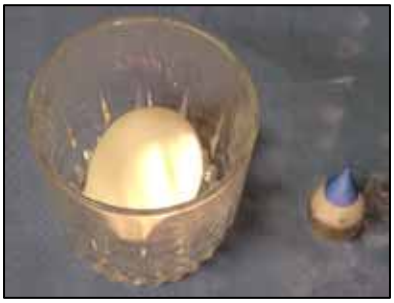
Lab: Pores in the Shell

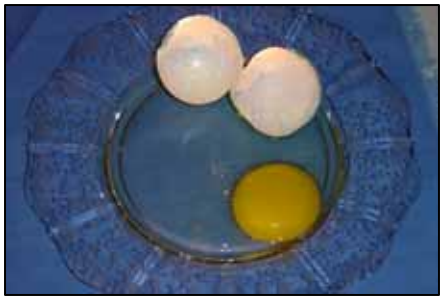
The shell is porous. This allows the transfer of gases through it. Carbon dioxide and moisture are given off through the pores and are replaced by atmospheric gases.

Materials:

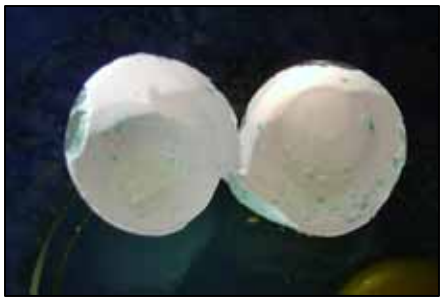
8 ounce drinking glass
Egg, brought to room temperature by setting on counter 4 to 5 hours
½ cup Water
½ cup Ice
12 drops blue food coloring
Drinking Straw
Timer
Paper towels
Paper Plate
Sharp knife (optional, but helpful to crack egg)
Gallon size zipper-seal bag



Procedure:



Pour water into glass.
Add 12 drops blue food coloring. Stir gently with drinking straw
Place egg in glass. Slip gently into water.
Add ice. Gently stir the egg, water and ice. (The colder the water, the faster and more obvious the results.)
Set Timer and wait 5 minutes.
Lift egg out of water and wipe with paper towel. Discard water.
Crack egg open, trying to keep the halves as complete as possible. Using the sharp knife will help create a clean break. Let the egg contents spill onto the paper plate. View the inside of the shell and the albumen.



Discard paper plate and egg in the zipper-seal bag. Seal bag completely. Wash hands thoroughly.

Thinking About It

Shell pores are made visible by using the blue food coloring. How are the shell pores utilized in the creation of the egg's air cell?

Funded by: USDA Higher Education Challenge Grant Agreement No. 2003-38411-13479
and Poultry Products Safety & Quality (PPSQ) Program
Auburn University, Alabama