



What Do Crocodiles See?

Nile Crocodiles

Lying in wait, watching for their next meal, the Nile Crocodile is a patient hunter. But what can it see?

1. Describe where the eyes are located on the head.
2. Estimate the distance between the crocodile's eyes.
3. Try this simple activity to see for yourself how vision that requires two eyes works. Specifically, we are focusing on vision requiring two eyes situated such that there is an overlapping field of view, called binocular vision.
 - Try this: close one eye and hold up your index finger about a foot in front of you, now close the other eye. What do you see?
 - Take a second and try this, close an eye and then stick out your index fingers and point them at each other.
 - Start about six inches apart and bring them together quickly until the touch. Did you line up perfectly?
 - Chances are you missed by a little! Now try it with both eyes open.
 - Discuss what you found with a friend. Did you have similar or different results? Which worked better? Having one or both eyes open?
 - Now, look off in the distance at a building or tree.
 - Which one is closer to you?
 - Now close an eye, is it more difficult to tell? Discuss with a friend once again.

Not all animals have eyes relatively close to each other, like the crocodiles you see here.

4. List a few animals who have eyes further apart.
5. Prey animals are not designed for great depth perception, but what advantage do these animals have?





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1. Describe where the eyes are located on the head.
Crocodile eyes are located on the front of the head, not on the sides.
2. Estimate the distance between the crocodile's eyes.
The eyes are about 7 centimeters apart in a 5 meter-long animal.
3. Try this simple activity to see for yourself how vision that requires two eyes works. Specifically, we are focusing on vision requiring two eyes situated such that there is an overlapping field of view, called binocular vision.
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It shouldn't be. At distances greater than arm's length we really do not use binocular vision. We can judge depth with one eye or both eyes equally.

Depth perception means the ability to determine what is close to us, but the tools we use to do this vary. Up close the most important one is binocular vision. At distance binocular vision really is not useful, we use other tools there including shadowing, lighting, and obstruction (meaning if a car blocks our view of a house, we know the car is closer).



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4. List a few animals who have eyes further apart.

Answers will vary. Examples include horse, deer and other prey.

5. Prey animals are not designed for great depth perception, but what advantage do these animals have?

Not all animals need excellent 3-D vision. Animals that don't rely on catching prey, like deer and rabbits, don't need good 3-D vision. Instead, because they rely on static food (food that doesn't move, such as a plant), their eyes can be on the sides of their head. This means that the overlapping views from their eyes are much less. While this results in poor 3-D vision, they can see almost behind their head, making spotting predators much easier. Many grazers, like deer and horses, have a 350-degree field of vision. Only a small portion of their vision right behind their head is obscured.

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