

Title: Nutrition in Eggs

Subject Area: Science

Key Stage 2

NC link: 1 a, b, c and d

Learning Objective:

- Children look carefully at the nutritional value of eggs
- They test the eggs for freshness and look at the composition of an egg.

Resources:

- A photocopied sheet to label.
- Fresh eggs and rotten eggs to test
- A container full of water.
- Torch/60W lightbulb for candling egg (see special notes.)
- A4 sheet of card to make tube for candling egg (see special notes.)

Starter

Discuss, what is in an egg. Explain that Eggs contain about 14% of an adult's recommended daily allowance of protein. It contains no carbohydrate or vitamin C. Ask: Which foods contain these? The egg white contains 15 calories and the yolk contains about 60 calories. The yolk also contains some cholesterol so you should not eat more than one egg a day if you need to keep an eye on these levels. Candle (see special notes,) the egg to see the yolk, white and air cell inside the egg.

Main Teaching Activity:

Encourage the children to look at the list of vitamins and minerals that can be found in an egg. As a class, discuss why vitamins and minerals are vital for everyday health. Next talk through the anatomy of an egg, it may be worth cracking open a fresh egg to get a clearer picture of the membranes, yolk, shell, white and air cell.

Plenary

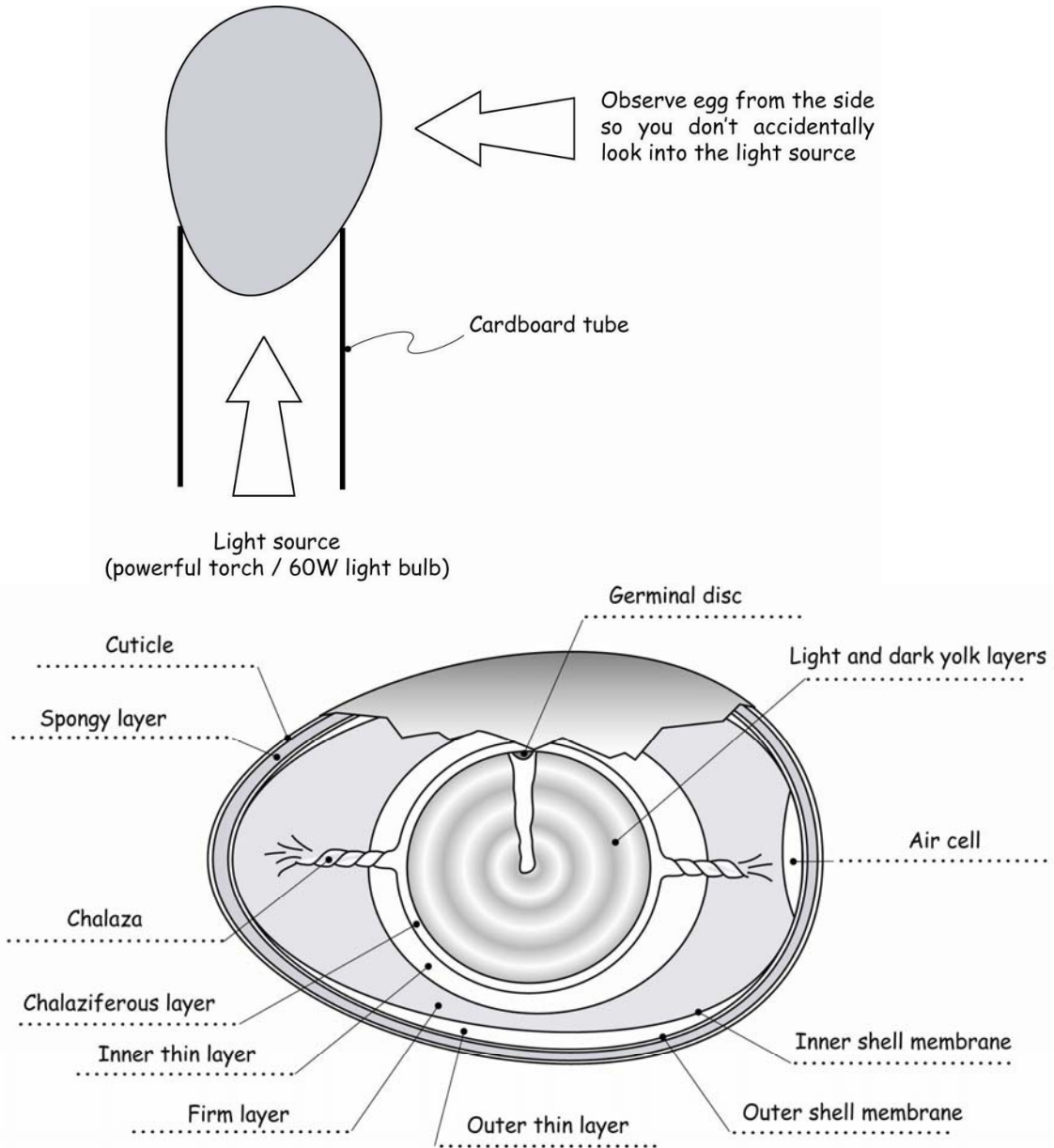
- Talk through the labeling and ask: Does anyone know how to test if an egg is fresh? Explain that the shell is porous and so as the egg is in the air it takes in air, which collects in the air sac. An older egg will have absorbed more air therefore float if placed in water. Demonstrate using two eggs and a container of water. (For full lesson KS3 lesson plan on floating eggs see Omlet sheet 'Floating eggs').

Differentiation

Challenge the children to investigate why egg shells are sometimes weak (lack of calcium) and what can be done to remedy this. Ask: Which other foods could you eat that contain 75 calories? Would they contain the same nutrients?

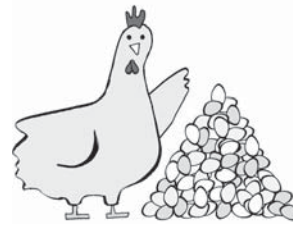
Special Notes:

- To make an egg rotten, use a supermarket egg and place it somewhere warm for a week.
- 'Candling' an egg to enable you to see inside the egg.



Completed egg anatomy diagram

Nutrition



All these vitamins and minerals can be found in eggs;

Vitamins B1, B2, A, D, E
All 8 of the amino acids.
Phosphorous
Sulpher

Potassium
Calcium
Zinc
Triglycerides

Phospholipids
Lecithin
Choline

Discuss why vitamins and minerals are essential for a healthy body.

The eggs from your own chickens are really fresh and an excellent source of energy. The eggs are made up of various parts. Look at the diagram and words below and see if you can label the anatomy of the egg.

White :

Outer thin layer
Firm layer
Inner thin layer
Chalaziferous layer
Chalaza (holds the yolk in place)

Shell :

Cuticle
Spongy (calcareous) layer

Yolk (ovum) :

Germinal disc (blastoderm)
Alternation of light and dark yolk layers
Air cell

Membranes :

Outer shell membrane
Inner shell membrane
Yolk membrane.

