

EYE COLOR



Human eye color has always been fascinating and mysterious. Babies are usually born with blue eyes. Those mostly change within the first three years to other colors. Some people have different colored eyes; they were celebrated back in July with “Different Colored Eyes Day.” Some emotions can cause the eyes color to change, such as when you’re angry.

Scientists still don’t know why some people’s eyes are a certain color. It is known that human eye colors originate with three genes, obviously passed down from your parents. Thing is, only two of those three genes are understood. Those two give people the common eye colors of green, blue, and brown. But scientists don’t understand why other people have gray, hazel, or eyes with multiple colors in them.

Back in the 60s the common thinking was that brown eyes were “dominant” gene traits and blue eyes were “recessive,” but that’s too simplistic. Eye colors don’t turn out to be a blend of your parents’ eyes. Really, the only predictor is if the parents both have brown eyes, then the baby will likely also have brown eyes. Dark colors dominate more, so brown wins out over green, which wins out over blue.

Baby eyes are interesting in themselves. Most babies are born with blue eyes and everyone watches to see if those eyes are going to another color. This darkening is due to melanin, just like in the skin. Babies don’t have melanin in their eyes at birth, but it develops with age and can make the eye color darken.

Some children are born with irises that don’t match in color. This can be caused by trauma in the womb or shortly after birth, a benign genetic disorder, or a developmental issue in the transport of pigment. Although, an eye doctor should check this, there is usually nothing serious about the condition. Hence, you get Kate Bosworth with her one hazel eye and one blue eye.

Change your mood, change your color

The iris is the part of the eye that carries the color. It is a muscle that expands and contracts to control the size of the pupil. The pupil gets bigger in low light and smaller in bright light. It also changes shape based on what you are doing, shrinking when you are doing close up things such as reading.

The cool thing is that when the pupil changes size, the pigments in the iris compress or spread apart. This changes the eye color to a degree.

The pupil can change size with certain emotions, thus changing the iris color dispersion and the eye color. You've probably heard people say your eyes change color when you're angry, and that probably is true.

Your eyes can also change color with age. They usually darken somewhat. This happens more to white people (10 to 15%) because they tend to have lighter eye colors to begin with.

If you have dramatic changes in eye color, or if one eye changes, you need to see an eye doctor. Such changes can be warning signs of certain diseases such as pigmentary glaucoma.

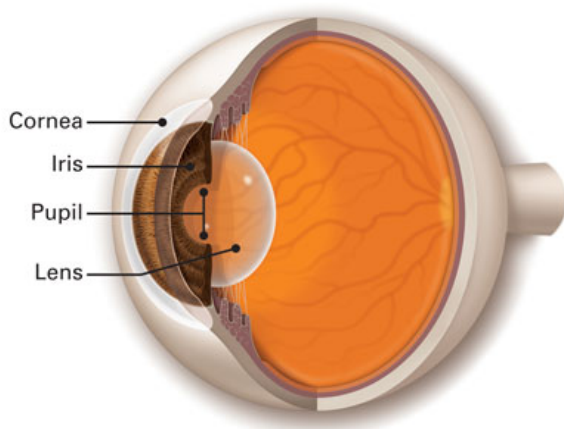
And what would you think is the most attractive eye color? In a website poll of over 66,000 respondents, 20% said green was the most attractive, followed by hazel and light blue at 16%. Brown was far and away voted the least attractive (6%). But don't take it personally, brown-eyed people; you can always opt for colored contact lenses, just like they do in the movies.

True fact: about 10,000 years ago, every human on Earth had brown eyes.

Now, half of all people in the U.S. have brown eyes. Worldwide, that number could be even greater.

The brown color comes from melanin, a pigment in our eyes that also gives a brown color to hair, skin and other cells.

The colored part of the eye is called the iris.



The iris is made up of two layers of muscle and other kinds of cells. In most people, the back layer has at least some brown pigment in it, even if their eyes don't look brown. In people with brown eyes, the iris's front layer also has some brown pigment in its cells. The more melanin there is in the iris, the darker brown it will be.

Other Eye Colors

How did blue and other lighter-colored eyes come into the picture?

Scientists trace the historic change back to a single common ancestor. That person had a change in a gene that controls melanin production. This change, or mutation, is believed to have reduced the production of melanin in the iris.

Some eyes appear blue, green or hazel not because they have different color pigments, but because they have less melanin. With less melanin in the eye, less light is absorbed. That means more light is scattered out from the iris. When light is scattered, it reflects differently along the light color spectrum. So eyes with the least melanin in them will appear blue. If the iris has a little more melanin, then it will appear green or hazel.

Brown Eyes Aren't Inherited from A Single Gene

Scientists used to think that a single gene determined your eye color. More current research suggests that as many as 16 different genes could be responsible for eye color. This helps explain why two parents with the same eye color can have children with an entirely different eye color.

A Baby's Eye Color May Change to Brown

When babies are born, their eyes may sometimes appear blue while their melanin is still developing. Within about 12 months, cells will begin to produce melanin, and as more melanin builds up in the iris, eye color may darken.

Brown Eyes Are More Common in Certain Places

High levels of melanin in the eyes, hair and skin help protect people from the sun's damaging rays. That explains why brown eyes occur more frequently in the hotter climates of Africa and Asia than in Europe. In Iceland, brown eyes are in the minority. As people move to less sunny locations, their need for protective pigment decreases. Eye color may have evolved as our early ancestors moved toward cooler parts of the world.

Connection Between Eye Color and Eye Health

People with brown eyes have a lower incidence of eye cancer, macular degeneration and diabetic retinopathy. Ophthalmologists are not exactly sure why, but believe that melanin pigment may give brown eyes more protection. On the flip side, a study found that people with brown eyes were just about twice as likely to develop cataracts than individuals with light eyes. The researchers did not look at why this is true, but they did rule out other things that could make cataracts more likely, like smoking and eye injury.