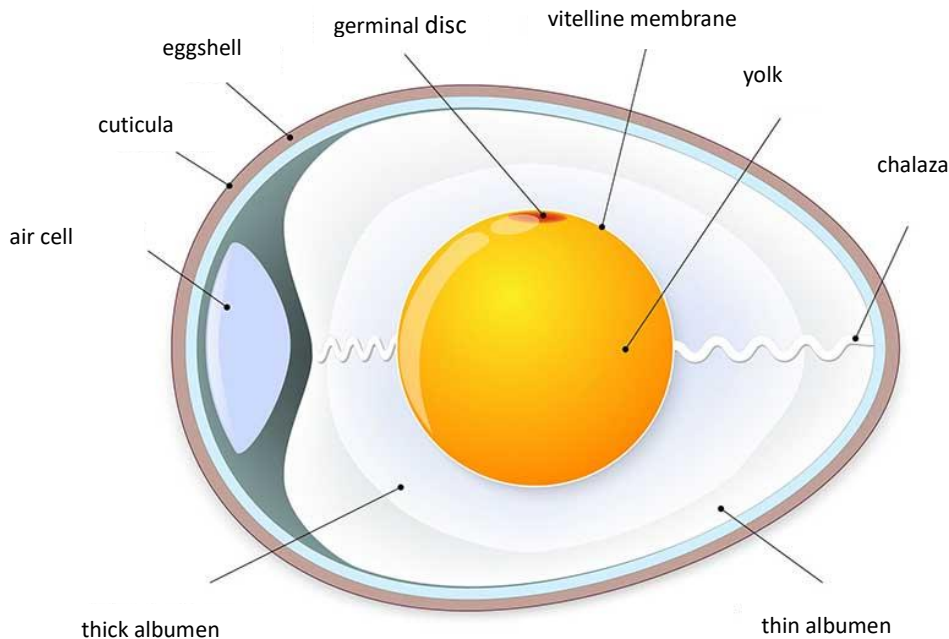


## THE EGG

The egg consists of a single ovum and the surrounding nutrients and protective coating.

The size and shape of the egg usually varies from species to species, ranging from nearly spherical to highly conical. The colour is not uniform either, with a wide variety of colours and patterns on the eggs. The same egg-layers usually lay eggs of the same shape and colour.



Source: <https://www.birdspot.co.uk/bird-reproduction/anatomy-of-an-egg>

There are no significant differences in egg composition between bird species. The outer shell of the egg consists of three parts:

- **Cuticula:** the outermost thin, soft protective layer that prevents water evaporation and bacterial penetration.
- The porous structure of the calcium carbonate-rich **shell** allows air and moisture to penetrate.
- The two layered shell membranes separate after the egg is laid, creating an **air cell** at the blunt end of the egg.

**There are three important components inside the egg:**

- **albumen**, which contains about 90% water, protein and a small amount of carbohydrates, vitamins and mineral salts. It protects the yolk and provides nutrients. It also contains bactericidal enzyme proteins such as lysozyme.
- **egg yolk**: contains the most important proteins, vitamins and fats needed for embryo development. It is usually yellow in colour, the shade of which depends on the species, the food eaten and the amount of fat it contains. The more fat it contains, the darker the yolk is.
- **germinal disc**: a spot of cytoplasm on the surface of the yolk that contains the ova.

The **vitelline membrane** is a transparent membrane that separates the yolk from the albumen (egg white). It plays a role in sperm recognition, protecting the ova from microorganisms, mechanical damage and multiple sperm entry.

The **chalaza** is an assembly of cross-linked fibres whose function is to hold the yolk in the centre of the egg.



**Blackbird (*Turdus merula*) nest**

Source: <https://pixabay.com/hu/photos/f%C3%A9szek-feketerig%C3%B3-mad%C3%A1rf%C3%A9szek-4094310/>