SIGHT HONOUR WORKSHEET

Completed by:

Date Started: / / **Date Completed: / /**

"I praise You because I am fearfully and wonderfully made; your works are wonderful; I know that full well." Psalm 139:14

1. (a) **Perform this activity.** Be blindfolded. Let someone place an item between 15 metres to 20 metres away from you. Now search for the item. Record the time you found the item. Now, be blindfolded again. Let someone place the item somewhere else but within the same distance as before. Take of your blindfold. Search for the item. Record the time you found the item.

	Distance of item from you (metres)	Time you found the item (seconds)
When blindfolded		
When not blindfolded		

(b) **Watch the video**: https://youtu.be/syaQgmxb5i0. Now answer the following questions:

What is the sense of sight used for? How important is it?

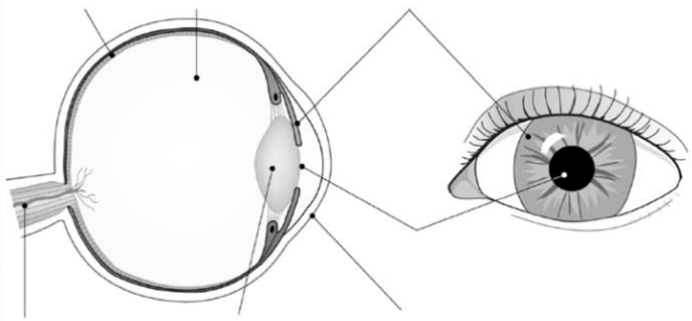
_____

_____

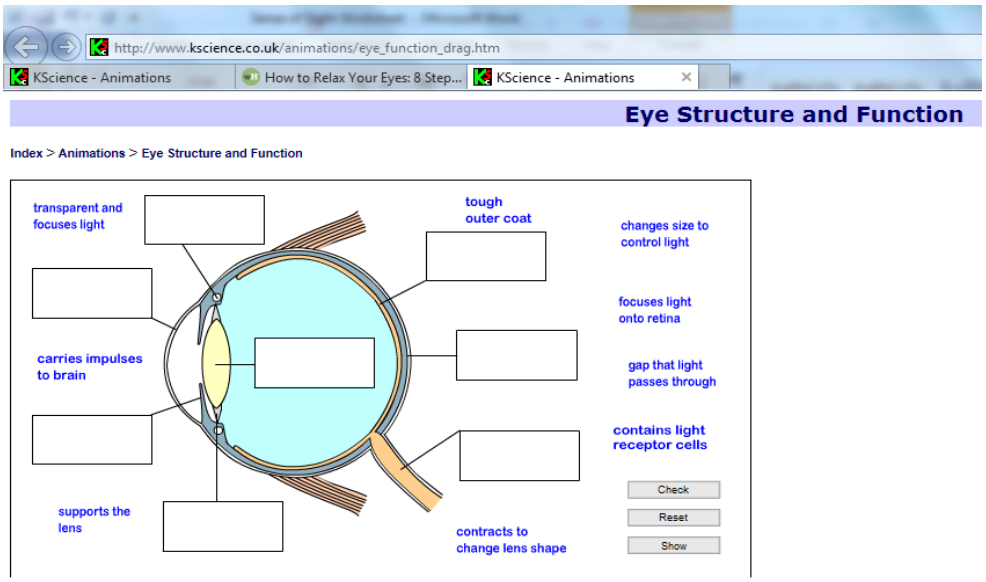
_____

(c) How big is the human eye? _____

2. **Anatomy of the eye. Label the parts.**



http://w .htm
Click or he functions of the parts of the eye. The work will look like the one below. When complete check your answer. The system will then mark your work. Print and paste your work over the one below.



3. How does a lens work? Complete the sentence below using the words from the box.

We have a lens in each of our _____. This is a _____ lens. The job of this lens is to _____ the _____ so we can_____. The point at which the rays cross is called the focus or the _____. The light is _____as it goes into the and as it comes back out.

eyes	**refracted**	**light**	**focal point**
focus	**see**	**convex**	

4. Watch video:

(a) Below are the steps in how humans see.

Arrange them in a chronological order by putting numbers (1,2,3,4,5,6) in the **"position"** column to reflect the right order in which they should be

(b) Fill in the blanks: A medical doctor who specialises in examining, diagnosing and treating eyes and eye diseases is called a/an _____

Position	Steps
	When you look at an object. Light reflected from the object goes through the **pupil** of your eye.
	Your brain sorts the image out so you see it the right way round.
	The **cornea** and the **lens** focus the light onto the retina.
	An **inverted** image is formed on the **retina**. The retina is made of light sensitive cells called photoreceptors.
	The iris, a muscle that controls the size of the pupil, allows the correct amount of light to enter your eye.
	When the image forms on the photoreceptors in the retina, chemical reactions produce and electrical impulse that travels up the **optic nerve** to your brain.

(c) Visual acuity test, Visual field test and Tonometry test are tests that an ophthalmologist performs on the eye.

Match the name of the term to its meaning

Visual acuity test	A person reads an eye chart to measure how well he or she sees at various distances.
Visual field test	This test determines the fluid pressure inside the eye to evaluate for glaucoma
Tonometry test	Ophthalmologists use this test to measure side, or peripheral, vision

(d) What are the roles of:
(i) Rods:
_____

((ii) Cones:

_____

_____

5. **How does the eyesight of humans compare with other creatures? (Compare with any three of the following animals: eagles, owls, mantis shrimp, deer, goat, horse, elk, sheep, goat). Write the name of the animal on the line.**

Humans vs _____

Humans vs _____

Humans vs _____

7 (a) Compare the key features of the eye and a camera by finishing the table

Feature in a camera	Feature in an eye	Use
	pupil	
Lens		
Shutter		
	retina	Receives light

(b) Write a paragraph below to compare how the eye and the camera work. Cover the following factors in your answer:

(i) Similarities: What features do they have in common? What does each convert the light energy into when it is processed? Which way up does the image form in both?

(ii) Differences: How does the lens change in each to produce an image? How do the types of image made by each compare? How are the images captured and kept?

8. With reference to the eye chart explain:

(a) 20/20 Vision

(b) 20/70 Vision:

9. What is visual impairment?

10. Define these eye problems and state their 'cures'.

a. Glaucoma
b. Cataracts
c. Strabismus
d. 'Sore eyes'/conjunctivitis

d. Colour blindness

.

Glaucoma:

_____

_____

_____

_____

_____

.

Cataracts:

_____

_____

_____

_____

Strabismus:

_____

_____

_____

Conjunctivitis:

_____

_____

_____

Colour blindness:

_____

_____

_____

11. (a) Fill in the blanks: (Watch the video - https://youtu.be/ypF037wlYZg)

(i) _____ is the bending of light when it passes through a transparent medium such as glass, lens or water.

(ii) The refractive errors are _____, _____, _____ and _____.

(iii) _____is also known as near-sightedness. People with this have eyes that are a little longer than normal, measuring from the front of the eyeball to the back. Therefore, light focuses in front of the retina instead of on it.

(iv) _____ is also known as farsightedness. People with this have trouble focusing on things close up because their eyes are too "short" from front to back. Therefore, light focuses behind the retina instead of on it, causing blurry vision.

(v) _____ is a condition in which your eye isn't completely round. Therefore, light gets bent more in one direction than another. That means only part of an object is in focus so things at a distance may look blurry and wavy.

(vi) _____ is the normal loss of near focusing ability that occurs with age. Most people begin to notice the effects of presbyopia sometime after age 40, when they start having trouble seeing small print clearly.

(vii) Read Genesis 48:10. Which of the refractive errors did Israel have?
_____

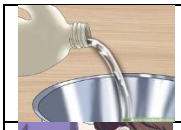
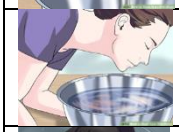
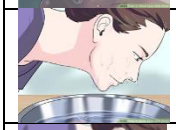
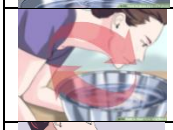
(viii) State if the statement below is true or false. Underline the correct answer.

"All the refractive errors can be corrected by wearing the right glasses or contact lens" **TRUE / FALSE**

12. Eye care:

{a} How should I clean my eyes? Look at the picture and write a single sentence in the notes column to explain what happens at each stage of the eye cleaning process. The first one has been done for you.

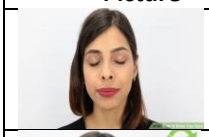
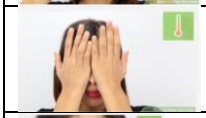
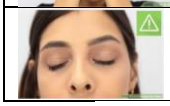
Picture	Notes
	Get a bowl

{b} Write one sentence on how we can strain our eyes?

_____

{c} How do we rest them? Look at the picture and write a single sentence in the notes column to explain how to rest our eyes. The last one has been done for you.

Picture	Notes
	
	
	
	Try relaxation eye exercises.

(d) Matthew has been using a computer continuously for 4 hours! Now he is complaining of eye strain. Give Matthew three pieces of advice to help him relax his eyes.

1. _____

2. _____

3. _____

(e) Explain the 20-20-20 rule of eye relaxation.

_____

_____

{f} What do I do if I cannot see very well?

_____

_____

13. Give two meanings to the expression *"The eyes are a window to the soul"?*

1. _____

_____

2. _____

_____

14. What are the effects of exposing ourselves to watching:

(a) violence/pornography (mention three)

1. _____
2. _____
3. _____

(b) Video games: Use the table to give three advantages and disadvantages

	Advantages	**Disadvantages**
1		
2		
3		

(c) Social media: Use the table to give three advantages and disadvantages

	Advantages	Disadvantages
1		
2		
3		

15. Explain 1 Samuel 16:7

_____

_____

_____

_____

_____

16. Explain "fixing our eyes on Jesus" (Hebrews 12:2)

_____

_____

_____

_____

_____

17. Mention four ways that life can be made easier for the visually impaired.

1. _____

2. _____

3. _____

4. _____

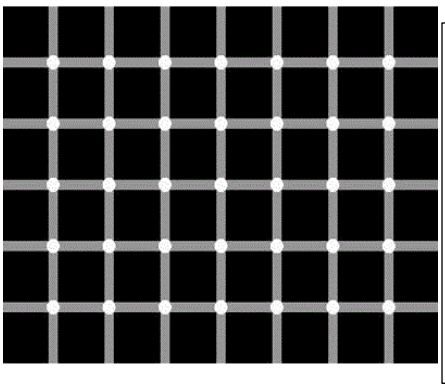
18. Optical Illusion:

(a) Fill in the blanks using the word bank in the box below the passage.

_____ Illusions can use colour, _____ and patterns to create _____ that can be deceptive or misleading to our _____. The information gathered by the eye is processed by the brain, creating a perception that in reality, does not match the true image. Perception refers to the interpretation of what we take in through our _____. Optical illusions occur because our brain is trying to _____ what we see and make sense of the world around us. Optical illusions simply trick our brains into seeing things which may or may not be _____.

images	eyes	brains	optical	real	light	interpret

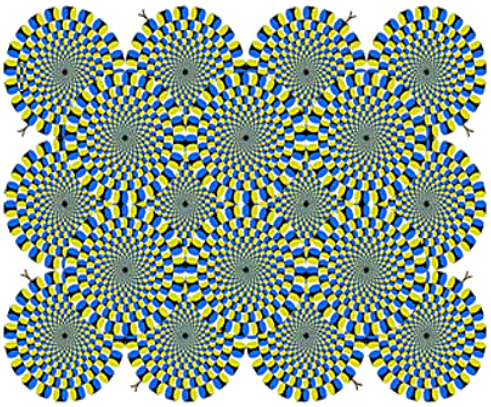
(b) Provide the answers to the optical illusions below:



Hermann Grid illusion

How many black dots are in this image?

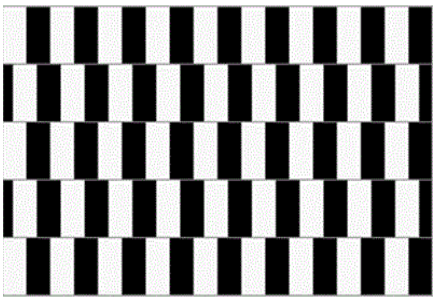
Answer:



Snakes:

Are the circles moving in the image?

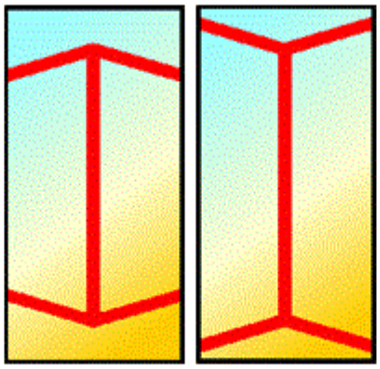
Answer:



Horizontal lines

Are the horizontal lines sloping or straight?

Answer:

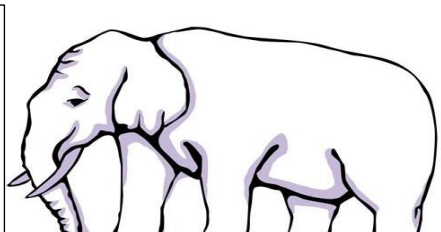


Muller-Lyer Illusion

Take a very close look at the 2 vertical lines. Do you think one line is longer than the other?

Light Bulb

Stare closely at this light bulb for 25 seconds. Then immediately stare at a white wall or sheet of paper. What



Elephant Legs

How many legs do I have?

Teach

In this illusion you can see the word Teach and its reflection. Can you read the reflection too? What does it say?

Answer:

The Animal

How many animals do you see in the image?

Answer:

20. Watch the video on how to do an origami eye. Make an origami eye. Stick the picture of your origami eye below.

Assessed By:
(Full Name & Rank in Block Letters)

Assessor's Signature:_____Date: / /