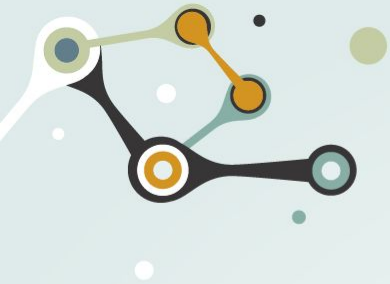




# Chemical Engineering Kit

Glow in the dark bouncy eggs



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# Chemical Engineering

engineering dealing with the industrial application of chemistry

- Merriam Webster





# The Field of Chemical Engineering

# Fields in Chemical Engineering



Advanced  
Materials

Biomedical  
Engineering



Energy

Systems  
Engineering



# Classes to Take in High School

## Chemistry

AP Chemistry

## Math

Any math courses  
offered at your  
schools

## Engineering

Any engineering  
courses offered at  
your school



# Careers in Chemical Engineering



# Statistics



# \$97,360

Median yearly salary

# 35%

Of degree holders are women

# 13,000

Jobs across the United States



# Careers in Chemical Engineering

Biotechnologist

Petroleum Engineer

Energy Engineer

Analytical Chemist

Nuclear Engineer

Material Engineer



# The Science Behind It



# The Science Behind It



When you leave the egg in vinegar, the acetic acid in the **vinegar breaks down the calcium carbonate shell**, producing the tiny carbon dioxide gas bubbles you see. Once the egg shell dissolves, the egg expands slightly because the **membrane is semi-permeable**. That means it allows some things to pass through it. This process is called osmosis.

Some of the water with the highlighter ink passes through the membrane into the egg and causes it to swell and glow.



# Activity



# Supplies



- An egg (one for each highlighter color)
- Clear glass
- Vinegar
- Highlighters



# Steps



1. Take out the polyester cylinder out of the highlighter and squeeze it to extract as much of the ink as you can. Add this to your glasses
2. Add a raw egg to each of the glasses. Then cover them with white vinegar.
3. Two days later, check on our eggs and notice the changes in your egg.
4. Squeeze and play with your new bouncy eggs but be careful to not break them.

# THANKS

Please fill out this feedback form  
once you're done!

[https://forms.gle/jPuovTAjFJBE8J  
Br7](https://forms.gle/jPuovTAjFJBE8JBr7)

Have any pictures? Send them to  
[kits4stem@gmail.com](mailto:kits4stem@gmail.com)



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