

Wonderfully Made

Spring is here! Plants are sprouting and birds are busy building nests. Soon these birds will be laying eggs and keeping them warm as they wait for the baby birds to hatch.

Maybe you have been lucky enough to see a nest full of eggs or found an empty

piece of eggshell on the ground. Isn't it amazing that there was a bird inside of that tiny little egg?

Eggs are very special. They are designed to be perfect for their purpose.



Shell

The **eggshell** protects the baby bird as it grows. It keeps germs out but also lets the baby bird breathe. It is strong enough to support the parent sitting on it but delicate enough for the baby bird to break out when it's time to hatch. The eggshell is just right in every way.

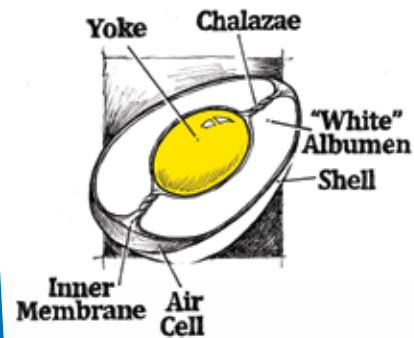
Eggs come in different shapes and sizes. The eggs you eat for breakfast are an oval shape, but some eggs are sort of pointy and pear-shaped. Others are almost round. And some look a bit like a football!

Eggs come in lots of different colors too. Besides white and brown, there are blue eggs and greenish ones, rusty ones, and cream-colored eggs too. Some are plain; others have squiggles or blotches or speckles. The patterns on eggs have names like *scrawl*, *black cap*, *blots* and *pepper pot*.

Yolk

The **egg yolk** is the yellow ball in the middle of the egg. It is held in place by stringy things called **chalazae**. They let the yolk rotate when the egg is turned. This keeps the growing baby bird always on the top of the yolk where it is closest to the warmth of its parent. It can also get the air it needs more easily. The yolk is full of nutrients the baby bird needs to grow.

In different types of birds, the yolk makes up more or less of the egg. Some birds are helpless when they hatch. Their eyes are closed, and they don't have feathers. They need their parents for everything. These birds have eggs with smaller yolks. Other birds hatch with their eyes open and with feathers. The eggs they hatch from have bigger yolks.



Egg White

The **egg white** is also called **albumen**. It is actually clear—it only turns white if it is cooked. It is like a cushion surrounding the yolk and the growing baby bird. It has lots of other important jobs. It provides water and proteins for the baby bird and keeps it safe from germs. If anything gets through the shell, it has to cross the albumen to get to the bird. And it is not a friendly place. The albumen doesn't have any food germs can use. It is also full of germ-destroying proteins, which scientists think work best when the egg is warm. The egg is just the right temperature to fight germs when a parent bird sits on it!



Eggshell Planters

Next time you have eggs for breakfast, ask an adult to carefully break the eggs in half and save the shells. Rinse them out and set them aside. You'll also need a little bit of soil and some tiny plants, such as

- hens and chicks
- thyme
- sedum
- Irish moss or Scotch moss
- True moss (If you can't find something in the garden, look for moss growing wild under trees or on rocks or fallen logs.)

Carefully put some soil into each eggshell half, and gently tuck in whatever plants you've found. You can set your eggshell planters in a saucer on a bed of moss and use them to decorate your table for Easter. Don't forget to water them.



Fearfully and Wonderfully Made

Eggs are amazing! Now that you know how much care God has put in creating a little bird's egg, look up Psalm 139:14-15. Write your favorite phrases from these verses in a notebook or on a notecard. If you like to draw, decorate the words with colored pencils or markers. Then praise God for how wonderfully God has made you!

Okay Princess, can we speed this up? We have been filming for over 60 days and are starting to lose viewers...

ILLUSTRATION BY SCOTT HOLLADAY



FuN Facts

When an egg **hatches**, the shell is thinner than it was when it was laid because the chick has used some of the calcium for its skeleton.

Eggs must be **kept warm** for the baby bird to grow and hatch. Most birds keep their eggs warm with their body heat. They transfer the heat to their eggs through a bare patch of skin on their belly, or through their legs, or even their feet!

A few birds don't use body heat to warm their eggs. They **bury** their eggs in warm volcanic soil or piles of rotting plants that produce heat as they break down.

The **incubation period** is the number of days an egg must be kept warm so that it will hatch. It takes only 11 to 14 days for the American robin to hatch. The royal albatross, a big seabird, takes 80 days to hatch!

A **hummingbird egg** is only 13 x 8 millimeters (0.5 x 0.3 inches). That's smaller than a mini marshmallow!

Bird Cam!

With a parent's permission, visit cams.allaboutbirds.org/all-cams/. You'll find lots of live nest cameras and maybe even get to watch a bird hatch!



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