

TEACHER MATERIALS - Poultry and Eggs

CONCEPTS: Life Science - 1A - 2.4
 - 1B - 1, 3
 Physical Science - 1C - 1.11, 1.5
 11C- 1.11, 1.12, 1.2
 - 1D - 1
 Science - The Scientific Method
 Social Studies - technology (economic pp. 56,58)
 - interdependence (economic pp. 56,58,62)
 Physical Education
 Listening and
 Speaking - predicting

OBJECTIVES: At the end of this unit the student will understand that

1. the egg is very complex.
2. plants can be used as dyes.
3. materials can dissolve an eggshell.
4. how to tell if an egg is raw or cooked.
5. items float if they are lighter than what they float in.

MATERIALS: eggs	pan	knee highs
leaves	onions	or panty hose
or flowers	vinegar	glasses
water	a bottle	salt

BACKGROUND: A hen's eggs are complex entities. The egg is formed and a shell placed around it inside the hen before she lays the egg. If a fertile egg is required, the rooster mates with the hen just once a week or so. She holds the sperm in a special pouch. As the egg is formed some of the sperm swim to the egg and fertilize it. The shell is then constructed around the egg. The shell is made of calcium carbonate. To achieve strong eggshells the hens are fed ground oyster shells.

Many of us have wondered-
How do people make eggs bounce? or drop into the
thin neck of a bottle?
How can you tell if an egg is cooked or raw?
These eggs-periments will clue you in.

- ACTIVITIES:**
1. Have the students do the chicken walk by following the instructions on page 1-104.
 2. Complete the **Eggs-periments** which follow as a class demonstration:

Eggs-periment #1. The Lacy Egg

Eggs-periment #2. The Bouncing Egg

Eggs-periment #3. The Floating Egg

Eggs-periment #4. Is it Raw or is it Cooked?

3. Complete the other egg lessons in Language Arts on pages 1-28 through 1-30, in Mathematics on pages 1-34 through 1-39, in Science on pages 1-57 through 1-64 and in Social Studies on Pages 1-136 through 1-146.
4. Utilize the egg posters.



The Chicken Walk

The Chicken Walk ...The Chicken Walk

I love to do The Chicken Walk.

My arms make wings.

I have two legs.

And when I walk

I bob my head.

1. Have the students

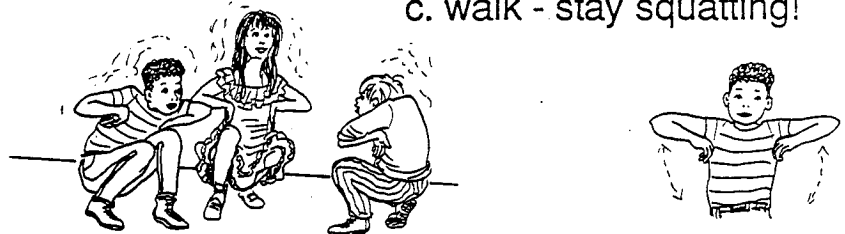
a. tuck their hands under into their armpits.
(These are their wings.)



b. squat down.



c. walk - stay squatting!



2. Once they can do this have them chant "The Chicken Walk" bobbing their heads back and forth like chickens.

3. Have them make their own version of chicken noisesclucks, bucks, crowing, etc.

4. If they think they are really good have them try to touch their beak (nose) to the ground as a chicken would. Can they do it? Ask them how a chicken is different so that it can feed by reaching its beak to the ground.

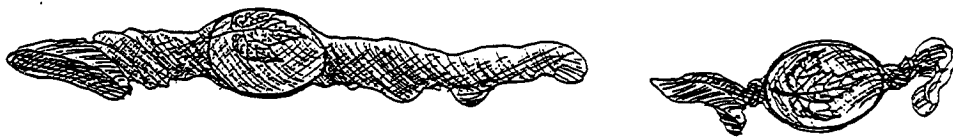
Eggs-periment - #1 The Lacy Egg

MATERIALS: eggs
pantyhose (whole, half or knee highs)
leaves or flowers
pan to boil eggs in
onion

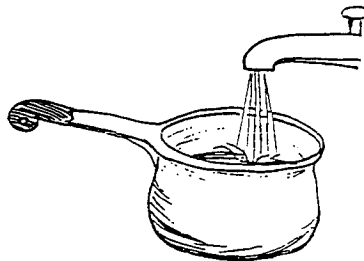
ACTIVITY: 1. Press a leaf or a flower against a raw egg and slide them into the leg of a pair of pantyhose (or knee high.)



2. Stretch the hose around it tightly and tie the leg off. More eggs can be carefully added to the leg. It is important that the leaf or flower lie flat and that the panty hose is snug.



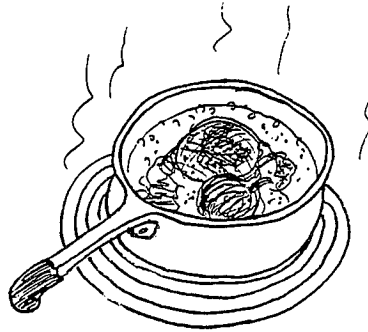
3. Place the "pantyhosed" eggs into a pan of water. They must be covered by 1 inch of water.



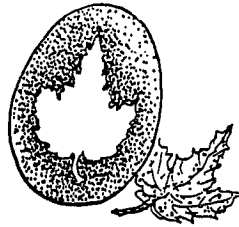
4. Add several onion skins. At least one onion skin for every 1 to 4 eggs.



5. Bring the water to a boil, reduce the heat to a simmer, and cook for 20 minutes.



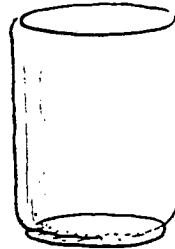
6. Remove the pan from the heat, let it cool. Unwrap the eggs and reveal the lacy patterns.



7. It is all right to eat the eggs as long as they are kept chilled. More than a few hours in room temperature can lead to the growth of bacteria. The onion skin is not harmful. This is simply a natural dye.
8. Explain to the students that in the past all dyes were made from plants. In fact, this color came from boiling onion skins just as you have done.

Eggs-periment #2 - The Bouncing Egg

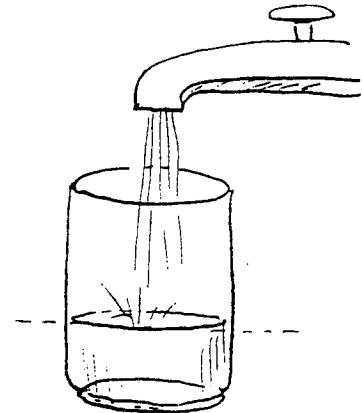
MATERIALS: a hard boiled egg
glass
water
vinegar
small necked bottle



ACTIVITY: 1. Hard boil an egg or bring in a hard boiled egg from home.



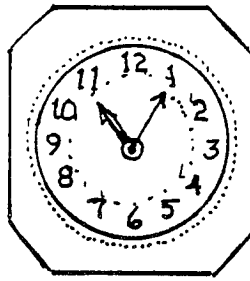
2. Place the hard boiled egg in a glass half full of water.



3. Fill the rest of the glass to the top with vinegar.

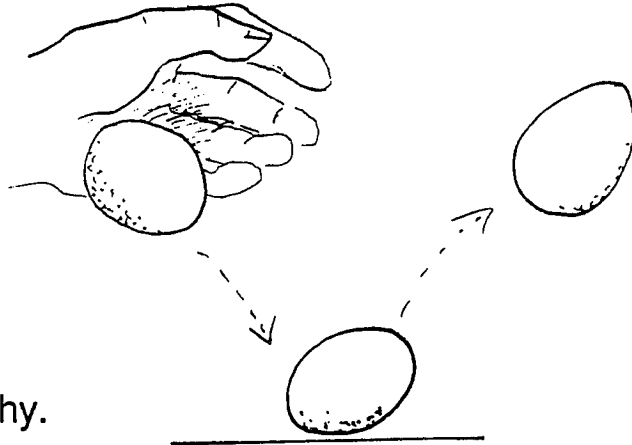


4. Wait 1 day.



By the following day the vinegar will have softened the eggshell. Vinegar is an acid and will react with calcium and break down the calcium in the egg's shell.

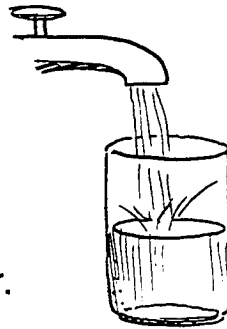
5. Take the egg out of the solution and
- ask the students :
What do you think happened?
 - Let them brainstorm all their theories.
 - Then very dramatically let the egg drop.....it will bounce!



6. Discuss why.
7. To take this one step further...set the egg on top of a small necked bottle...then place it in a refrigerator. By morning you will have an egg in a bottle.

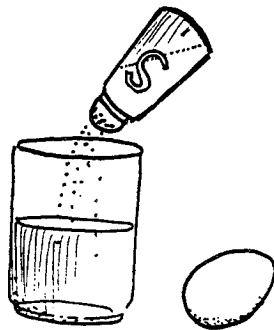
Eggs-periment #3 - The Floating Egg

MATERIALS: raw egg
water
glass
salt



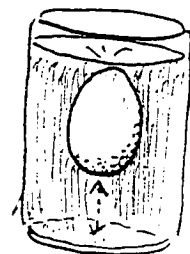
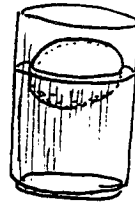
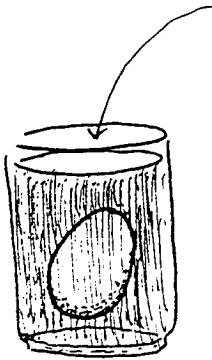
ACTIVITY: 1. Fill a glass half full of water.

2. Add salt (sprinkle it in) and stir until the salt will no longer dissolve.



3. Tell the students you are going to put the egg in. Have them predict what will happen and why.

Gently add the egg.



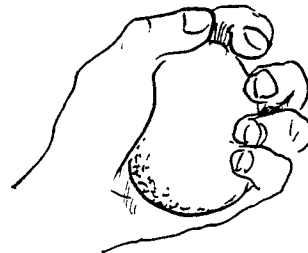
4. Ask, "What is happening?" "Why?"

The egg will float because salty water is heavier than tap water. Objects will float if they are lighter than water. That is why it is easier to swim in salt water (ocean water) than in a pool, river, stream or pond. And it is easier to swim in the Great Salt Lake than in the ocean - it has more salt.

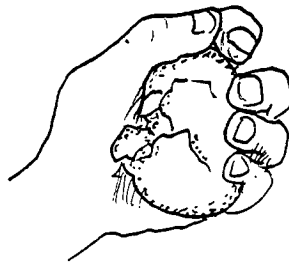
Eggs-periment #4 - Is It Raw or Cooked?

MATERIALS: one raw egg
one hard cooked egg
a flat surface

- ACTIVITY:** 1. Ask the students, "How can you tell if an egg is raw or cooked?"
2. There are at least two ways;
- a. holding a raw egg in the palm of your hand (no rings please) close you fingers around it evenly.



- b. Squeeze!

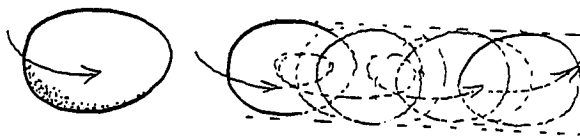


- c. A raw egg will not break - using one hand only.
- d. The second way is less risky:

1. On a flat surface spin a hard cooked egg on its side.



2. Ask the class, "What do you see?"



3. Now spin the raw egg and ask the same question.



4. Have the students predict which egg is raw and which is cooked. Have them justify their theories.

The raw egg has the yolk (yellow part of the egg) held loosely in the white of the egg. It moves at a different speed than the white so it slows down the egg and causes it to wobble. The hard cooked egg is all solid so it stays together, moves at the same speed and allows the egg to spin freely.