

Elephants Need Eye Doctors, Too!



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Summary

Eye doctors and veterinarians help people and their animals see.

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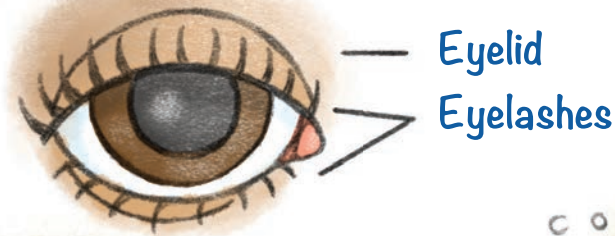
How do eyes work?

Animals can have different types of eyes, but all eyes are used to see things. Eyes have lots of parts. The parts work together with our brain to protect the eyes and to help us see. We will explore some of the parts here.

Eye Parts that Protect:

Eyelids: Eyelids protect the front of your eyes by covering them up to keep things out. People and other primates, like apes and monkeys, have two eyelids. Many other animals have three eyelids.

Eyelashes: Eyelashes help keep dirt, dust, and other things out of your eyes by telling your eyelids to close. Camels have really long eyelashes to keep sand out of their eyes.



Eyelid

Eyelashes



Eye Parts that Help us See:

Pupil: The black part in center of the eye is called the pupil. The pupil is the opening that controls the amount of light that enters the eye. We need light to see. People, elephants, and dogs have round pupils. Pet cats have slits for pupils. Goats have rectangles for pupils.



Rectangle



Round



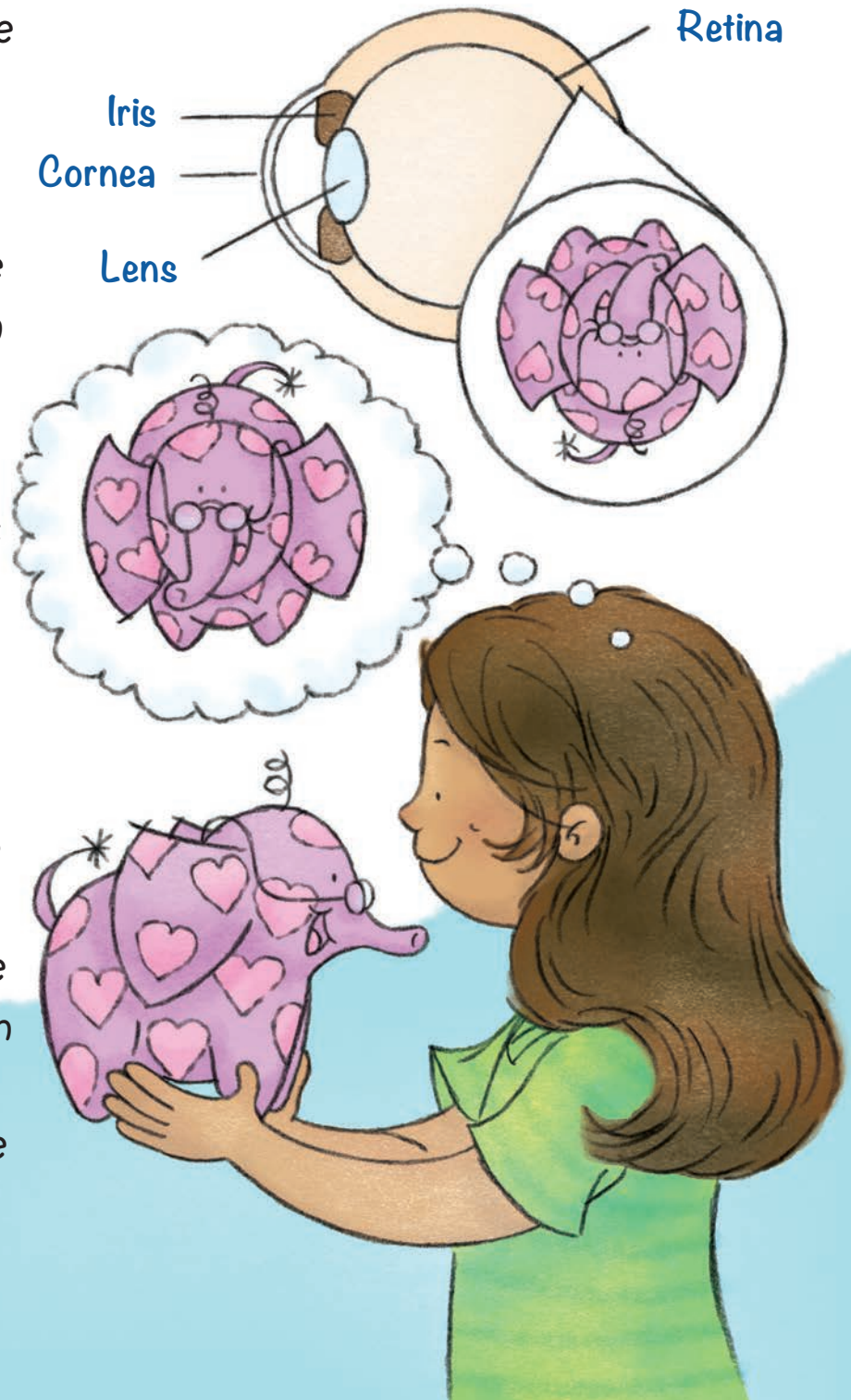
Slit



Iris: The iris is the part of the eye that has colors. What color are your eyes? The iris controls the size of the pupil. The pupil gets bigger in dark places to let more light in. The pupil gets smaller in bright places to let less light in.

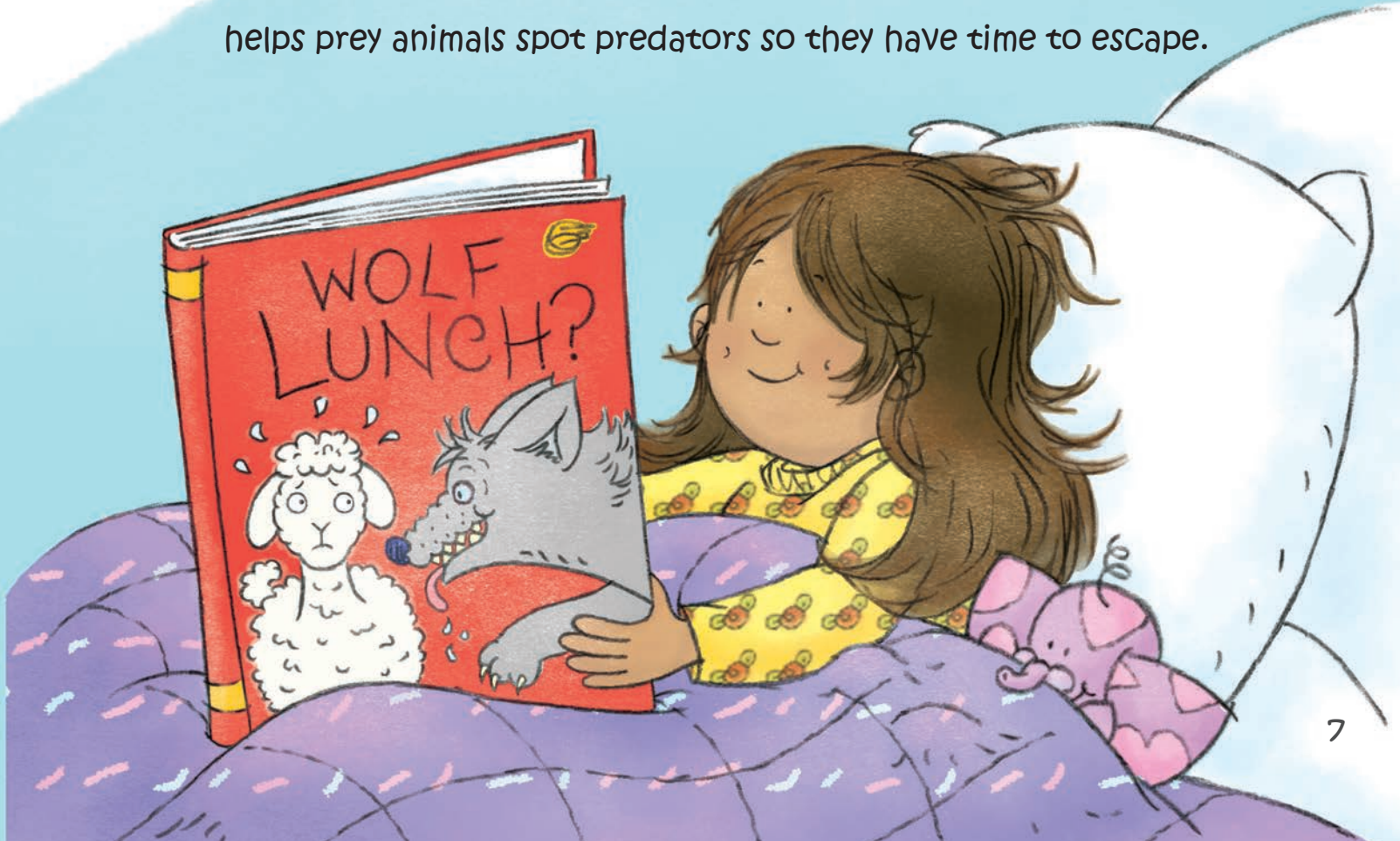
Lens: The lens focuses the light that enters the eye onto the retina.

Cornea and Retina: The cornea works with the lens to focus what you see on the retina. The retina takes a picture of what you see, except that the picture is upside down! This upside down picture gets sent to your brain and your brain turns it right side up again.



How much do animals see?

Animals that hunt other animals for food (like lions) are called predators. Predators have eyes in front of their heads and mostly see things in front of them. Predators must turn their heads to see things that are to the side or behind them. Animals who are hunted by other animals (like sheep) are called prey animals. Prey animals have eyes on the sides of their heads. Prey animals can see almost all the way around without having to turn their heads. This helps prey animals spot predators so they have time to escape.



Can animals see in the dark?



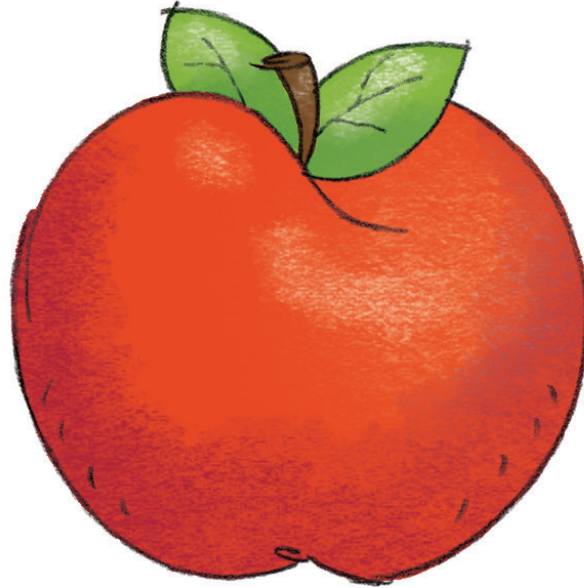
People aren't very good at seeing in the dark, but animals who live underground (like meerkats) or predators who hunt at night (like owls) need to see really well in the dark. These animals usually have big eyes to let more light in so they can see in the dark. Sometimes an animal's eyes glow in the dark. Their eyes have a special part that people's eyes don't have called the tapetum lucidum. The tapetum lucidum helps them see when there isn't much light.

What colors do animals see?



Most people can see many colors, but not all people and animals can see every color. The colors red, green, and brown all look the same to some people. They just appear in different shades. Blue and yellow look the same too. Colors are often confused because they look alike. Some animals like horses, dogs, cows, pigs and elephants see like this. These animals can only see yellow, light blue, and gray colors. Also, not all animals see as well as people. Many times, what an animal sees is blurry or out of focus.

This is what a person would see.

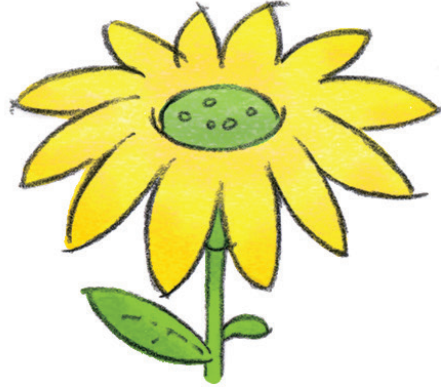


This is how a pig would see the same thing.



Birds and bees can actually see more colors than people!

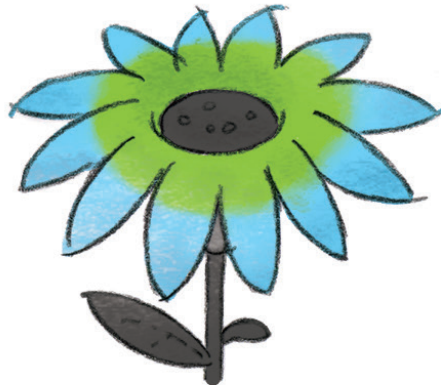
This is what a person would see.



This is how a bird would see it.

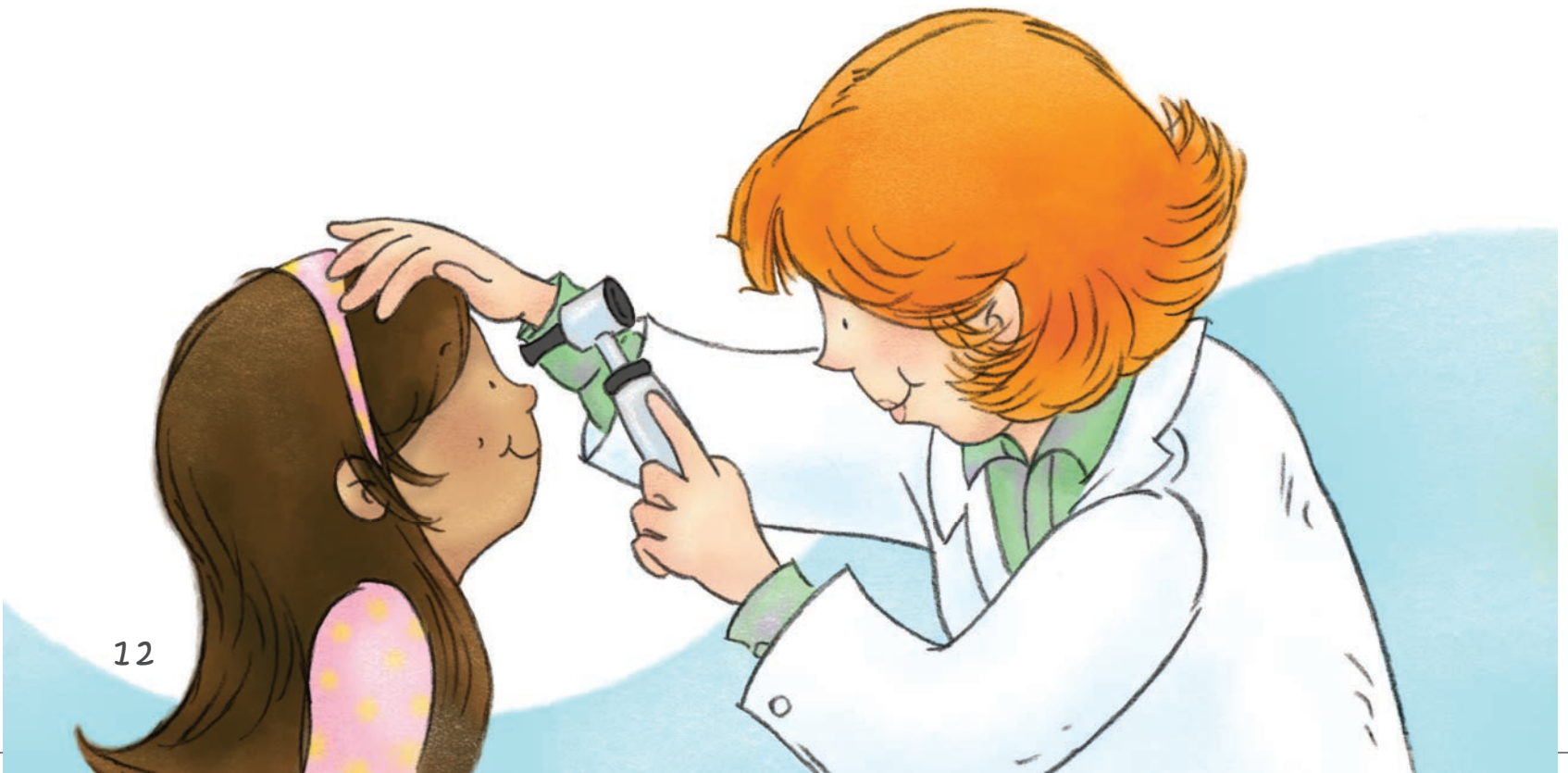


This is how a bee would see it.

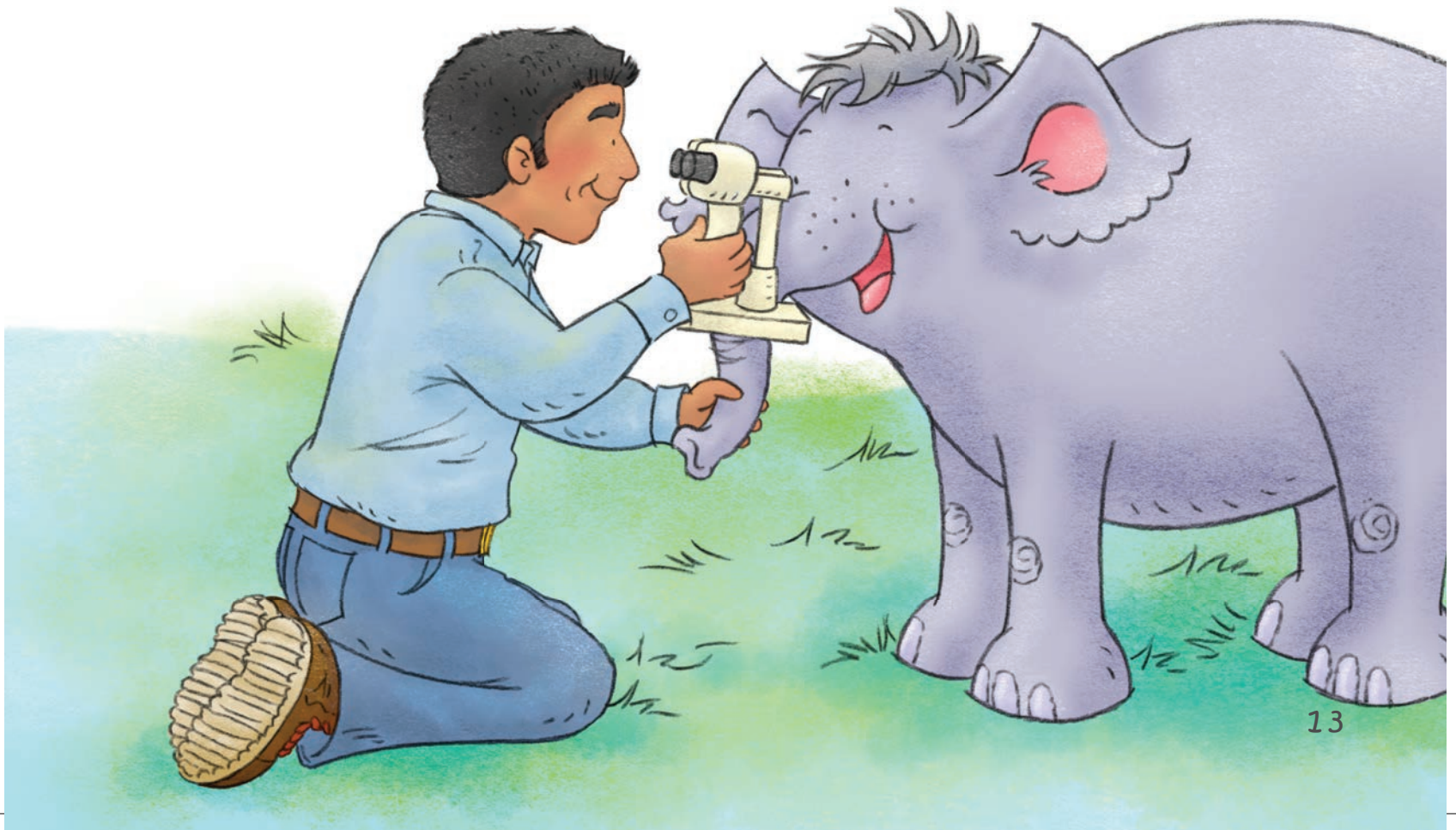


Why do people and animals go to the eye doctor?

Most people go to the eye doctor to make sure their eyes are healthy and seeing well. The eye doctor makes sure that you are seeing everything that you should be seeing. If not, you might need glasses or contact lenses to help you see better. Sometimes people go to the eye doctor because their eye got hurt. Maybe something got stuck in their eye and they can't get it out. Maybe they got poked in the eye and it is scratched.



Sometimes, parts of the eye have diseases. When people get old, the lens inside the eye can get cloudy and hard to see through. This is called a cataract. The eye doctor can operate on the person to remove the cloudy lens and give them a new, clear lens so they can see well again. Animals go to the veterinarian to have their eyes checked for the same reasons. They might be having trouble seeing things. Maybe your pet hurt its eye. Elephants and other animals can even get cataracts! Your veterinarian can operate on the cataracts and fix them so your animal can see again... without wearing eyeglasses!

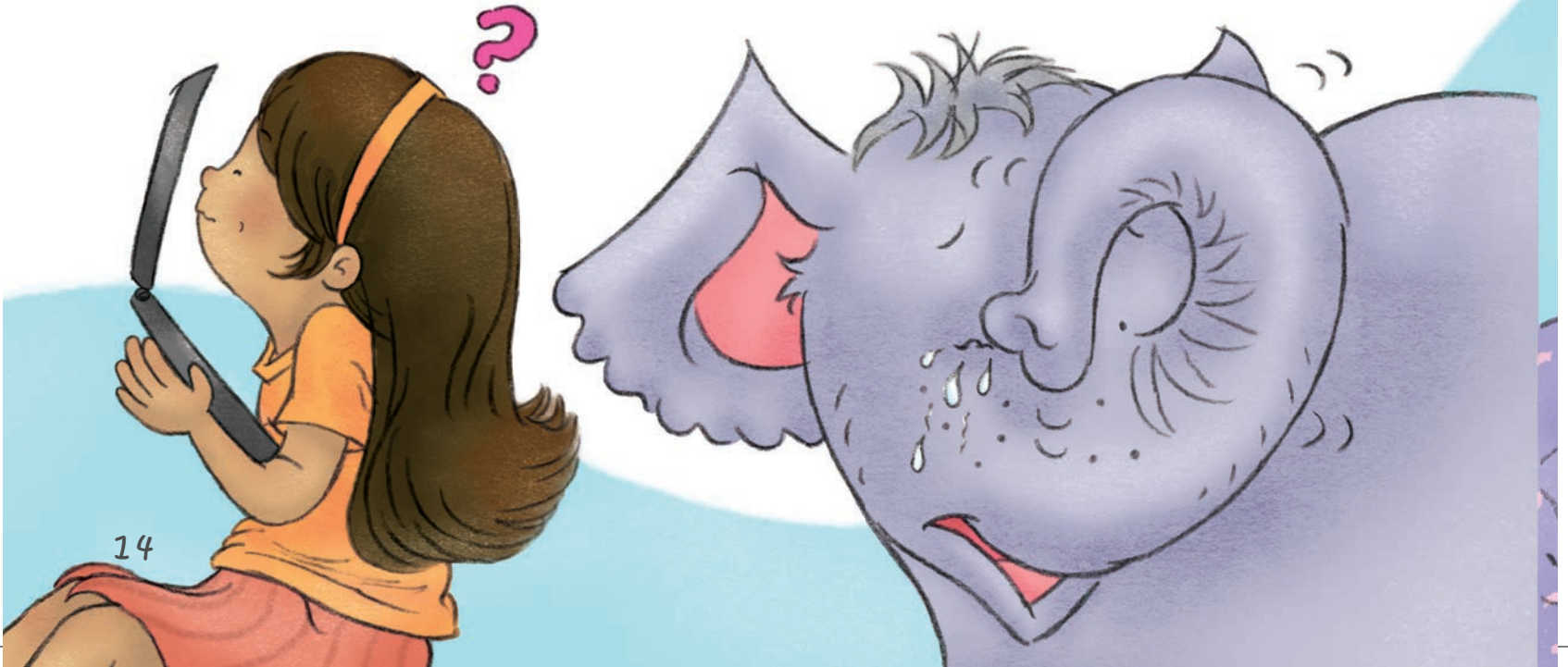


What can happen during an eye exam?

You will go to an eye doctor for your eye exam. Your veterinarian will perform an eye exam on your pet. Some things will be the **same** and some things will be **different**.

Your eye doctor might ask if you are having trouble seeing things, if you rub your eyes a lot, or if you blink a lot.

Same: Your veterinarian will ask you if your pet has been having trouble seeing things, or if your pet rubs its eyes a lot.

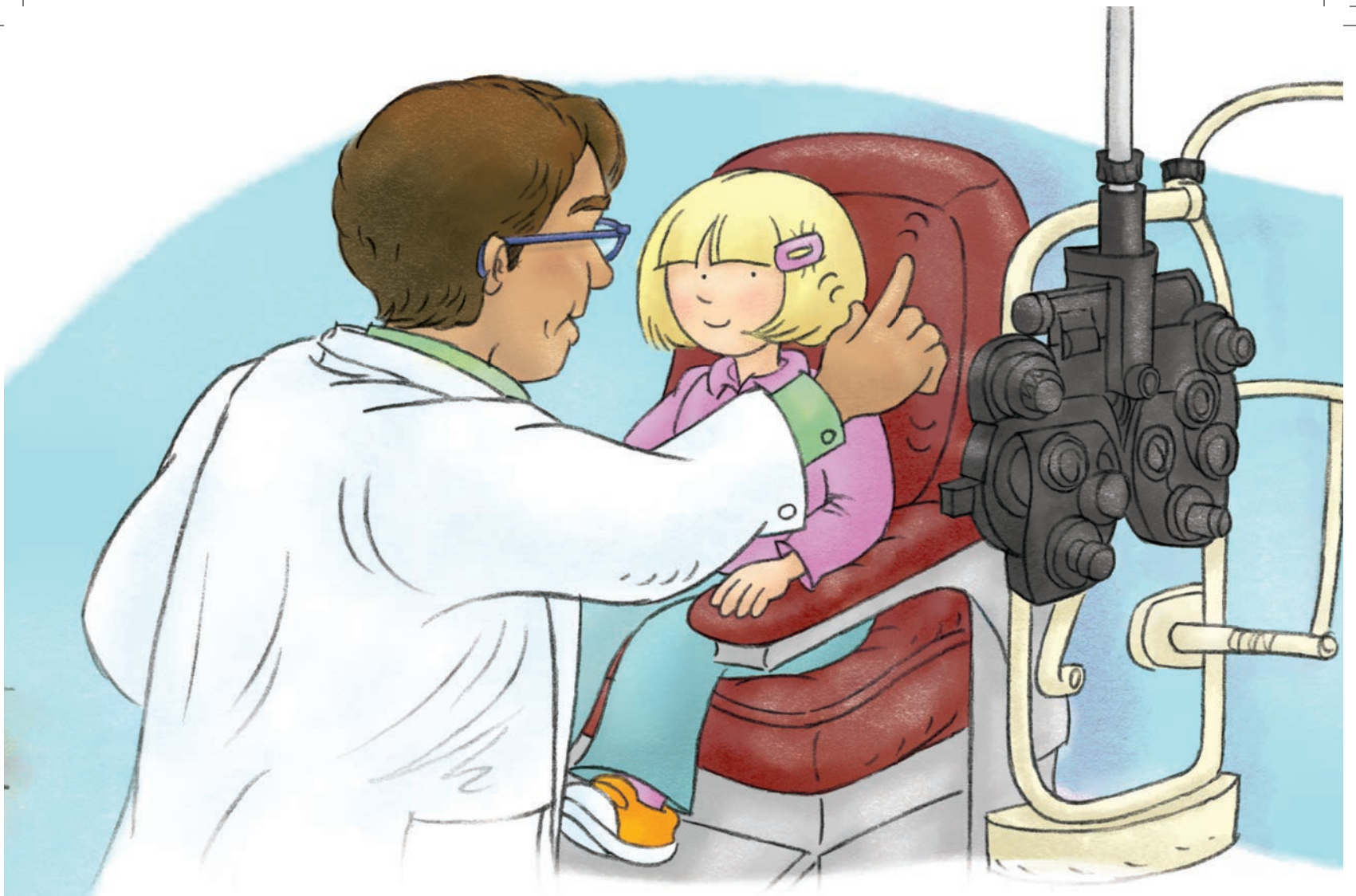


Your eye doctor might ask you to look at pictures or letters. They will have you cover up one eye while you look with the other eye to make sure both eyes are working well. Next, your eye doctor might have you look through a giant pair of glasses called a phoropter. You will see pictures and say whether things look better or worse, as you look through different lenses. An elephant can't really take an eye test, but it's funny to imagine! Afterwards, your eye doctor might give you glasses so you can see better.



Different: Your veterinarian might have you walk your pet down a hallway or through a maze to make sure it can see everything. Since animals don't get to wear glasses, your veterinarian will give you tips on how to help your pet if it isn't seeing well.





Your eye doctor might ask you to watch an object that moves around to make sure that you can see and follow moving objects.

Same: Your veterinarian might swing an object back and forth in front of your pet to see if it can follow the object with its eyes.



Your eyes and your pet's eyes are filled with clear fluid. The eye doctor might puff air into your eyes or use an instrument called a tonometer to make sure your eyes don't have too much fluid in them.

Same: Your veterinarian will do the same thing to your pet to make sure its eyes are full enough.

Your eye doctor might put drops in your eyes so your pupil gets bigger, so they can see the parts inside your eye. This is called dilation.

Same: Your veterinarian might dilate your pet's eyes so they can get a better look at the parts inside.



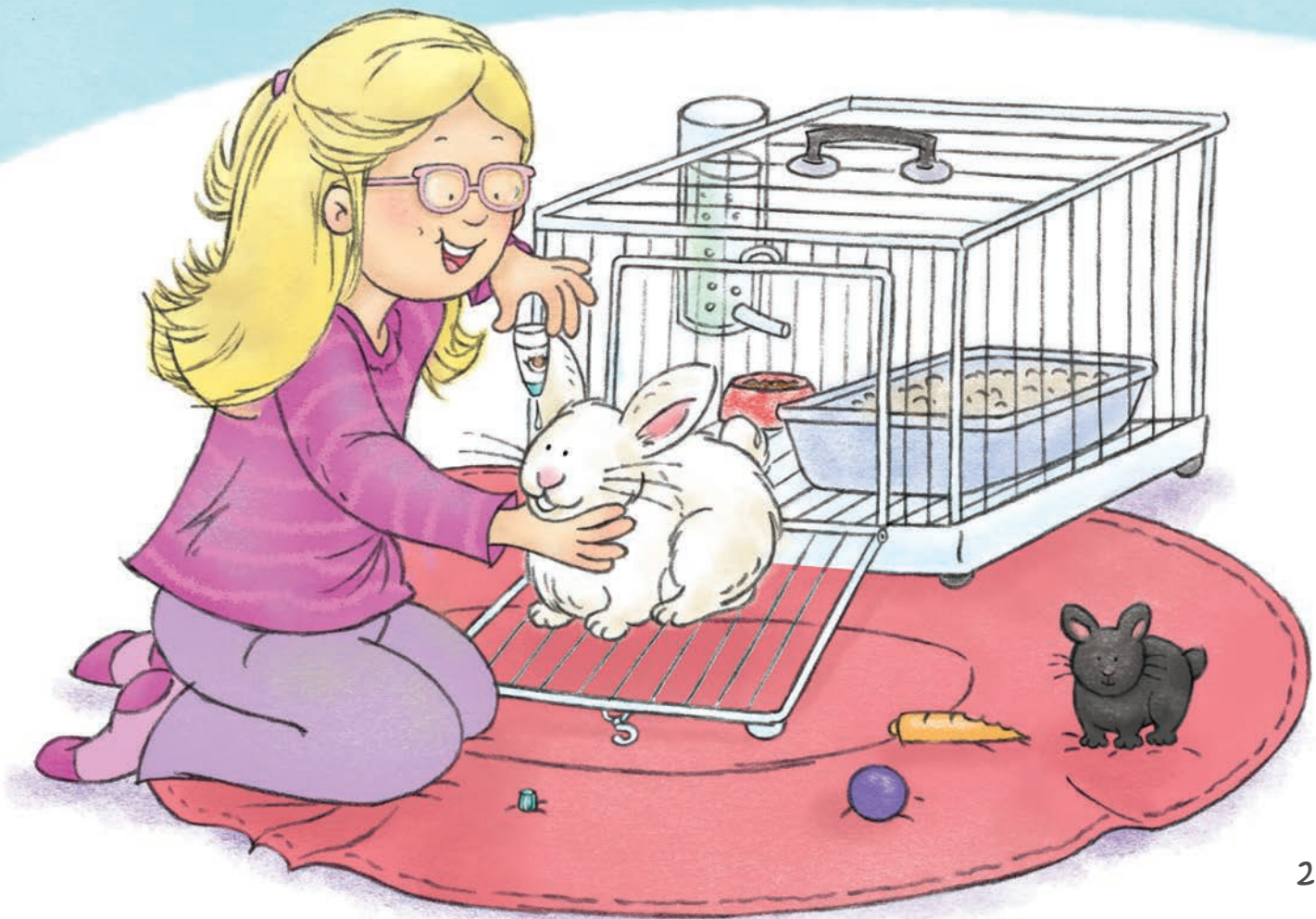
Your eye doctor might use an instrument called an ophthalmoscope or a bigger instrument called a slit lamp to shine light into your eyes so they can look inside.

Same: Your veterinarian will use the same instruments on your pet to see inside its eyes.



If something scratched your eye, the eye doctor might put drops in your eye so they can see the scratch better. Your eye doctor might give you medicine to put in your eye to help the scratch heal.


Same: If something scratched your pet's eye, the veterinarian might put drops in its eye to see the scratch better. Your veterinarian might give you medicine to put in your pet's eye to help the scratch heal.



Did you know ... ?

There are veterinarians who are eye doctors? They are called veterinary ophthalmologists. These veterinarians specialize in caring for the eyes of animals. Dr. LaTisha Taylor is a veterinary ophthalmologist.



A close-up photograph of a female veterinarian with curly hair, wearing a white lab coat, examining a black and white dog's eye. She is using a white, handheld portable slit lamp. Her left hand is gently holding the dog's head. The dog is wearing a colorful striped collar. The background is a plain, light-colored wall. In the top right corner, there are three decorative light blue circles of varying sizes. A large light blue circle with a white border is positioned in the upper right, containing text. The page number '23' is located in the bottom right corner.

Here she is examining the eyes of “Duke Day” the dog, using a portable slit lamp.

Word Bank

cataract

cornea

dilation

iris

lens

ophthalmologist / optometrist

ophthalmoscope

phoropter

predator

prey

pupil

retina

slit lamp

tapetum lucidum

tonometer

