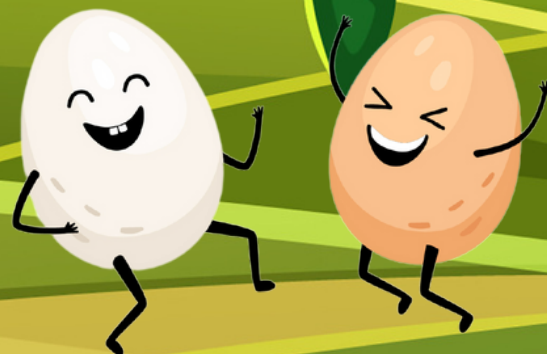


THE STORY OF

FOOD

Eggs



Supported by:



Visit www.eggs.ab.ca to learn more!

ACTIVITY BOOK

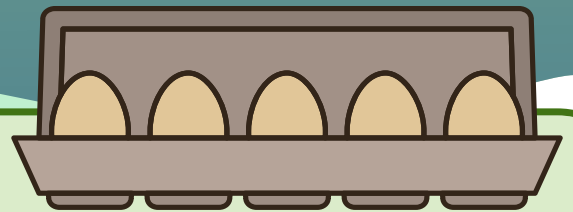


**Crack open the
mystery of where
eggs come from as
we follow eggs on
their journey from
barn to belly!**

You probably already know that birds lay eggs—that's one of the things that makes them birds!



The eggs we eat most often come from chickens, but you can eat eggs from other birds too, like ducks and geese.

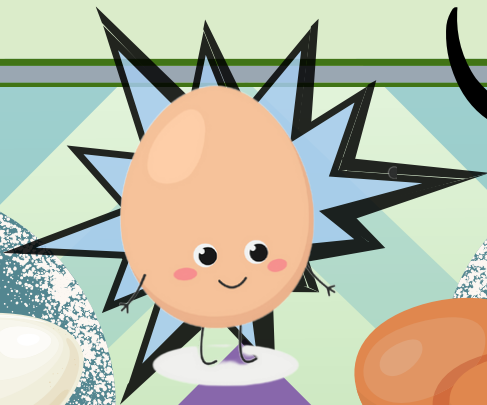
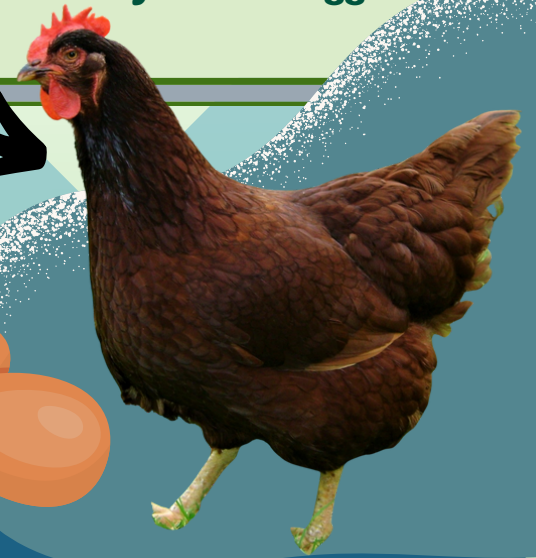


If you get eggs from a grocery store or order them at a restaurant, they're most commonly chicken eggs!

The eggs laid by hens in an egg barn aren't fertilized, which means they would never be able to hatch into chicks.

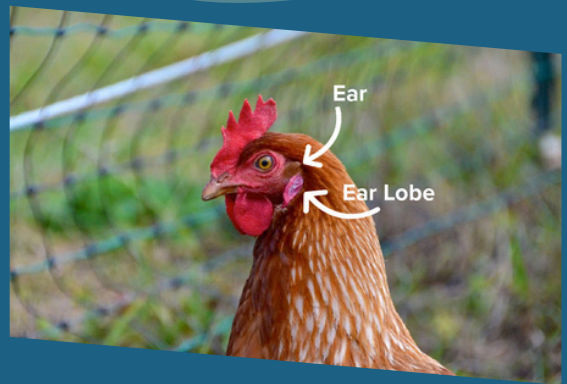


Two of the most common laying hens in Canada are the White Leghorn and the Rhode Island Red Hen. The White Leghorn lays white eggs, while the Rhode Island Red Hen lays brown eggs.

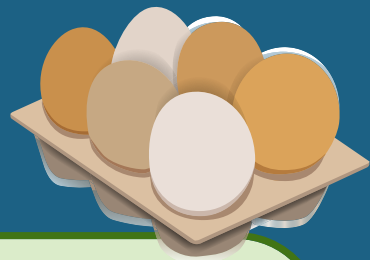


**DID
YOU
KNOW?**

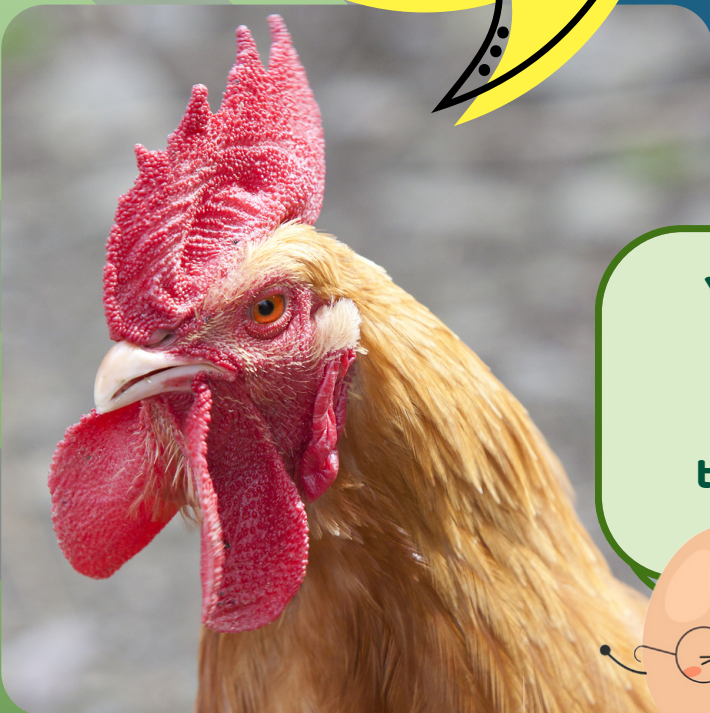
Did you know
chickens have
earlobes?



They can be seen by gently separating their feathers where you would expect their ears to be on each side of their head!



You can tell the colour of eggs hens will lay by simply looking at their earlobes! If they have white earlobes, they will lay white eggs and if they have dark lobes, they will lay brown eggs.



Happy as a Hen



THE BEST EGGS COME FROM THE HAPPIEST HENS!

This is why chicken farmers make it a priority to keep their hens in a suitable environment and treat them very well.

Below are some housing options farmers may choose for their hens.

No matter what option the farmer chooses, the hens have access to a temperature-controlled indoor space, where they are protected from bad weather and predators, such as foxes and coyotes. These indoor spaces are also controlled for humidity, light and air quality, which ensures the hens are comfortable in their homes.

Enriched Hen Housing

In enriched housing, hens are kept in spacious enclosures in a barn. They are given perches, nesting boxes, scratch pads and dust baths to make sure they're comfy and feel at home! In this system, egg collection is super easy. When the hen lays an egg, the egg rolls onto a conveyor belt that carries them away to a collection area.

Free Run

In free run barns, hens roam around the barn freely. They're also provided with nesting boxes and perches along the barn floor. Some of these barns also have aviaries, which provide multiple tiers of nest boxes.

Free Range

Free range housing is similar to free run barns, with one difference. In addition to being able to roam around the barn, the hens also have access to the outdoors! The outdoor pasture area is fenced off to keep the hens safe.

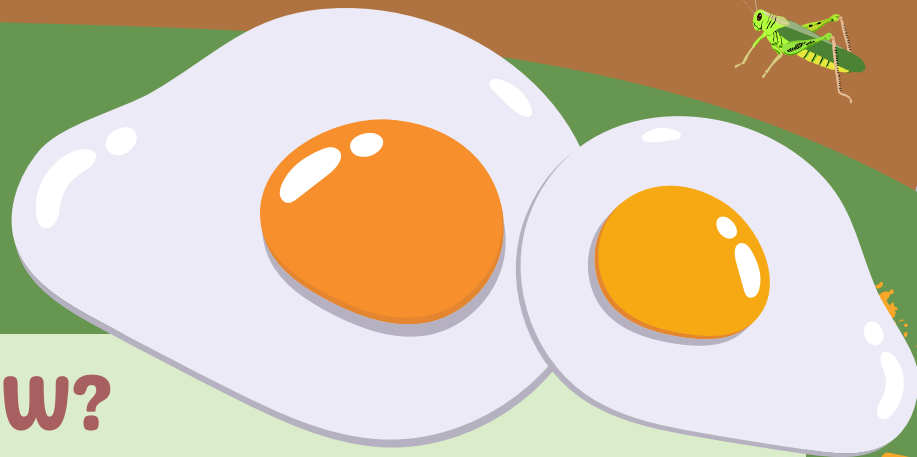
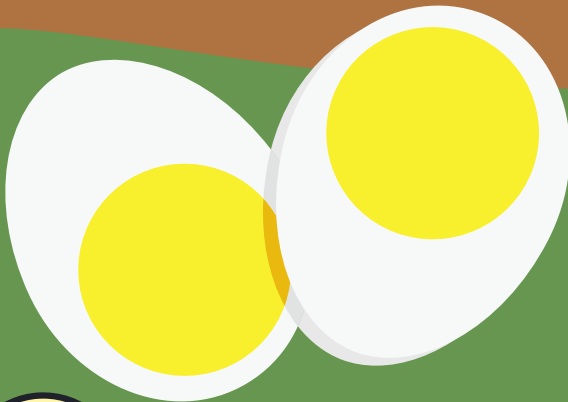




Farmers also make sure the hens are healthy by providing them with fresh water and nutritious food. Many farmers work with poultry veterinarians and/or feed nutritionists to formulate the feed for their flocks.



The hens are fed a balanced diet with all the vitamins and minerals they need to stay healthy. Making sure the hen is healthy also makes sure the egg is healthy and full of nutrients! In the western provinces, including Alberta, a wheat-based diet is the most common for laying hens. If a hen has access to the outdoors, they'll also find bugs to snack on. Hens are omnivores, which means they'll eat both plants and animals (like insects).

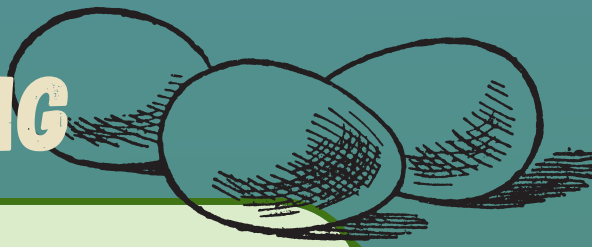


DID YOU KNOW?

Egg yolks can look **yellow** or **orange**. This is determined by what the hen eats! A wheat-based diet results in a pale yellow yolk, while a corn-based or alfalfa-based diet results in a darker orange yolk.

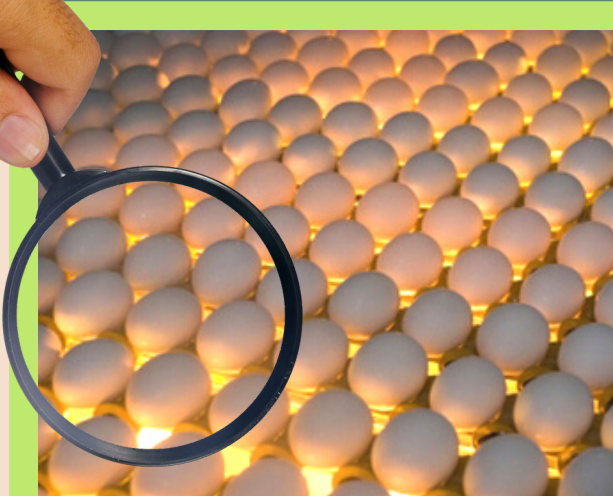


EGG GRADING



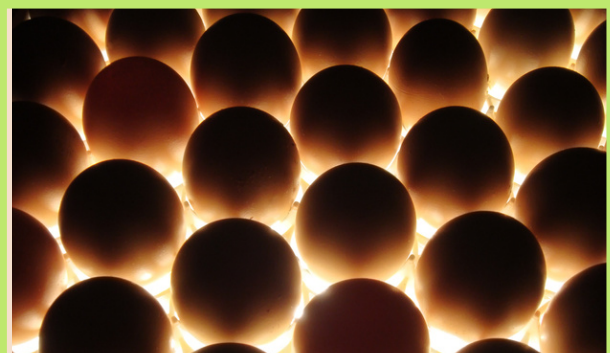
Once the eggs have been collected, they're transported to a grading station. Grading stations are registered with and certified by the **Canadian Food Inspection Agency**.

Here they are washed, sanitized and assessed for quality, both inside and out.



To determine the quality of an egg, farmers shine a bright light through it. This is called “candling,” and allows farmers to view the inside of the egg.

The eggs then get sorted into different groups based on the quality of the yolk, the white and the shell.



The three grades of eggs are: **Grade A, Grade B and Grade C.**



GRADE A

Grade A are eggs you can buy at grocery stores. The yolk is round and centred, the white is thick and the shell is clean and uncracked.



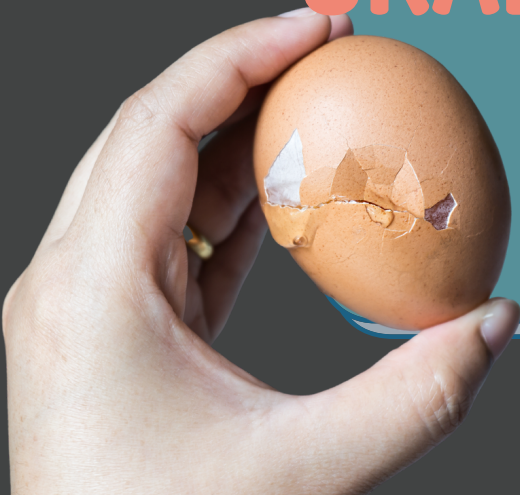
GRADE B

Grade B are eggs commonly used in baking products. The yolk might not be perfectly round, the white might be thinner than ideal, and the shell might be rough, though it is still uncracked.

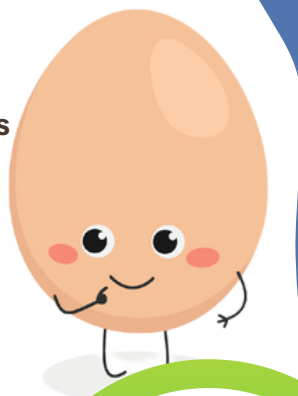


GRADE C

Grade C are eggs commonly used in processed egg products. These eggs have thin whites, flat yolks and the shell may be cracked or stained.



Grade A eggs are also sorted by weight before being sent to grocery stores. The eggs can range from "peewee" (less than 42 grams) to "jumbo" (more than 70 grams). Egg size depends on the age of the hen. The younger the hen, the smaller the egg.



Once they're sorted and packaged, the Grade A eggs are sent to grocery stores. This happens within a week of being laid.

Talk about farm fresh!

From there, you can take them home, cook them and gobble them up. Yum!



DID YOU KNOW?

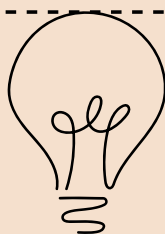


In Europe, eggs don't have to be refrigerated.

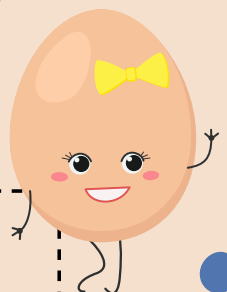
This is because they don't wash their eggs the same way we do. When we wash eggs, we wash away a protective layer that naturally keeps oxygen and bacteria out.



In Europe, the layer is still there and keeps the eggs fresh, even at room temperature. This means we have to keep our eggs in the fridge to maintain their freshness until the "Best Before" date is reached.

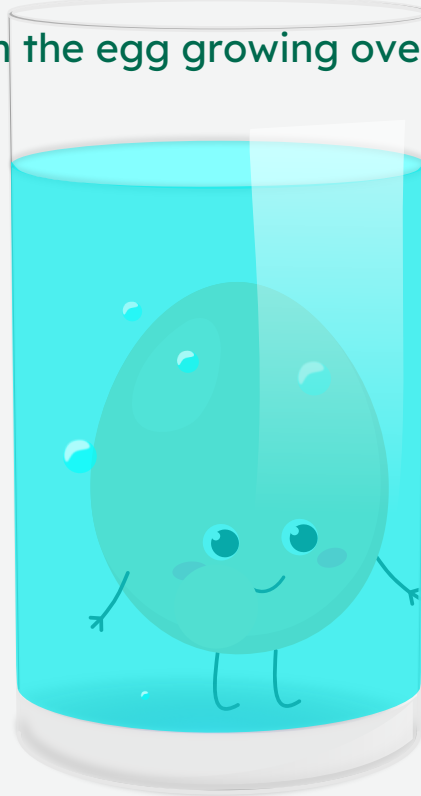


For best results, store eggs in the main body of the fridge (instead of the door) and within their original carton. Consistent temperature and humidity help them to last longer.

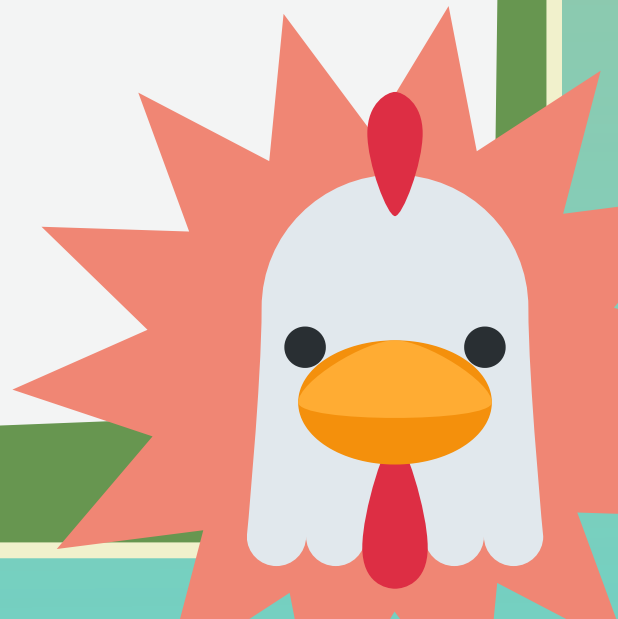


Do you know how to test an egg for freshness?

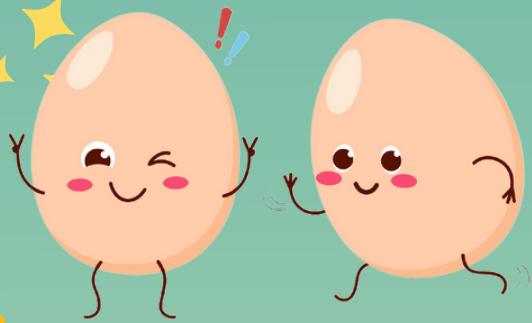
Try dropping it in a glass of
water! If it sinks it is super
fresh, and if it floats it is less
fresh. This is due to the air cell
in the egg growing over time.



You can use less-fresh eggs
to make hard boiled eggs
since they get fully cooked
and are much easier to peel
than fresh eggs.



Egg Anatomy



Yolk

The yolk is the egg's major source of vitamins and minerals, which represents 1/3 of an egg's weight.

Albumen

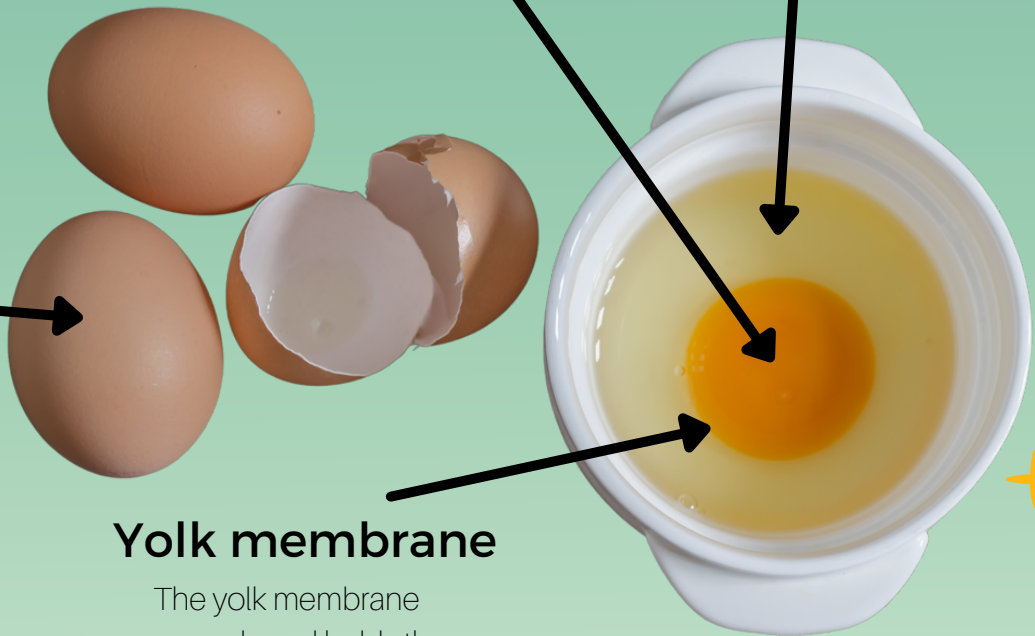
Albumen is the egg white, which represents 2/3 of an egg's weight. There are two layers – thick and thin albumen – that are made mostly of water, high-quality protein and minerals.

Shell

The shell, which contains approximately 10,000 tiny pores that allow moisture and gasses in and out, is the egg's first line of defence against the entry of bacteria.

Yolk membrane

The yolk membrane surrounds and holds the yolk. The fresher the egg, the stronger the yolk membrane.



In addition to their great taste, eggs are an excellent source of protein.

Protein is very important for your health.

It keeps you full and gives you energy for the day! Protein also helps build muscle and makes your hair and nails stronger.



Meringue Magic!

This experiment looks at how egg white (albumen) is transformed as it is whisked. Egg white is about $\frac{2}{3}$ of the total weight of an egg and is 10% protein; the rest is mostly water.

To demonstrate the change in the egg white, we are going to discover how to make meringue!

When we whisk egg whites two things happen:

- The whisk (or mixer) creates a force through the egg white which unfolds the protein molecules.
- The whisking also causes air bubbles to be trapped in the unfolded proteins which makes a foam.



WHAT YOU NEED:

- bowl
- whisk or mixer
- baking sheet (greased or lined with parchment paper)
- 4 egg whites (at room temperature for best results)
- 2 cups of sugar
- pastry bag (optional)



INSTRUCTIONS:

1. Preheat the oven to 200°F (95°C). Butter and flour a baking sheet, or line with parchment paper. The butter will stop the meringue from sticking to the baking sheet, and the flour acts as a barrier to stop the butter from melting into the meringue.
2. To separate the egg yolk from the white, crack the egg across the fattest part of the shell. Break the shell into two even halves. Transfer the yolk from one shell to the other, tilting the eggs back and forth and allowing the white to drip out of the shells and into the bowl.
3. In a glass or metal bowl, whip the egg whites until foamy using a whisk or electric mixer. Sprinkle in the sugar (a little at a time) while continuing to whip at medium speed. When the mixture becomes stiff and shiny (or forms "stiff peaks"), stop mixing.
4. Place 2 heaping tablespoons of the mixture onto the baking sheet and repeat to fill the baking sheet. If you have a piping bag, you can pipe the meringue out onto the prepared baking sheet using a large round tip or star tip.
5. Place the meringues in the oven and put a wooden spoon handle in the door to keep it from closing all the way. This will help the meringues to dry out as they bake.
6. Bake for 3 hours or until the meringues are dry and can easily be removed from the pan. Allow meringues to cool completely before storing in an airtight container at room temperature.
7. Serve with whipped cream and your favourite fruit. Enjoy!

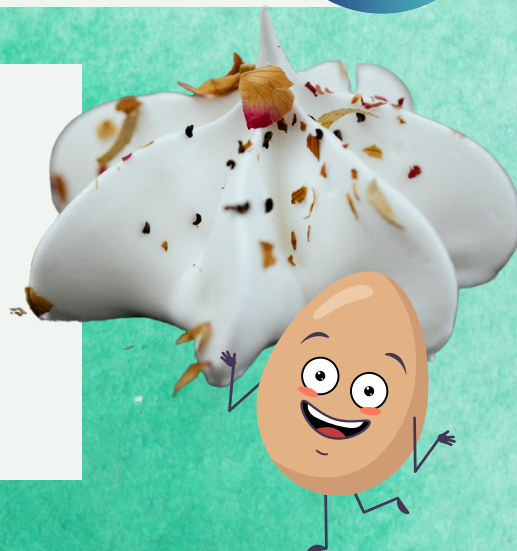


MORE ABOUT MERINGUE!

Room-temperature egg whites increase more in volume compared to cooler ones!



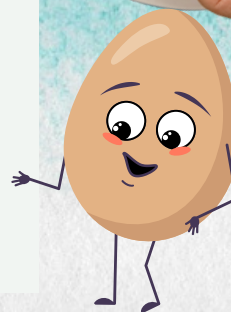
These baked meringues are not really “baked”; they are just “dried out” for several hours. The water in them evaporates in the oven. Keeping the oven door open just a touch allows the moisture to escape. This results in sweet and crisp meringue cookies!



Also, remember that egg whites foam best at medium rather than high speed; this allows meringues to have a more solid and stable structure.



Egg whites are very touchy! They will not foam at all if there is any trace of fat in them; so before whipping, make sure the mixing bowl is perfectly clean (and dried at room temperature or with a clean paper towel) and that there are no traces of yolk in the egg whites.

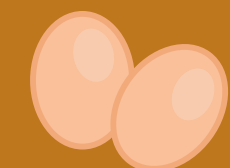


EGG FOO YUNG

A recipe by Egg Farmers of Alberta



INGREDIENTS



4 eggs



1 tbsp soy sauce

1 cup bean sprouts



3 tbsp water



2 green onions,
thinly sliced



½ cup fresh
mushrooms, sliced



cooking spray

Warm stir fry sauce:

2 tsp cornstarch
½ cup beef broth
1 tbsp soy sauce

DIRECTIONS

1. Beat eggs with water and soy sauce. Stir in the bean sprouts, mushrooms and green onions; mix well.
2. Spray an 8 inch non-stick skillet with cooking spray. Heat skillet over medium heat.
3. Pour in 1/3 of the egg mixture. As mixture sets at the edges, use a spatula to gently lift the cooked portion. This allows the uncooked egg to flow underneath. Cook until the bottom is set and the top is almost set.
4. Flip and cook completely for about 1 minute. Slide onto a warm plate.
5. Repeat the procedure to make 2 more omelettes.
6. Cut into wedges, and serve with warm stir fry sauce.
7. Warm stir fry sauce: heat together the cornstarch, beef broth and soy sauce, stirring constantly. Boil for 1 minute and remove from heat. Serve with Egg Foo Yung.



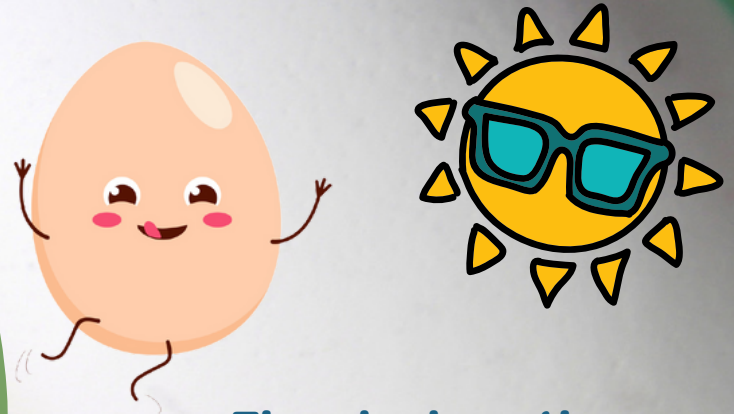
FARM FUNNIES

What do eggs do when they hear a funny joke?



They crack up!

How do eggs stay positive?



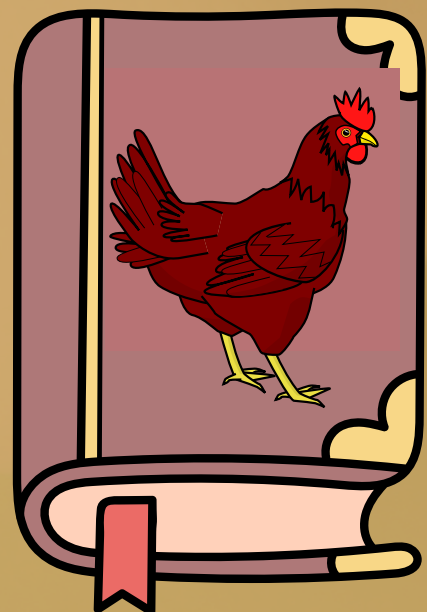
They look on the sunny side of life.

What type of tests do hens have to take?

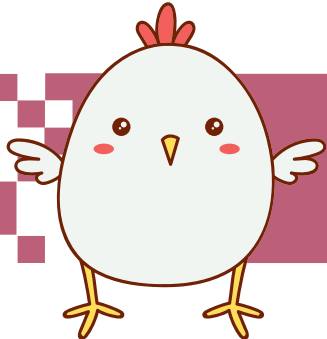


Eggs-ams.

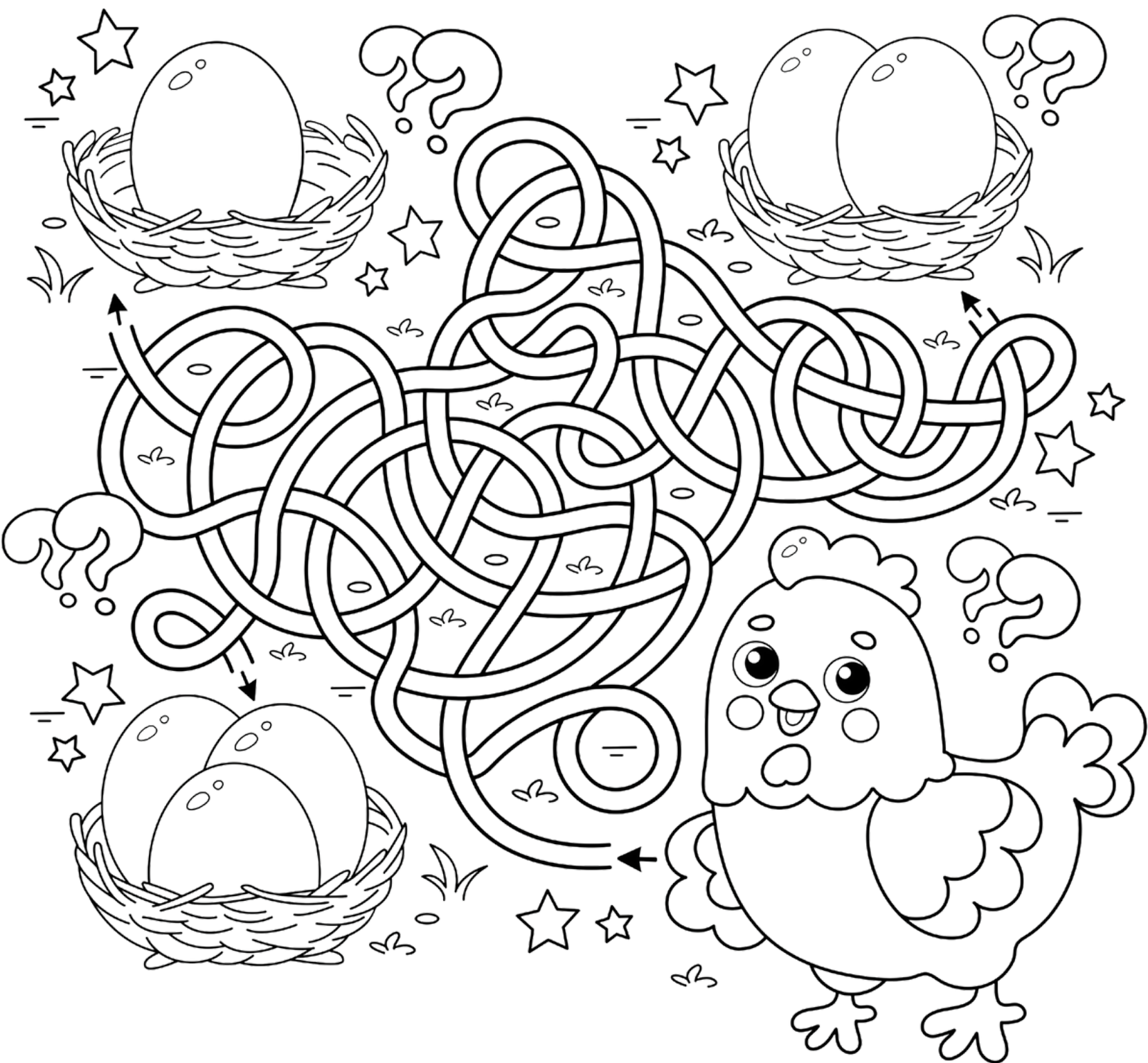
In which book can you learn all about eggs?



The hen-cyclopedia!



Help this hen find her way to the eggs!!



EGG IDIOMS: NOT EGGS-ACTLY!

An idiom is a common saying that doesn't mean eggs-actly what it says.
Can you match up these eggs-cellent idioms with their meanings?

1

Don't put all your
eggs in one basket

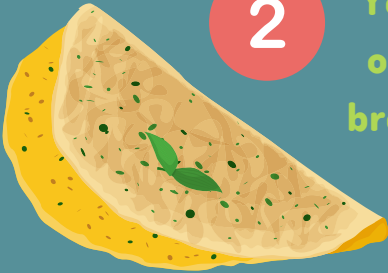


A

To appear foolish

2

You can't make an
omelette without
breaking a few eggs

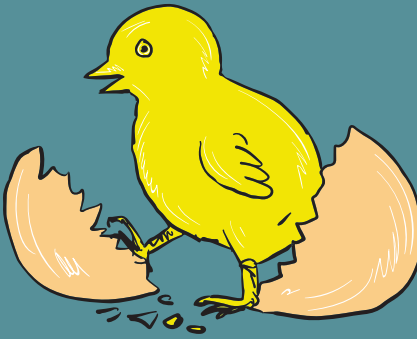


B

Don't get ahead of yourself

3

Don't count your
chickens before
they're hatched

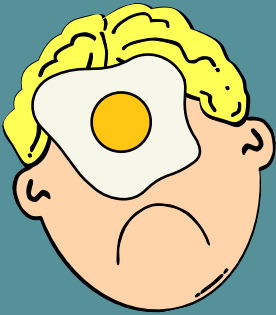


C

Don't put all your
resources into one
idea in case it
doesn't work out

4

To have egg on your face



D

Some things
cannot be undone
or repaired

5

The cracked egg
cannot be cured



E

Sometimes you have to
do unpleasant things in
order to meet a goal

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