

Mnemonic Devices for the Eye and Ear
By Michael A. Britt, Ph.D.
[Psych Test Prep](#) and [The Psych Files](#)

Hi. This is Michael Britt and I developed the mnemonic images contained in this document. I truly hope they will help you remember the various parts of the eye and ear and as a result will help you do better on your test.

How did you select these terms? I scoured many Introductory Psychology textbooks, and drew upon my own experience as a teacher of psychology to pick the terms from the Sensation and Perception chapter that I felt certain would likely be on your test.

How do mnemonic devices work? I devoted quite a few episodes on my [The Psych Files](#) podcast to the topic of mnemonics so you might want to listen to those episodes to learn more about mnemonics. Essentially however, mnemonics work by helping you associate unfamiliar words with either familiar ones you already know or with **outrageous images** that are easy to remember. That's what I've tried to do here – provide you with memorable images to help you recall the meaning of these terms.

I hope you find these images memorable, but remember that the absolute best images are the ones which draw from your own personal experiences. For example, to help you remember that the basilar membrane contains tiny hairs, I used a fish called a bass because I went fishing for bass a lot when I was younger. If you can think of a different association to the parts of the words “basilar membrane” (like “brain”, the herb “basil”, the Russian Basilica or the French Bastille Day) then **use that image in your mnemonic**. This will be more familiar to you and will more easily come to mind. The problem, of course, is that many times we're too busy to make up our own mnemonics and that's where I hope these images can help out.

Can you guarantee me a good grade on my test? I can't of course. Your grade will depend upon more than just remembering mnemonics. Find out as much as you can from your teacher about what is expected for the test. Preparing for a multiple-choice test is different than preparing for an essay. Find out what you'll be expected to do.

NOTE: some of these eye and ear parts have several functions. However, if I tried to make a mnemonic device for every possible role a particular part plays in your sight or hearing there would be hundreds of mnemonics and that just wouldn't be helpful at all. I had to do some simplification. However, I made these images after examining many psychology textbooks and I'm confident these images will help you do well on your test.

Any other advice? Yes. In addition to mnemonic devices there are a few other keys to learning new material:

1. **Spread out your learning.** In psychology we call this “**distributed practice**”. This is one of the most firmly established ways of successfully learning something that will stay with you for a long time. Many students cram information into their heads just before an exam – and yes, I did this too from time to time when I was in college. I won’t kid you – when I became a teacher I knew many of the best students crammed before a test. However, it doesn’t work for everyone. In addition I’ll say this – you’re paying a lot for your education. What will you remember if all you do is cram? Not much. Spread out your study and what you learn will stay with you longer. Study a little bit from each of your classes every day.
2. **OverLearn:** research has shown the people tend to **overestimate** what they really know. This is one reason why students often expect to do well on tests and are surprised when they get a poor grade. Don’t stop studying when you first think that you understand an idea or have memorized a concept. Keep studying it so that it’ll really get “stamped in” to your memory.
3. **Get some sleep.** Studies have also shown that new information has a chance to solidify in your brain when you allow it to rest. This is another reason why distributed practice works – introduce a little bit of information, sleep on it, then review and introduce some more.

Once again, thanks for purchasing these mnemonic devices. I hope they help you do well in your classes.

Michael Britt

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Parts of the Eye

Cornea: imagine two corn muffins over your eyes.

The **Cornea** is the curved, clear, outer covering of the eye that bends light and focuses the image toward the pupil.

Mnemonic: picture **CORN** muffins over your eyes.

This should help you answer questions about which part of the eye is the **outermost** part and

that the **Cornea** **curves** light so that it is focused on the retina in the back of the eye.



Iris: gives your eye its color and is also a muscle that gets smaller when there is a lot of light around you and it gets bigger when there is not much light around you. Use the notion that Irish makes many people think of the colorful green things like leprechauns, green clovers, etc.

The **Iris** is the round, **colored** part of the eye. It's also a **muscle** that becomes smaller when there is a lot of light (to prevent too much light from entering the eye) and larger when there isn't much light (to get as much light as possible into the eye).

Mnemonic: "**Iris**" is almost the word "**Irish**", which reminds me of Ireland, four leaf clovers, and the color **green**.

Picture a leprechaun with two circles of **green clovers** in his eyes (to show that the iris widens and shrinks).



Pupil: the pupil is nothing more than the dark space in the middle of the eye. Use the image of a smelly skunk right in the center of your eye.

The **pupil** is the space in the center of the eye, through which light enters.

Mnemonic: use the first part of the word "pupil" and go with "peeuuu!".

When you think of something smelly you think of a skunk, so picture a **skunk** right in the middle of your eyeball.

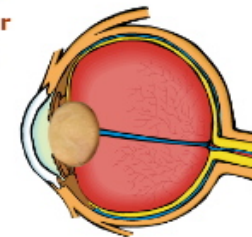


Lens: the lens in your eye is shaped like a lentil and the lens also squeezes and lengthens (like a lentil can) in order to focus images onto the back of your eye (the retina).

The **lens** in your eye is often compared to a camera lens because the lens focuses images on the back of your eye.



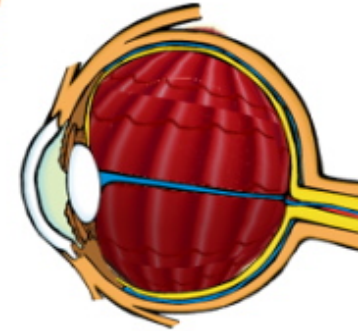
Mnemonic: use a **len**til - it's shaped like the lens in your eye and can do what your lens does when it focuses on images - it changes shape. It becomes flatter when you look at faraway objects and shorter and wider when you look at close-up objects (this is called **accommodation**).



Retina: the retina is found along the back of the eye and it contains the rods, cones, bipolar and ganglion cells. Use “red tin” as your mnemonic and imagine that the back of your eye is covered with red tin.

The **Retina** lines the back of your eye and contains many important cells that help you see, like the rods and cones.

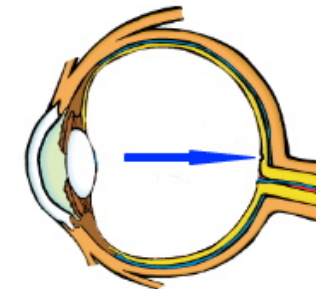
Mnemonic: think "**Red Tin**" and imagine that the back lining of your eye was all made out of **red tin**.



Fovea: is a spot in the eye that is directly behind the lens. There is a very high concentration of cones in this area which means that images that fall on the fovea can be very sharp. Use the O vowel in fOvea and cOnes to connect these two terms.

The **Fovea** is a spot on the retina in the back of the eye where **only cones** are found, which means that you'll have great visual clarity when you move your eye to focus objects right on this spot.

Mnemonic: Make use of the fact that the words "**fOvea**" and "**Only cones**" all have long "**O**" sounds in them.

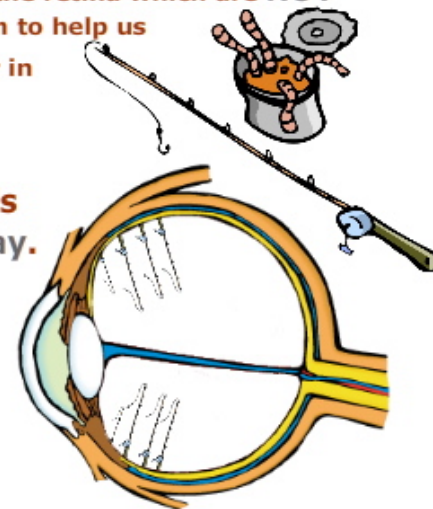


Rods: the cells in your retina we call rods are sensitive to light and dark and shades of gray. Use a fishing rod, which is usually grey, as your mnemonic.

Cones: are the cells in your retina that are sensitive to color. “Cones” and “color” is an okay mnemonic, but I think that colorful traffic cones work better. The “tail” on the traffic cone is there to help you remember that cones are also better than rods at detecting the detail in images.

Rods are cells found within the retina which are **NOT** sensitive to color. We use them to help us see at **night**. They are longer in shape than cones.

Mnemonic: think of a fishing rod. Fishing rods are long and usually grey. More rods are found in the periphery of the retina.

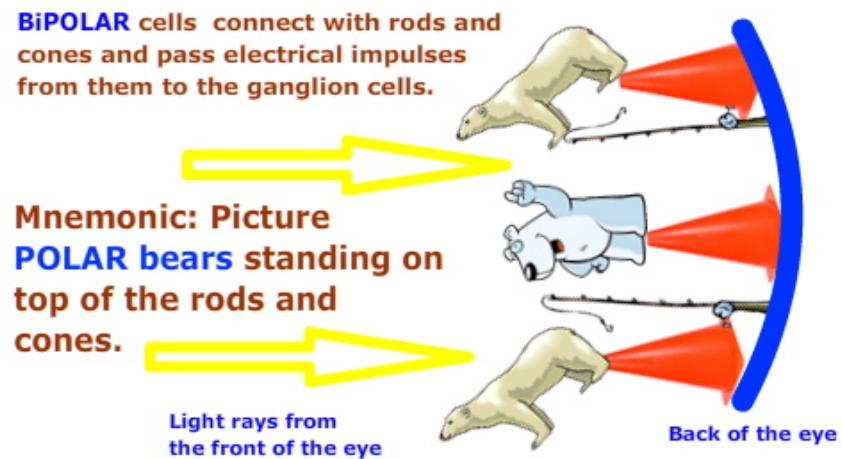


Cones are cells found within the retina which are sensitive to **color**. We use them to help us see **details** when there is light. Cones are shorter than rods.

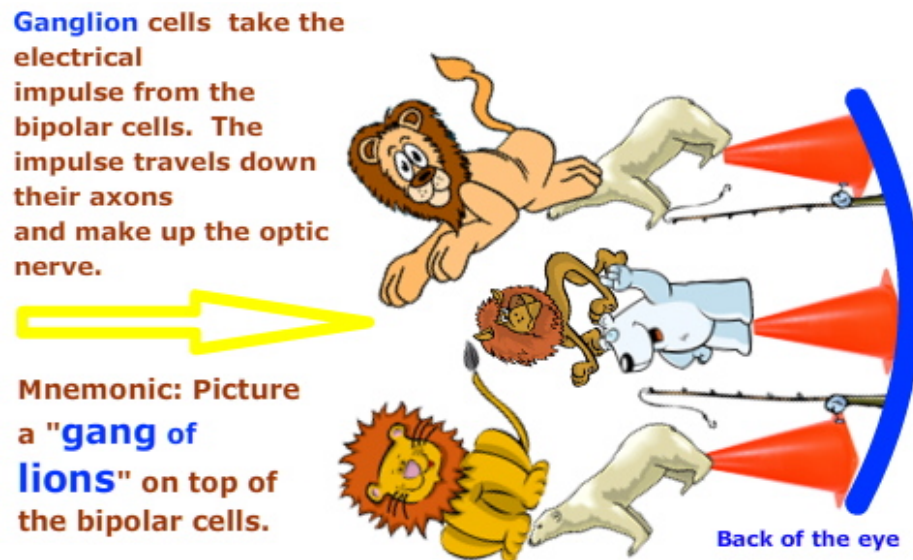
Mnemonic: think of traffic cones, which are usually **bright colors**. Also, to help you recall that cones help us see more **detail**, picture a traffic cone with a **tail**.



Bipolar Cells: are found in the retina. These cells send visual signals from the rods and cones to the ganglion cells. Imagine polar bears standing on top of the rods and cones.



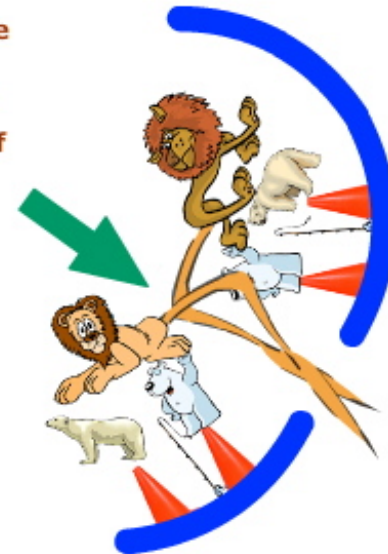
Ganglion Cells: are found in the retina. The bipolar cells send signals to the ganglion cells. Imagine a “gang of lions” standing on top of the polar bears.



Optic Nerve: visual signals, after having been picked up by the rods and cones and transferred to bipolar cells to the ganglion cells, finally leave the eye through the optic nerve, which is really just the axons of the ganglion cells. Imagine that the tails of the “gang of lions” are the axons that make up the optic nerve and exit out the back of the eye.

Optic Nerve: The axons from the ganglion cells band together into a long strand (the optic nerve) and go through the retina at the back of the eye (your “**blind spot**”).

Mnemonic: Picture the **tails** of the “gang of lions” as all twisted together into one nerve and all going through the retina at the back of the eye.



Trichromatic Theory of Color Vision.

This theory states that you have cones that are receptive to 3 colors: red, green and blue. These three colors are mixed together and you perceive color.

The only problem with this theory is that while our eyes can mix together, say red and yellow to make orange, we can't seem to mix red and green or blue and yellow. To explain this, we have another theory....

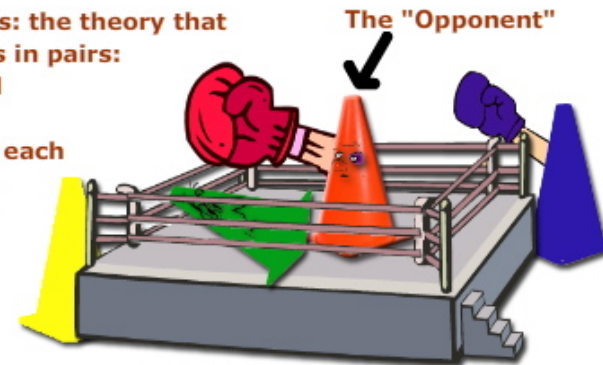
Opponent Process Theory of Color Vision. This theory states that you have cones that perceive 4 colors: red, green, blue and YELLOW and that red and green cones oppose each other, as do blue and yellow cones. Black and white sensitive cones are also opponents. Between these opponents, only one color can dominate at a time.

Trichromatic Theory of Color: the theory that there are 3 cones in your eye (red, green and blue) that **combine** to make all the colors we can see.



Mnemonic: picture **tricycles** with **red, green and blue** wheels being mixed around in a **blender**

Opponent Process: the theory that there are 4 colors in pairs: **red vs. green** and **blue vs. yellow**. Only one color in each pair can be seen by your eye at a time.



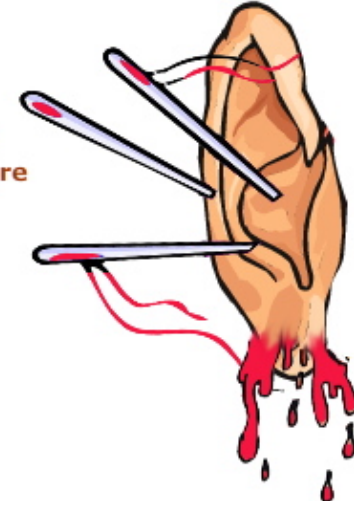
Mnemonic: picture the colored cones as **opponents** in a boxing ring. In the image above, red's opponent (green) was just knocked out. Blue's opponent is yellow. Black and White (not shown) are also opponents.

Parts of The Ear

Pinna: the pinna is the part of your ear that everybody can see. Use the “pin” part of the word as your mnemonic and imagine pins sticking into this part of your ear. A little blood makes the image that much more memorable.

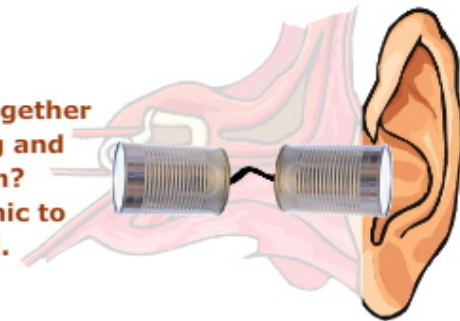
The **Pinna** is the external part of the ear that everyone can see. It is shaped like this in order to direct sound waves into the auditory canal.

Mnemonic: picture **bloody pins** sticking into your ear (blood and gore always make things more memorable).



The **Auditory Canal** is the tunnel that connects the pinna to the inner parts of the ear. Sound waves travel down this canal.

Mnemonic: did you ever tie together two empty **CANS** with a string and talk to someone through them? Use this idea as your mnemonic to remember the auditory **CANal**.



Auditory Canal: once sound waves enter your ear they travel down your auditory canal. The image of empty cans connected together should help here.

Eardrum. This is an easy one to remember because of “drum”, but the eardrum is also referred to as the “tympanic membrane” so use the idea that a drum can create loud noises which can cause some people to “panic” and/or hit the “panic” button.

Eardrum: sound waves from outside your ear travel down the auditory canal and vibrate the eardrum (also called the **tympanic** membrane).



Mnemonic: Picture a drum at the end of the auditory **CANal** which is making such a loud noise that it causes someone to hit the **tymPANIC** button.

Hammer, Anvil and Stirrup: luckily, these are already pretty concrete images. It’s important to remember that after sound hits the eardrum, the order is Hammer, then Anvil, then Stirrup, or H-A-S (or M-A-S if you call these three bones Malleus, Incus and Stapes)

Hammer (Malleus), Anvil (Incus) and Stirrup (Stapes): once the eardrum vibrates, the vibration travels further into the ear in this order: **Hammer -> Anvil -> Stirrup.**

Mnemonic: the eardrum vibrates the **H**ammer, which vibrates the **A**nvil and then vibrates the **S**tirrup. (**H-A-S** or **M-I-S**).



Ossicles: The Hammer, Anvil and Stirrup and commonly referred to as the Ossicles, which is a word that looks a lot like “icicles”, so picture the three bones with icicles hanging off of them.

Ossicles: the hammer (Malleus), Anvil (Incus) and Stirrup (Stapes): make up what are called the ossicles.

Mnemonic:
"ossicles"
sounds a
lot like "icicles",
so picture
icicles hanging
off the hammer,
anvil and
stirrup.



Oval Window: the stirrup is attached to the cochlea right at the point called the “oval window”. Vibrations in the stirrup cause vibrations in the oval window which causes the fluid in the cochlea to vibrate as well.

Ossicles: the hammer (Malleus), Anvil (Incus) and Stirrup (Stapes): make up what are called the ossicles.

Mnemonic:
"ossicles"
sounds a
lot like "icicles",
so picture
icicles hanging
off the hammer,
anvil and
stirrup.



Cochlea: this is the snail shaped part of the ear. The “coch” part of this word rhymes with “coke”, so imagine coka cola being poured into your ear. All that fluid collects inside your “coke”lea.

Basilar Membrane: running through the middle of your cochlea is this membrane with hairs on it. Use the “bas” part of “basilar” and imagine bass swimming up inside the middle of your cochlea (swimming through all that soda of course).

Cochlea: is the snail-shaped structure inside your ear filled with fluid. Vibrations from the ossicles makes the fluid in the “coke”lea vibrate.

Mnemonic: imagine someone pouring coke into your ear, which collects in your “coke-lea”.



Basilar Membrane: running through the middle of the cochlea is this membrane which has tiny hairs on it.

Mnemonic: use “bass” fish as your mnemonic and imagine that these bass are swimming around and around in the “coke” in the middle of the cochlea.



Cilia: there are tiny hairs all along the basilar membrane. These hairs move back and forth with the vibration of the fluid in the cochlea. To remember these hairs, imagine silly hair on top of the bass in your cochlea.

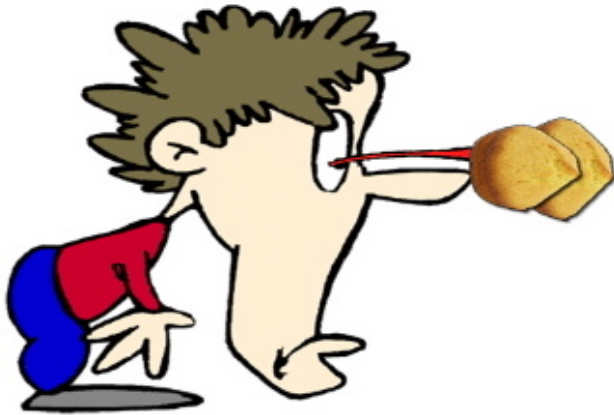
Cilia (hair cells) on the basilar membrane contains tiny hairs which move with the fluid in the cochlea and send electrical signals to the brain.

Mnemonic: use the image of a ridiculous wig on the head of the "bass"ilar membrane to recall that these silly (cilia) hairs lie on top of this membrane.



Flash Cards

(Cut along dotted lines)



Q: The clear, outer part of the eye, the part that first directs images into your eye is called what?
 Mnemonic: a corn muffin
 A: the Cornea



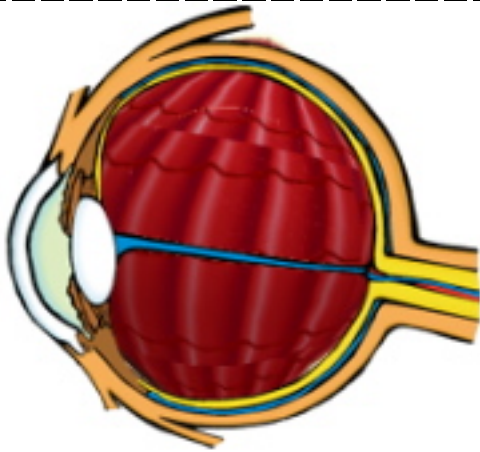
Q: The colorful part of the eye that contracts and expands depending on the amount of light around you is called?
 Mnemonic: a green leprechaun
 A: the Iris



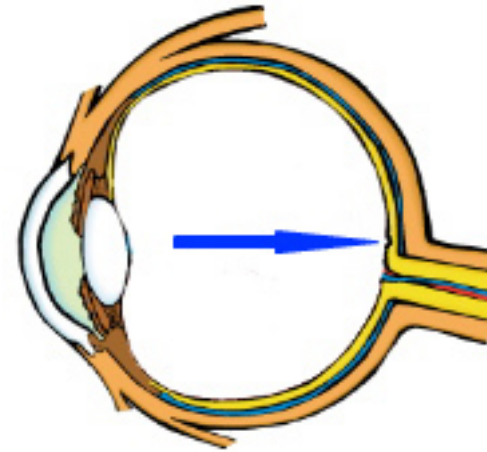
Q: What is the dark part of the eye right in the center called?
 Mnemonic: a young student
 A: the Pupil



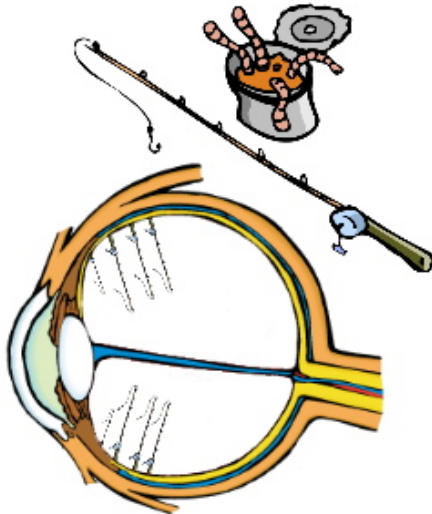
Q: What is the part of the eye that squeezes or lengthens in order to focus images onto the retina?
 Mnemonic: a lentil (or “a type of legume”)
 A: the lens



Q: What is the lining all along the back of the eye called?
 Mnemonic: red tin
 A: the Retina



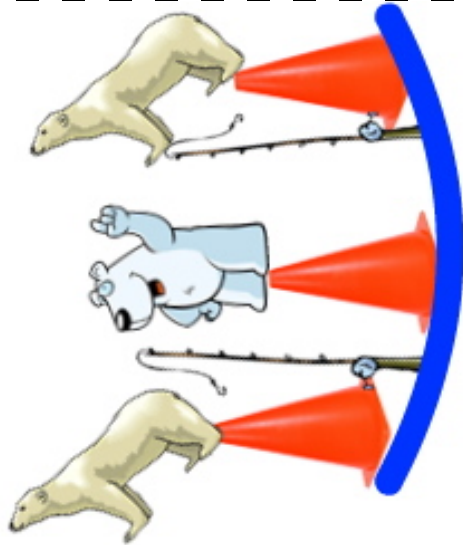
Q: What part of the eye contains only cones?
 Mnemonic: the letter "O"
 A: the Fovea



Q: What part of retina is only sensitive to dark colors?
 Mnemonic: what you use when you go fishing
 A: the Rods



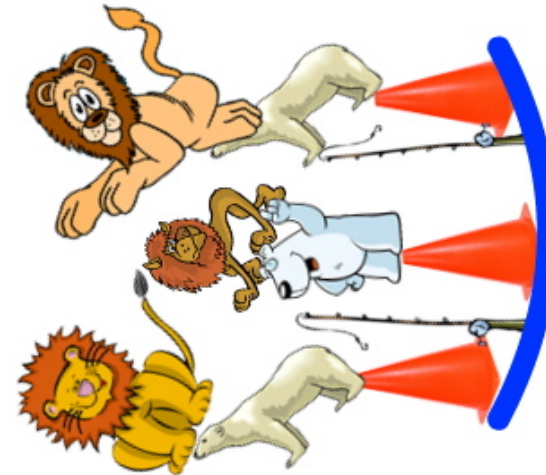
Q: What part of retina is sensitive to color and to details?
 Mnemonic: you see these when you pass an accident on the road
 A: the Cones



Q: What part of the eye first receives message from the rods and cones?

Mnemonic: a bear that lives in cold climates

A: the Bipolar cells



Q: What part of the retina receives signals from the bipolar cells?

Mnemonic: we usually call a group of these animals a "pride"

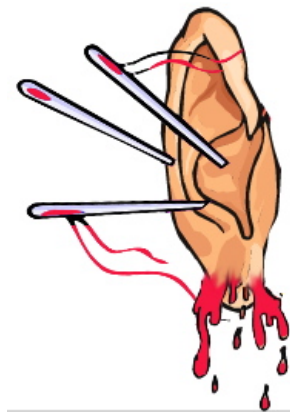
A: the Ganglion cells



Q: What is the optic nerve made of?

Mnemonic: the tails from the group of lions

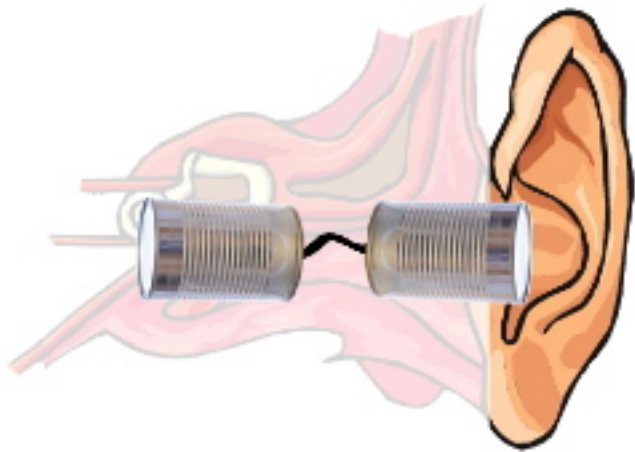
A: the axons from the ganglion cells



Q: The external part of the ear, the part you can see, is called what?

Mnemonic: Pins are sticking into this causing it to bleed

A: the Pinna



Q: Sound enters the ear and first travels down this part in order to reach the inner ear

Mnemonic: two cans connected by a string

A: the Auditory Canal



Q: After hitting the eardrum, sound travels down these three bones in this order (try to give the common name, the technical name and the order that sound travels through them)?

Mnemonic: tools and something that helps you get on a horse.

A: Hammer, Anvil and Stirrup (Malleus, Incus & Stapes).

Order: H-A-S or M-A-S



Q: After traveling into your ear, sound waves first strike what part (give both names)?
Mnemonic: something that makes a loud noise and causes some people to panic

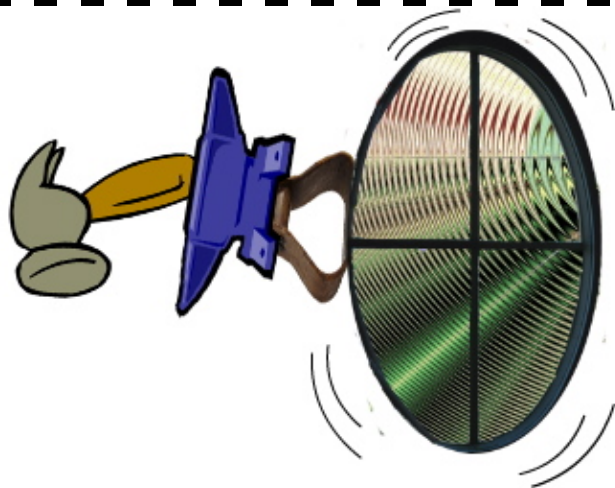
A: the Eardrum or Tympanic Nerve



Q: What are the Hammer, Anvil and Stirrup also called?

Mnemonic: Icicles hanging from these bones

A: The Ossicles



Q: What stirrup is attached to this part of the ear, which vibrates and in turn is connected to the cochlea.

Mnemonic: a vibrating window

A: the Oval Window



Q: What is the part of the ear called that contains fluid that moves in response to vibrations from the oval window?

Mnemonic: Someone pouring coka cola in your ear

A: the Cochlea



Q: What part of the ear runs right up the middle of the cochlea?

Mnemonic: This fish is swimming up the middle of the cochlea

A: the Basilar Membrane



Q: What is the name of the tiny hairs you find on top of the basilar membrane?

Mnemonic: silly hairdo on a bass

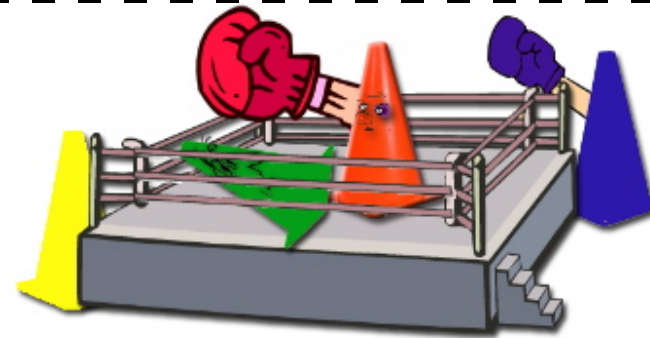
A: Cilia



Q: What does the Trichromatic theory of color vision state?

Mnemonic: tricycles and a blender

A: that your cones are sensitive to red, green and blue and they mix (blend) these colors together to create color vision.



Q: What does the Opponent Process theory of color vision state?

Mnemonic: cones in a boxing ring with one cone knocked out

A: that your cones are sensitive to red, green and blue and YELLOW and that red and green and blue and yellow OPPOSE each other – only one color can “win” (that is, be perceived) at a time.

A Final Word

I hope you've found these crazy mnemonic images helpful, I really do. I know how hard it is to remember these terms.

Sharing: I know college students are strapped for cash. That's why I sell this document at a very reasonable price. If your friends ask for a copy of this document, please send them to my site to purchase it: www.thepsychfiles.com. Financial support like this makes it possible for me to put in the many hours it takes to keep The Psych Files podcast going. The Psych Files offers visitors hundreds of audio and video episode on a variety of topics in psychology and it's all free. So please help support that effort by recommending this purchase to your friends. I appreciate it.

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Need More Mnemonics?

Brain Mnemonics was designed for students who need to quickly learn and memorize the major parts of the brain:

Lobes of the Brain

- * Acronym to help you remember the four lobes
- * Occipital Lobe
- * Parietal Lobe
- * Frontal Lobe
- * Temporal

Brain Parts

- Pineal Gland
- * Hippocampus
- * Amygdala
- * Thalamus
- * Cerebellum
- * Hypothalamus
- * Broca's Area
- Wernicke's Area

The Brainstem

- * Acronym for the brainstem
- * Pons
- * Reticular Formation
- * Medulla

The Neuron

- * Dendrites
- * Soma
- * Axon
- * Myelin Sheath
- * Nodes of Ranvier
- * Synaptic Vesicles
- * Synapse
- * Resting and Action Potential

Neurotransmitters

- * Serotonin

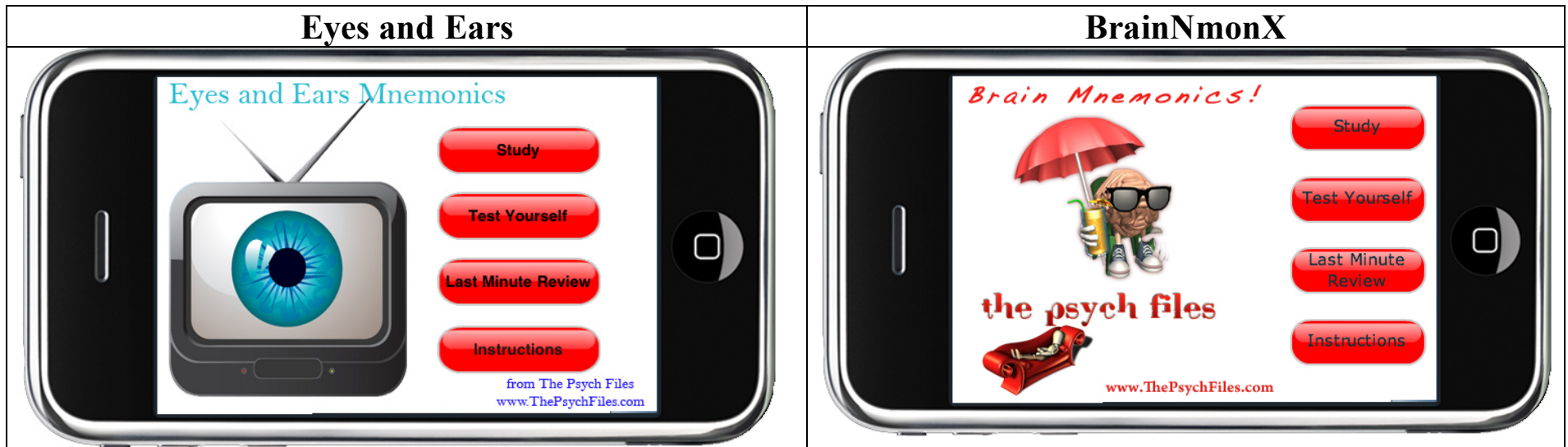
Questions on the parts of the brain are especially common in a chapter from an Introduction to psychology textbook on BioPsychology or Neuroscience.



[Find it in Lulu.com](http://Lulu.com)

iPhone/iPod Touch/iPad App

Did you know that there is an iPhone app that accompanies this document? There is also an app for my other mnemonics program called “BrainNmonX” which helps you memorize the parts of the brain. Click the images below to check out any of these apps.



Interested in Psychology?
Got an iPhone, iPod, iPad?
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[Check it out PsycExplorerHD for the iPad in the iTunes store.](#)



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The Psych Files free podcast

Lots more information about psychology can also be obtained on-the-go from The Psych Files companion iPhone app. Click below to visit the homepage of this app in the iTunes app store:



One final note: I had an inspirational teacher when I was young who told me that when you go in to take a test, go in with a fighting attitude; like a boxer entering the ring: “Where’s that test? Let me at it”. I hope these mnemonics help give you that same attitude. Go get ‘em!

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