaCO}_3 + \text{CH}_2\text{COOH} \rightarrow \text{Ca}^{2+}$  (in the form of a salt) +  $\text{H}_2\text{O} + 2\text{CO}_2$ .

