

Naked Egg

Amount of time Demo takes: 5-10 mins.

Try this at home! (Only with vinegar (will take 12 hours)). Do not try with muriatic acid at home!

Lesson's Big Idea

- Acid/Base reactions

Materials

- Eggs
- Large beakers
- Muriatic Acid
- Water
- Gloves
- Safety Glasses

SAFETY!

- Wear Safety gloves and glasses!
- Do not breathe in fumes.

Background Information

- The Muriatic Acid breaks apart the solid calcium carbonate crystals that make up the eggshell into their calcium and carbonate parts. The calcium ions float free (calcium ions are atoms that are missing electrons), while the carbonate goes to make carbon dioxide—the bubbles that you see.

Setup Instructions

1. *Have a completed demo to observe*
2. Fill a large beaker with half water, half Muriatic Acid.

Instructional Procedure

1. Place an egg in the water/acid mixture.
2. Observe as the shell dissolves and bubbles form.
3. Once the shell has finished dissolving, use a spoon to remove the egg.

Assessment Questions

- Why does the shell dissolve but not the egg?

- Have you tried this before with vinegar?

Careers & Real-World Applications

- Coming soon!

Clean Up

- Throw away the egg(s).
- Dispose of the Muriatic Acid properly.
- Clean all beakers thoroughly.

References

- <http://www.exploratorium.edu/cooking/eggs/activity-naked.html>

Related Next Generation Science Standards

- K-5
 - 2-PS1 Matter and its Interactions
 - 5-PS1 Matter and Its Interactions
- 6-8
 - MS-PS1 Matter and Its Interactions
- 9-12
 - HS-PS1 Matter and Its Interactions