

# Optical Illusions Activity Sheet

Grades 4-5

## Vision Quest

When we “see” an object, our eyes are actually absorbing light rays reflected off that object (**reflected light**). If there is no reflected light, there are no rays to absorb and we cannot see the object.

The light rays enter our eyes through our **pupils** and activate light-sensitive cells in our **retinas** that send impulses to our **brain**. Our brain **interprets** these impulses and forms an image of the object in our mind (**perception**).

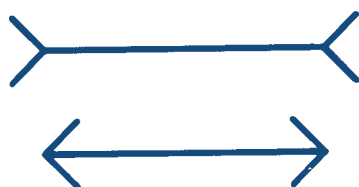
Sometimes there is more than one way for our brain to interpret these impulses and we experience an **optical illusion**. What is the first image you perceive for each of the following?



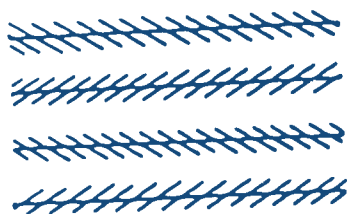
Do you see the profile of two heads or a vase?



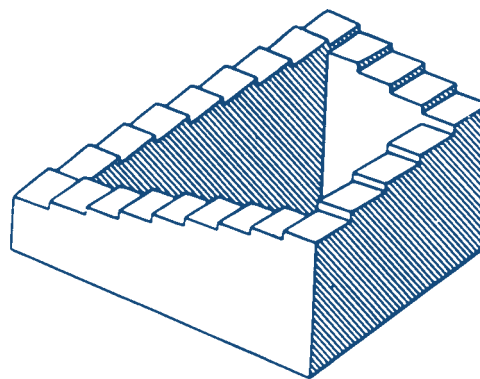
Do these cubes point out toward you or in away from you?



Is the top line or the bottom line longer?



Are the horizontal lines equal distances apart at all points (parallel) or does the distance apart vary in places?



Do the steps in this staircase go up or down?

**Note to parents:** The visual system is more than just the eyes; it includes the brain's ability to interpret what the eye “sees.” The best way to diagnose and treat many childhood eye and visual conditions is to obtain a comprehensive eye examination in addition to any school-provided visual screenings. The South Dakota Optometric Society recommends families obtain eye examinations every year for students age 6 through 18.



# Diagram of the Eye and Visual System Activity Sheet

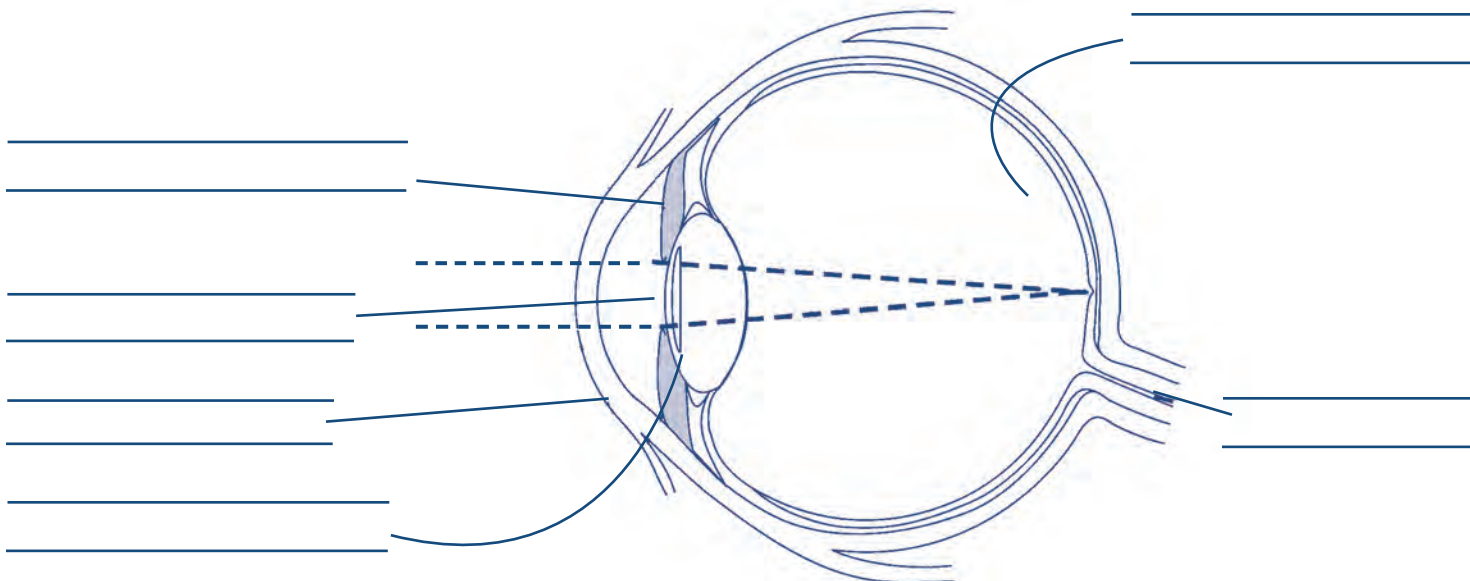
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**Vision Quest**

What three things does vision require?

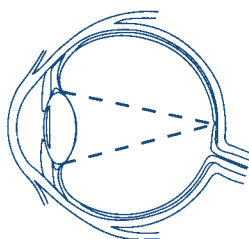
\_\_\_\_\_

Name each part of the eye and describe its function.

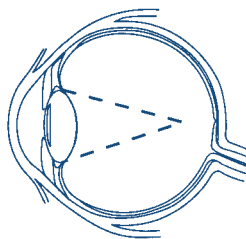


Which condition is illustrated in each of the following diagrams?

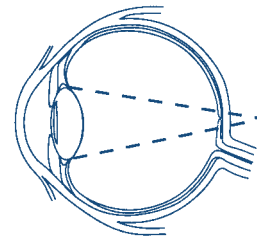
- a. hyperopia
- b. myopia
- c. good visual acuity



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_

Hyperopia is often called farsightedness because \_\_\_\_\_ objects appear more clearly than \_\_\_\_\_ objects.

Myopia is often called nearsightedness because \_\_\_\_\_ objects appear more clearly than \_\_\_\_\_ objects.

It is a good idea to visit your doctor of optometry at least \_\_\_\_\_ every \_\_\_\_\_ for an eye examination.

**Note to students and parents:** The South Dakota Optometric Society recommends families obtain eye examinations every year for students age 6 through 18. Your doctor of optometry will tell you if more frequent exams are needed.

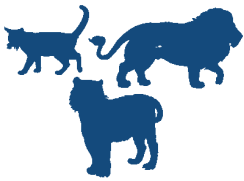


# Animal Eyes Activity Sheet

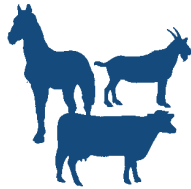
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## Vision Quest

We can learn about our eyes and visual system by studying how our eyes are similar to and different from those of animals and insects. Consider the eyes of these groups of creatures:



Cats, tigers, lions



Horses, cows, goats



Eagles, owls, birds

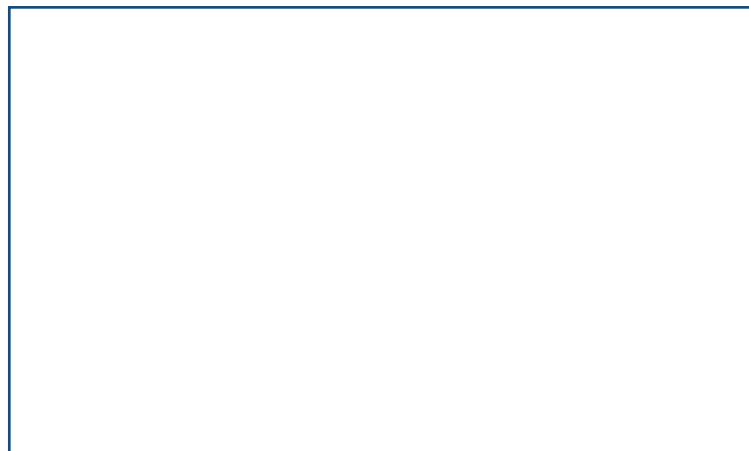


Flies, ants, bees

Name the creature you will research today and complete the following chart.

My creature is:			
My animal (or insect) depends on its vision to:	Some unique characteristics of my animal's (or insect's) eyes are:	One way my animal's (or insect's) eyes are similar to mine is:	One way my animal's (or insect's) eyes are different from mine is:

Glue a photograph of your animal's (or insect's) eyes (taken from an old magazine) in the space below or draw a picture yourself!



**Note to students and parents:** The South Dakota Optometric Society recommends families obtain eye examinations every year for students age 6 through 18. Your doctor of optometry will tell you if more frequent exams are needed.



# Eye Fitness Checklist

Grades 4-5

Vision Quest

Complete your checklist as you visit each station at your eye health fair!

Station:	Check after visiting:	What I learned at this station:
Sensory awareness	<input type="checkbox"/>	
Visual awareness	<input type="checkbox"/>	
Visual testing	<input type="checkbox"/>	
Peripheral vision	<input type="checkbox"/>	
Focusing	<input type="checkbox"/>	
Sunglasses	<input type="checkbox"/>	
Sports safety	<input type="checkbox"/>	
Eye emergency	<input type="checkbox"/>	
Nutrition for good vision	<input type="checkbox"/>	

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# Sports Vision Safety Activity Sheet

Grades 4-5



Learn more about your favorite sport and good resources for sports vision information by completing the following chart!

<p><b>The sport I enjoy participating in most is:</b></p> <hr/> <p><i>Glue a photo of an athlete (or yourself) engaging in this sport or draw an image representing your sport in this box.</i></p>	<p><b>A possible eye hazard my sport presents is:</b></p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<p><b>I can minimize the risk of this hazard by:</b></p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p><b>Complete if applicable:</b> A type of eyewear and/or headgear that I can wear to help protect my eyes when engaging in my favorite sport is:</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<p><b>When engaging in my favorite sport, I use my eyes to watch:</b></p> <p>1) <hr/></p> <p>2) <hr/></p> <p>3) <hr/></p> <p>4) <hr/></p> <p>5) <hr/></p>	<p><b>Glue a photo or draw a picture in this box of an athlete (or yourself) wearing protective eyewear and/or headgear while engaging in your favorite sport.</b></p>

**Note to students and parents:** The South Dakota Optometric Society recommends families obtain eye examinations every year for students age 6 through 18. Be sure to tell your doctor of optometry about any sports you play!

