

Classroom Chemistry – Soft-Boiled Science

Had enough hard-boiled eggs? Switch to delicious soft-boiled eggs. How does different exposure to heat times change the way an egg cooks?



Materials:

- 3 Raw Eggs
- Large bowl
- Water
- Pot with a lid
- Stove
- Time
- Ice cubes
- Spoon
- Plates
- Dinner knife

Procedure: (Remember to have your parent's permission and have them watch and help you.)

- Uncooked eggs may carry salmonella. Wash your hands with soap and warm water after handling.
- Make an ice bath by putting ice cubes in the bowl and fill it with enough water to cover an egg.
- Place an egg in a pot and add water so that the egg is covered by the water.
- Put the lid on the pot, bring the water to a vigorous boil and let it cook for five minutes.
- Use the spoon to remove the egg and place it in the ice bath.
- After one minute place it on a plate, cut the egg in half and observe.
- Boil the water again. Use the spoon to place a raw egg into the boiling water. Boil (lid on) for five minutes.
- Remove the egg and place it into the ice bath.
- After one minute, remove and cut the egg in half and observe.
- Bring the water back to boil and carefully place a raw egg into the water.
- Once the egg is submerged, turn off the stove and move the pot to a cool burner.
- Let the egg steep for five minutes. (Leave the lid off.)
- Remove the egg and place it into the ice water bath.
- After one minute, remove and cut the egg in half and observe.
- Which cooking method resulted in the best soft-boiled egg? If they showed similar results, which method seemed to use less energy?

What's Happening:

When the egg and water were brought up to a boil together, the egg was heated the longest and the egg cooked the most. The egg that was steeped but not boiled was least cooked.

Extension:

Try different sizes of eggs or changing the amount of time for boiling. Another common approach to soft-boiling eggs is simmering instead of boiling.

This chemistry activity is based on our Classroom Chemistry kits. The source for this lab was: <http://www.scientificamerican.com/article.cfm?id=bring-science-home-soft-boiled-egg>. Our teaching kits (described on our website) are loaned out FREE to provide classroom teachers and parents of home schooled children an opportunity to explore Science in interesting ways. Please consider volunteering as a classroom guest speaker or allow your business as a field trip location.



Praxis will be hosting Operation Thoth, a conference for grade nine boys, on April 19th. For more information see: <http://praxismedhat.com/services-operation-thoth/>.

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