

Memory Improvement Strategies

Mnemonics is the name for learning techniques that help your memory make associations between information.

We have learned to use memory devices since early childhood. These devices can take many forms.

- **Rhymes and Music:** Many poems, songs and games revolve around rhymes that help information recall. Example: "In 1492, Columbus sailed the ocean blue." Applying unfamiliar information to a familiar tune may help aid retention of the new information.
- **Associations:** Create a connection between new information and old information. Example: Sardinia is an island close to Italy. You could think of sardines on an Italian pizza in order to remember the name of the island. Linking new information to old creates a bridge for information retrieval.
- **Acronyms:** Acronyms are new "words" made up from the first letter in a series of words. NASA is an example. The N is from National, A is from Aeronautics, S is from space, and A is from Administration. Acronyms are useful when you need to recall a list of items, details, causes or parts of a whole. The trick to using acronyms, however, is practicing the bridge, or association, between the acronym and the information.
- **Imagery:** This memory trick is especially useful for visual learners. When reviewing the information, place an image in your mind relating to the text: a diagram, a particular graph, picture, or map. Recall the image in the picture when you review the material. Example: Imagine your body when looking at a diagram of the circulatory system and the path that blood flows from the heart to the rest of the body. You can use your body to demonstrate the flow or follow the flow on the diagram. Always review the text that accompanies these images and tie the information together with the image. Practice the association between the image and the words every time you review.
- **Categorizing:** When a student is faced with a lengthy list to recall, it can be helpful to separate the list into smaller lists, each recognized by a common trait. Example: When trying to memorize the countries on the African continent for a geography class, the task becomes more manageable if a map of the continent of Africa is divided into three or four sections with approximately the same amount of countries in each list. It is much easier to memorize several small lists than one large one. Organization of information is the key to a large task such as this.
- **Creative Sentences:** A creative sentence is another method used to recall a list of information or classification of any group of items, such as a group of countries or a list of bones in the body. Example: Create a sentence from the first letter in the list of the classification of organisms. The list is as follows: Kingdom, Phylum, Class, Order, Family, Genus and Species. A creative sentence using the first letter of each classification would be, "The Kids Push Carts Over Falling Garbage Swiftly." Again, repetition and practice are essential to the recall and retention of information.

THIS
IS
THE
MEM.
AID

Cherry pie is delicious!



$$C = \pi \cdot d$$



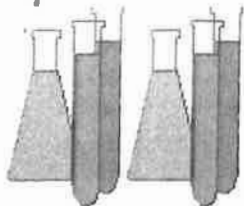
Apple pies are too!



$$A = \pi \cdot r^2$$



THE FORMULA IS
NOT THE MEM. AID



Mnemonics are memory devices that help learners recall larger pieces of information, especially in the form of lists like characteristics, steps, stages, parts, phases, etc. We knew back in 1967 from a study by Gerald R. Miller that mnemonics increased recall. He found that students who regularly used mnemonic devices *increased test scores up to 77%*!

Many types of mnemonics exist and which type works best is limited only by the imagination of each individual learner. The 9 basic types of mnemonics presented in this handout include **Music, Name, Expression/Word, Model, Ode/Rhyme, Note Organization, Image, Connection, and Spelling Mnemonics.**

1. Music Mnemonics

How many lyrics to songs do you remember? How did you come to remember them? The same method you used to recall song lyrics also can work just as well in academics. Music can be used to help students recall important details to main ideas and many learners have made songs out of information when a list of items must be learned. Advertising on radio and TV uses music to help potential customers remember their products when shopping. With sufficient repetition of commercials, advertisers have discovered that when shoppers see their product in the stores that often the shopper will start reciting a oft repeated phrases from the commercial or start singing the lyrics to the promotion melody. The results has been increased sales of the product.

You can make a song or jingle using any type of music you choose for any list of items. **Music Mnemonics** work best with long lists. For example, some children learn the ABC's by singing the "ABC" song. Other children learn all the states in alphabetical order using the "50 Nifty United States" song.

2. Name Mnemonics

In a **Name Mnemonic**, the 1st letter of each word in a list of items is used to make a name of a person or thing. Sometimes, the items can be rearranged to form a more recollectable name mnemonic. Examples:

ROY G. BIV = colors of the spectrum (**R**ed, **O**range, **Y**ellow, **G**reen, **B**lue, **I**ndigo, **V**iolet.)

Pvt. Tim Hall = Essential amino acids

(**P**henylalanine, **V**aline, **T**hreonine, **T**ryptophan, **I**solucine, **H**istidine, **A**rginine, **L**eucine, **L**ysine.)

3. Expression or Word Mnemonic

This is by far the most popularly used mnemonic. To make an **Expression or Word** mnemonic, the first letter of each item in a list is arranged to form a phrase or word. Examples:

For physical laws dealing with gasses, try these:

Charles' Law: For a constant volume, pressure is directly proportional to temperature.

The simple way to remember Chuck is if the tank's too hot, you're blown into muck.

Henry's Law: The solubility of a gas increases with pressure.

To remember good old Hank, remember the bubbles in the shaken Coke you drank.

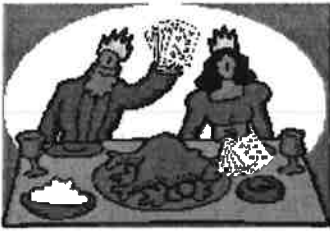
Boyles' Law: At constant temperature, pressure is inversely proportional to volume.

Boyle's law is best of all because it presses gasses awfully small.

In English, the 7 coordinating conjunctions are **F**or, **A**nd, **N**or, **B**ut, **O**r, **Y**et, **S**o = **FANBOYS**.

The order of operations for math is **P**arentheses, **E**xponents, **M**ultiply, **D**ivide, **A**dd, and **S**ubtract = **Please Excuse My Dear Aunt Sally**.

The categories in the classification of life are **K**ingdom, **P**hylum, **C**lass, **O**rders, **F**amily, **G**enus, **S**pecies, **V**ariety = **Kings Play Cards On Fairly Good Soft Velvet**.



For those who have to remember the order of color coding on electronic

resistors: **Black, Blue, Red, Orange, Yellow, Green, Brown, Violet, Gray, White, Silver, Gold.**

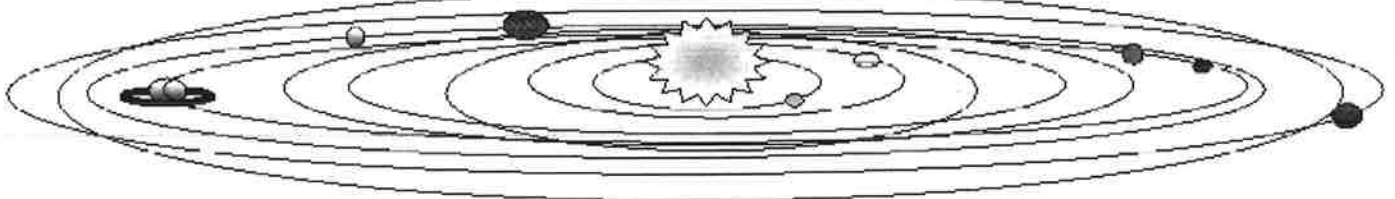
Bad Boys Rile Our Young Girls, But Violet Gives Welts (to) Silly Guys
or

Bad Beer Rots Our Young Guts But Vodka Goes Well (in) Silver Goblets.

Almost every anatomy class has to remember the eight small bones in the wrist: **Navicular, Lunate, Triquetrum, Pisiform, Multangular (Greater), Multangular (Lesser), Capitate, Hamate.**

Never **L**ick **T**illy's **P**opsicle, **M**other **M**ight **C**ome **H**ome.

Create an **Expression Mnemonic** for remembering the order of the planets from the sun outward: **Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, and Pluto.**

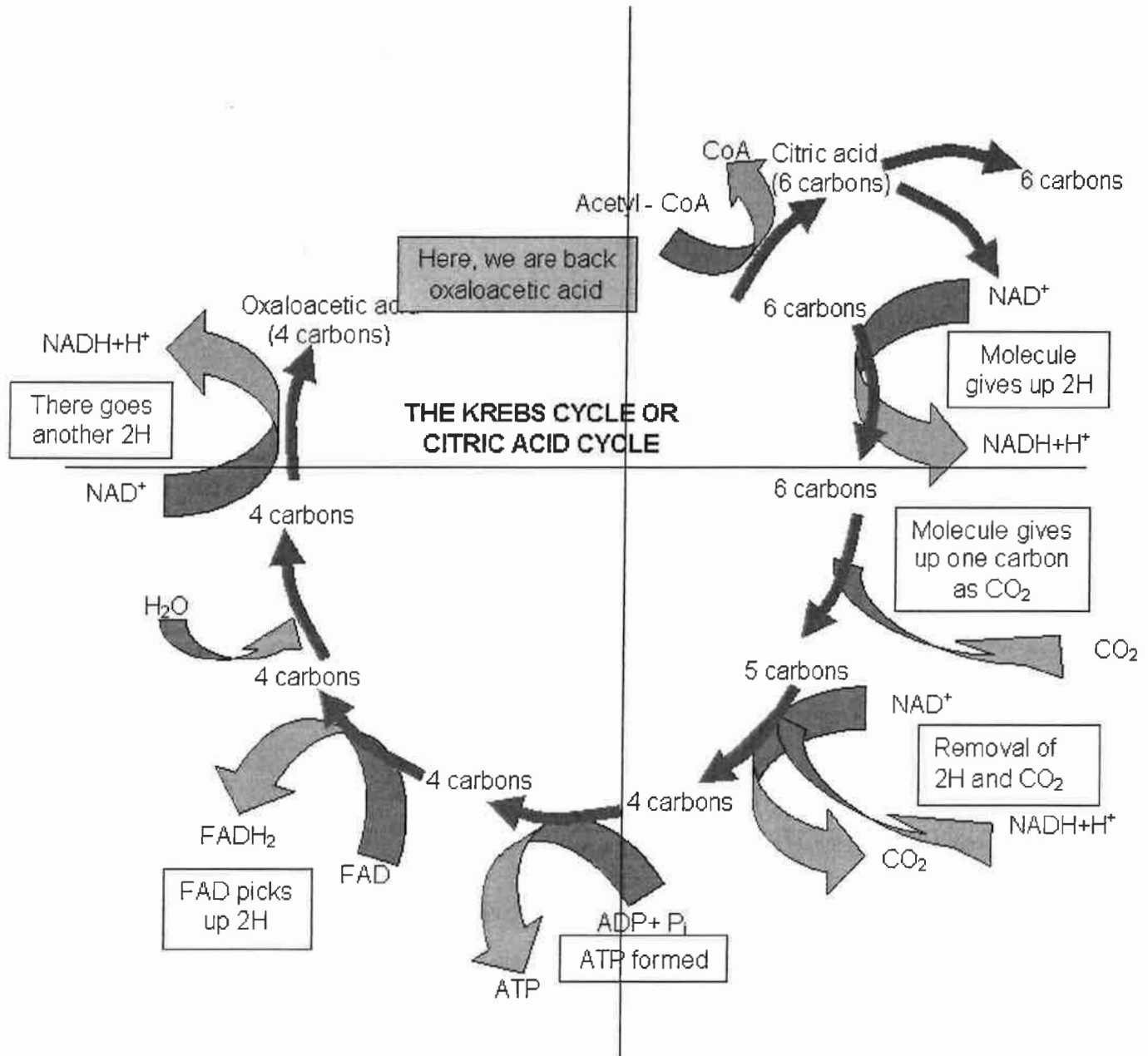


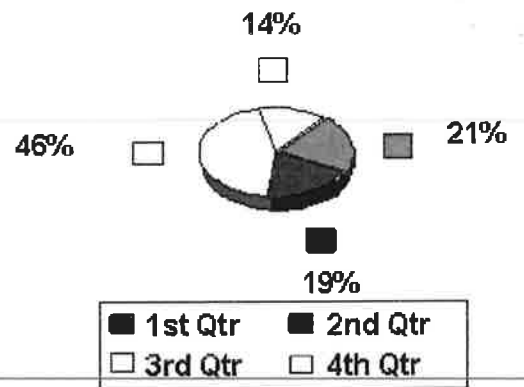
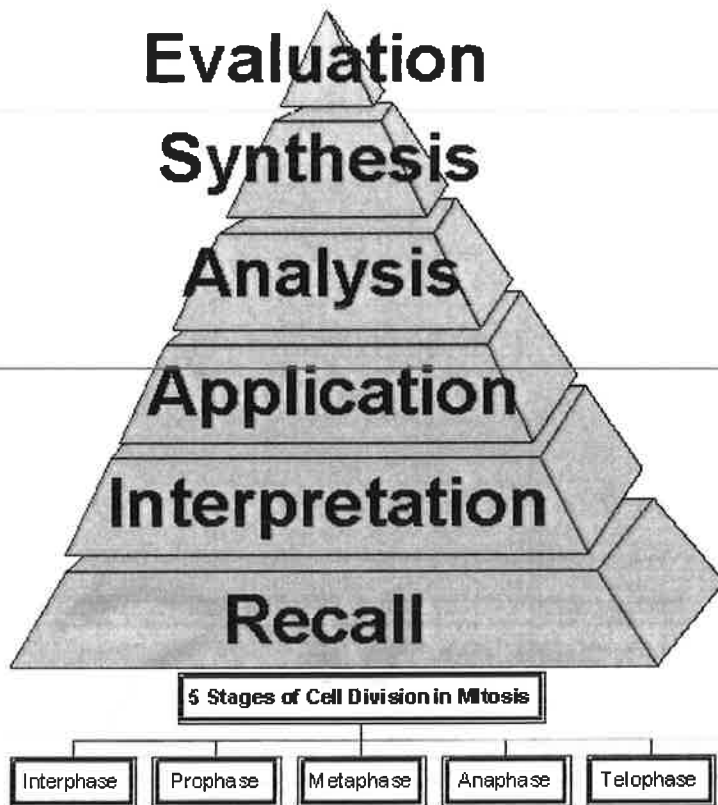
4. Model Mnemonics

In a **Model Mnemonic**, some type of representation is constructed to help with understanding and recalling important information.

Examples include a circular sequence model, a pyramid model of stages, a pie chart, and a 5-box sequence. Models should be used in addition to words and lists because they make recall at test time much easier. With a large model such as the Krebs Cycle, it is easier to learn and remember if it is divided into quarters and learned one quarter at a time; hence, the cross hairs.

**START
HERE**
with the
acetyl group
(2 carbons)
transferred
to
oxaloacetic
acid





5. Ode or Rhyme Mnemonics

An **Ode or Rhyme Mnemonic** puts information in the form of a poem. Examples include:

A commonly used **Rhyme Mnemonic** for the number of days in each month is:

30 days hath September, April, June, and November.

All the rest have 31

Except February my dear son.

It has 28 and that is fine

But in Leap Year it has 29.

You'd probably prefer your doctor to know the difference between cyanate and cyanide: **Cyanate "I ate"** and **Cyanide "I died."** Cyanide is a little fatal.

Remember this one? **In 1492, Columbus sailed the ocean blue.**

How is your spelling?

I before e except after c

or when sounding like a

in neighbor and weigh

Here is an easy way to remember the nerves: olfactory, optic, oculomotor, trochlear, trigeminal, abducens, facial, acoustic, glossopharyngeal, vagus, spinal accessory and hypoglossal.

On Old Olympus' Towering Tops, A Finn And German Viewed Some Hops

6. Note Organization Mnemonics

The way textbook and lecture notes are organized can inhibit learning and recall or promote it. In the sense that the organization of notes can promote recall, it is a memory device. Three examples of organizing note formats that promote recall are as follows:

Notecards

Notecards are an easy way to organize main ideas and relevant details to be recalled. If main ideas are formatted into possible test questions, notecards can give learners practice in seeing questions and recalling answers as they must do on exams.

According to Pauk, what are 2 ways to discourage internal distractions?

Front

1. Concentration score sheet - put a checkmark on the sheet every time I lose concentration.

Back 2. Jot worrisome thoughts on paper and do something about them after studying.

Outlines

Outlines clearly separate main ideas from details. This helps organize the information in the mind making it easier to remember.

I. PIAGET'S THEORY

A. Four Stages

1. Sensorimotor
2. Preoperational
3. Concrete Operations
4. Formal Operations

B. Definition of each stage

1. Sensorimotor means etc.

Cornell System

The Cornell System is another way to use a **Note Organization Mnemonic** to promote recall. A vertical line is drawn 3 inches from the left margin of notebook paper. Main ideas or questions from them are placed to the left of the line and details or answers placed to the right.

Questions	Answers
text p 292 What is the Frontier Vocab Sys?	A system for mastering new vocab
text p 293 What is a Frontier Word?	A word that is somewhat familiar
text p 293-294 How does the FVS Sys Work?	1. Look for somewhat familiar words. 2. Learn these meanings
lecture 10/30 Why use the FVS?	1. Frontier words=are easiest to learn 2. Foundation for learning other frontier words
Example of one of my Frontier words	Prodigal ... who spends or gives lavishly and foolishly

The topic used here is from How To Study In College (3rd edition) by Walter Pauk, pages 292 300.

7. Image Mnemonics

The information in an **Image Mnemonic** is constructed in the form of a picture that promotes recall of information when you need it. The sillier the **Image Mnemonic** is, the easier it is to recall the related information. These images may be mental or sketched into text and lecture notes. Don't worry about your artistic ability. As long as you know what your sketch means, **Image Mnemonics** will help you learn and remember. Examples:



You can use an **Image Mnemonic** to remember **BAT** (the depressant drugs mentioned above - Barbiturates, Alcohol, and Tranquilizers). Visualize or sketch in your notes a limp, depressed bat that took Barbiturates, Alcohol, and Tranquilizers.

Picture meeting someone new at a party named John Horsley. Use an **Image Mnemonic** to help you remember his name. Visualize a horse sitting on a john: not pretty but effective in recall. No example provided on this one.



What is a numismatist? Visualize a *new mist* rolling onto a beach from the ocean and beach is made of *coins*. Silly? Of course, but sillyography makes it is easier to remember that a numismatist is a *coin collector*.

How about **using a bad joke** to help you remember? Picture two numismatists having a drink for "old dime's sake." Corny? Yes, but cornography often makes things easier to remember.

8. Connection Mnemonics

In this type of mnemonic, the information to be remembered is connected to something already known. Examples include:

Remembering the direction of longitude and latitude is easier to do when you realize that lines on a globe that run North and South are long and that coincides with **LONG**itude. Another Connection Mnemonic points out that there is an **N** in **LONG**itude and an **N** in **N**orth. Latitude lines must run east to west, then because there is no **N** in latitude.



Another Connection Mnemonic is related to sound. The 1st part of the word **latitude** sounds like **flat** and **flat runs horizontal or East and West**.

9. Hi, pal!

Spelling Mnemonics



Here is an example of a spelling mnemonic: A **principal** at a school is your **pal**, and a **principle** you believe or follow is a **rule**.

Another commonly used **Spelling Mnemonic** is combined with an **Ode/Rhyme Mnemonic**.

**I before e except after c
or when sounding like a
in neighbor and weigh**

A third example deals with the problems some learners have remembering that there is an "a" in the middle of separate and not an "e." A **Spelling Mnemonic** combined with an **Image Mnemonic** may be used to spell the word **separate** using an exaggerated "a."

To spell Mississippi, many learners combine a **Rhythm Mnemonic** with a **Spelling mnemonic: M-iss-iss-ipp-i**.

Here are some more examples of spelling mnemonics:

Geography: **G**eorge **E**dwards's **O**ld **G**randma **R**ode **A** **P**ig **H**ome **Y**esterday.

Arithmetic: **A** **R**at **I**n **T**he **H**ouse **M**ay **E**at **T**he **I**ce **C**ream.

Saskatchewan: **A**sk **A**t **C**hew **A**n with an **S** in front of it.

Take the 1st letter of **each type of mnemonic listed above** and print them below on the line to help you remember the 9 types.