


Advanced Study Skills

Lecture Topic: Memorization Strategies

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The background of the slide features two dark grey shadows of hands. One hand is positioned in the upper left quadrant, with fingers slightly spread. The other hand is in the lower right quadrant, also with fingers spread. The shadows appear to be reaching towards each other, creating a sense of connection or focus on the central text.

On to this week's topic

MEMORIZATION STRATEGIES

Topic of the Day: Memorization Strategies

Ancient and medieval people reserved their awe for memory. Their greatest geniuses they describe as people of superior memories.” – Mary Carruthers, author and expert on memory.

GOALS

Explore strategies

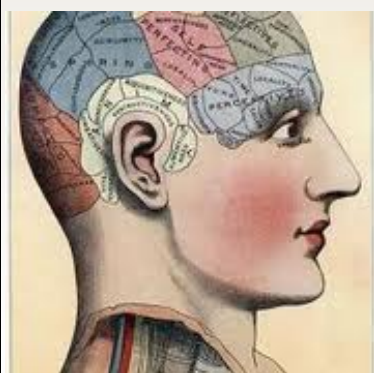
Pick the right memorization strategy for the job

Learn how to retain information in your long-term memory



Why Use Strategies?

- Research shows that use of strategies helps!
 - Study by Brenda Kirchhoff, now a professor of Psychology at Harvard, and researcher at the Howard Hughes Medical Institute.
 - People who used strategies achieved better memorization results
 - Her study is online at <http://ccpweb.wustl.edu/pdfs/Kirchhoff.pdf>
- Mind-body connection
 - Research shows that different parts of the brain are activated for recall of different types of information



Memory Strategies



Rhetorica and Herennium

A Latin rhetoric textbook written between 86 and 82 BC

- Natural Memory
 - Embedded in our minds,
born simultaneously with thought
- Artificial Memory
 - Memory which is strengthened by a kind of training and a system of discipline

MasterMinds, Master Your Minds

- Techniques to become the grandmaster of your own memory
 - Brain Fitness
 - Basic Methods for Improving Memory
 - Mnemonics

Techniques: Brain Fitness

- Exercise the mind-body connection!
 - According to sharpbrains.com “There are 4 essential pillars to maintaining a healthy brain that functions better now and lasts longer.
 - Those pillars are:
 1. Physical Exercise
 2. Mental Exercise
 3. Good Nutrition
 1. <http://www.webmd.com/balance/brain-food-quiz>
 4. Stress Management



Techniques: Basic Methods for Improving Memory

- Reread
 - Reread subheadings and key passages
 - Reread notes – Cornell notes help
- Make your own study guide
 - Guess what your professor will ask, compose questions, answer them

Techniques: Basic Methods for Improving Memory

- Use flash cards
- Recite and teach material to self & others
 - Forming study groups can help
 - Recite out loud to self
- Visualize
 - Make mental pictures of concepts
- Draw Concepts

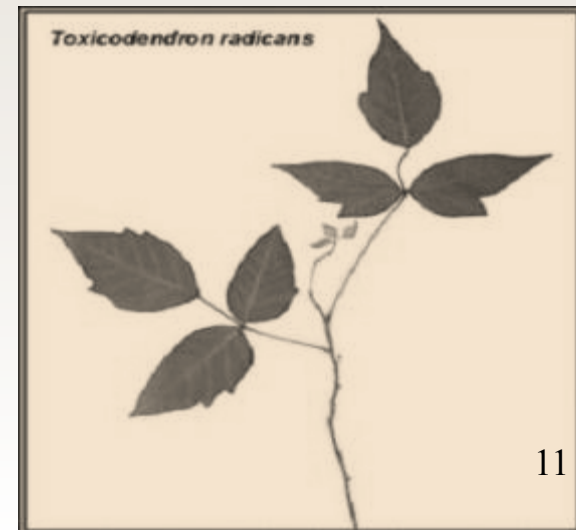
Techniques: Mnemonics

- A Mnemonic is a memory device
- **M**ary **N**eeds **E**asy **M**ethods of **N**oting **I**mportant **C**ontent
 - A mnemonic to help you spell mnemonic
 - **M**onkeys **N**ever **E**ver **M**ilk **O**tters **N**apping in **C**reameries



Techniques: Mnemonics

- Everyday Mnemonics Use: used by farmers for planting crops, cooks for measuring ingredients, doctors for diagnosing disease, phone numbers
- Elaborate encoding:
 - *“The general idea with most memory techniques is to change whatever boring thing is being inputted into your memory into something that is so colorful, so exciting, and so different from anything you’ve seen before that you can’t possibly forget it.”*
- Leaves of 3, let it be”
 - To avoid poison ivy
- You can use more than one mnemonic at once



Types of Mnemonics

Acrostic - first letter of each word connects with info to be recalled.

- Example: **M**ary **N**eeds **E**asy **M**ethods of **N**oting **I**mportant **C**ontent
- To remember the names of all the techniques we are learning in order:
 - *Acronym, Acrostic, Chaining, Chunking, Keywords, Loci, Pegwords, Rhyming.*
 - *Always Allow Chefs to Cook Kabobs when Laboring Petulantly in Rabat.*

Types of Mnemonics

- **Acronym:**
 - 4WD, NAACP, FAQ
 - PEMDAS: for Order of Operations
 - Parentheses, exponents, multiplication, addition, subtraction

Types of Mnemonics

- **Chaining** – Link bits of information by making associations between them.
 - Grocery List: I had a dream last night in which a lot of **eggs** made their home inside a **milk** carton. They built their beds with slices of **bread**.

- Definition of a **watt**

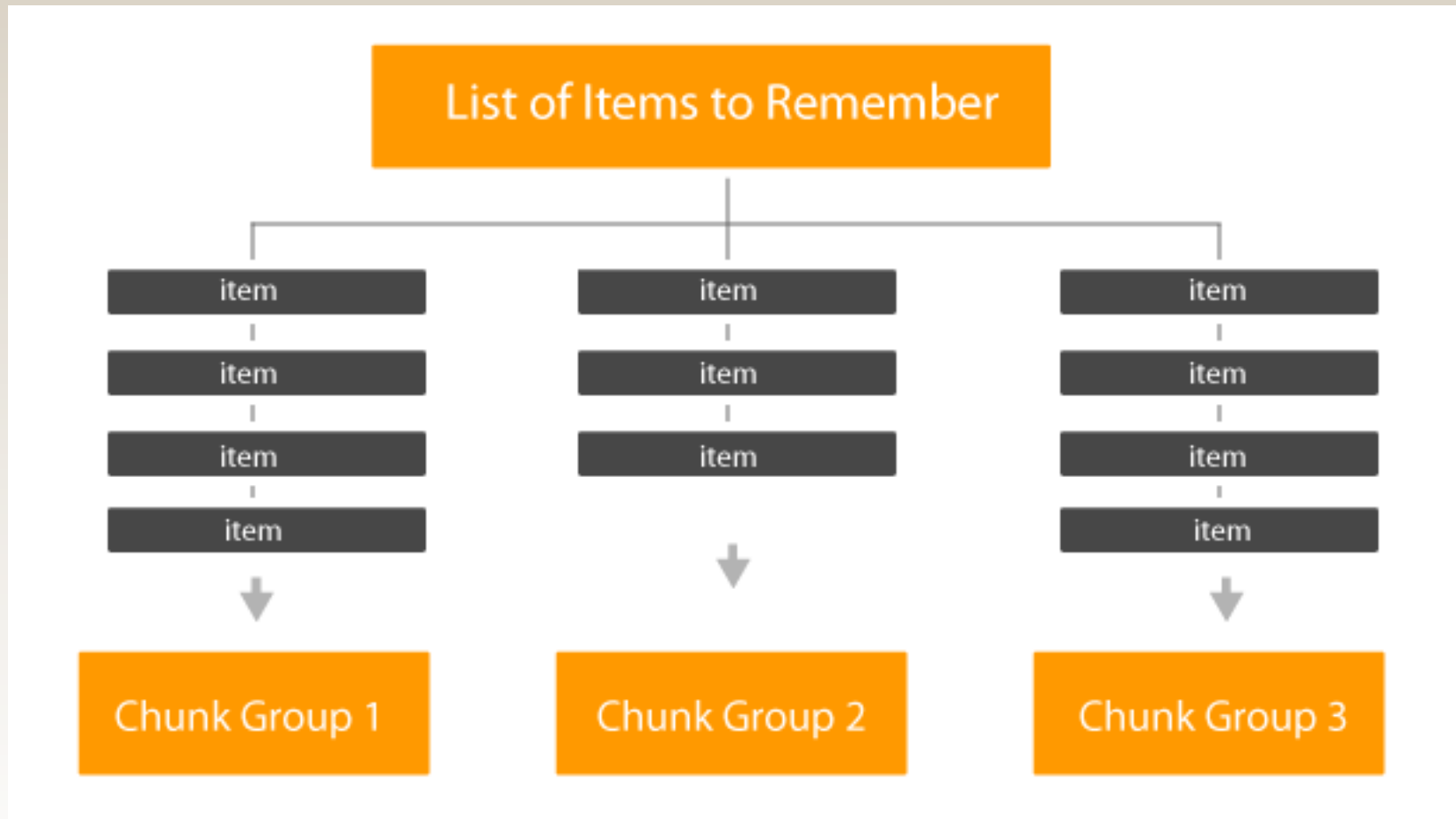
- One **watt** is equal to **one joule per second**.
- Think of an overzealous jewelry thief!



Types of Mnemonics - Chunking

- **Chunking** – Link info by association
 - Group related information into smaller, more manageable categories.
 - Theory of 7: you can recall 7 things at once. If you have to remember more than 20 things. Chunk into < 7 smaller groups.
 - Phone numbers are chunked.
 - Consider trying to remember this number: 18933481655 by itself. Then try chunking it: 1-893-3348-1655.

Types of Mnemonics - Chunking



Types of Mnemonics - Chunking

Chunk to memorize eight parts of inner ear

| Parts Named After Tools | Parts Involving Canals | Parts At Back of Inner Ear |
|-------------------------|------------------------|----------------------------|
| eardrum | auditory canal | cochlea |
| hammer | semi-circular canal | auditory nerve |
| stirup | | |
| anvil | | |

Types of Mnemonics - Keywords

Keywords – A familiar word that sounds like the word or information you need to remember.

- Good for Names: If you meet a boy named Frank, imagine everything he says is frank, or think “Frank the Frankfurter.
- Vocabulary: Example = **aghast**
 - Think of the keyword **gasp**.
 - **Manifest Destiny** – the 19th century idea that the U.S. was destined to take over all land all the way to the Pacific Ocean. Think **mani”feast”** destiny.

Types of Mnemonics – Loci

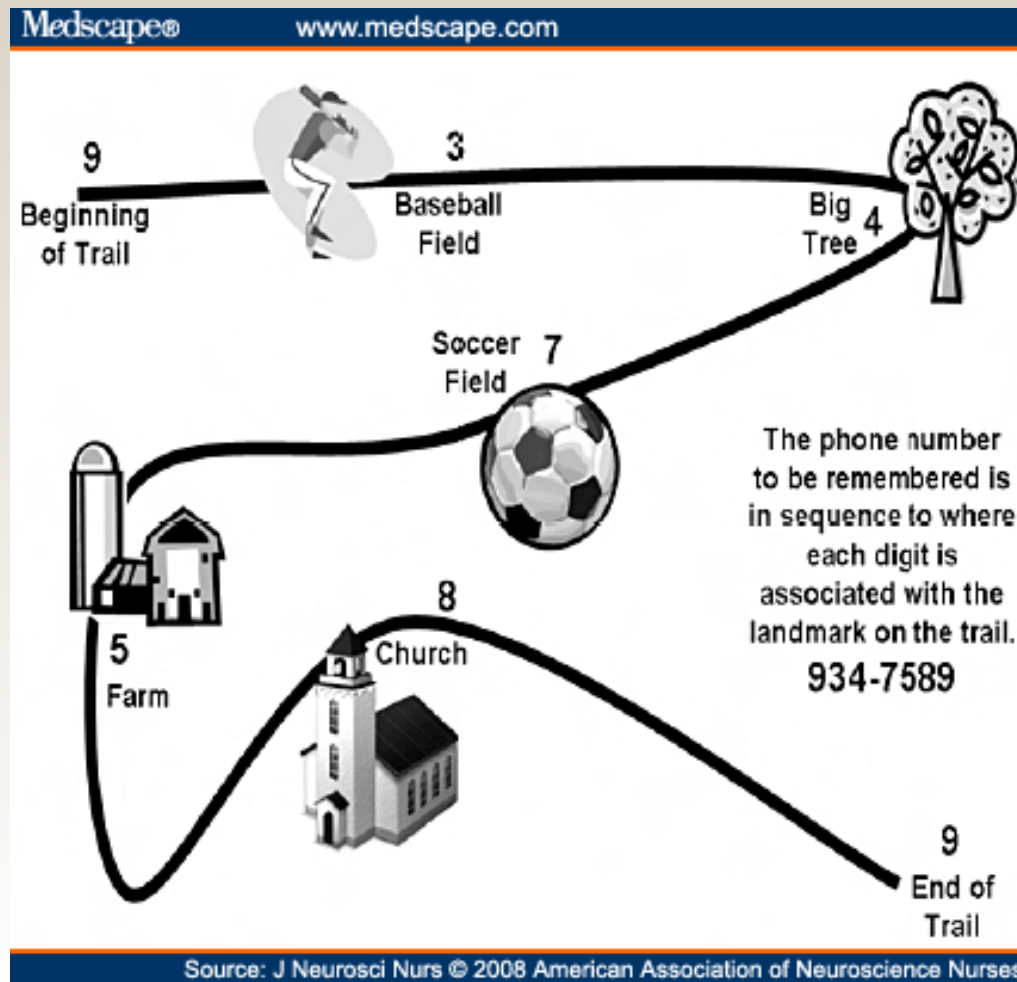
Loci Method – One of the oldest known techniques. AKA the “journey method”

Loci means *places*. In this method you associate familiar places with information.

1. You place certain information in specific spots in your house, neighborhood or other imaginary place.
2. Then you observe the details of each landmark as you follow a path, remembering info in order.
3. Example of frequent Loci use = retracing footsteps



Example of Loci Method



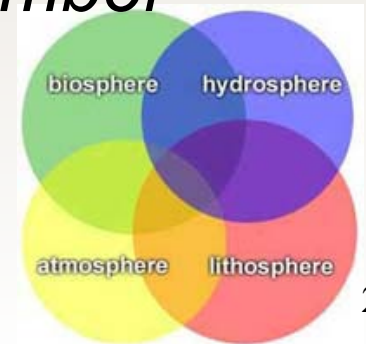
Example # 2 of Loci Method

Use it in School!

- You must memorize the 4 spheres of earth for a science class
 1. Lithosphere – thin but solid shell of planet earth including crust
 2. Atmosphere – layer of gasses surrounding planet
 3. Hydrosphere – layer of water that covers earth, from water in clouds to the deepest sea
 4. Biosphere – the strip of earth where life takes place

Consider This: How might you remember

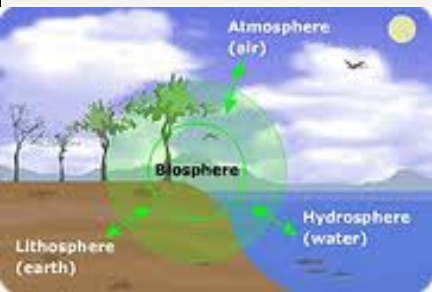
*The 4 spheres using the
Loci method?*



Example # 2 of Loci Method

One idea: You could create index cards with those words and definitions and place them around your home:

- The lithosphere card is placed on the ground
- The atmosphere card hangs from the ceiling
- The hydrosphere is on the sink
- The biosphere is tied to a house plant



Rhyming Mnemonic

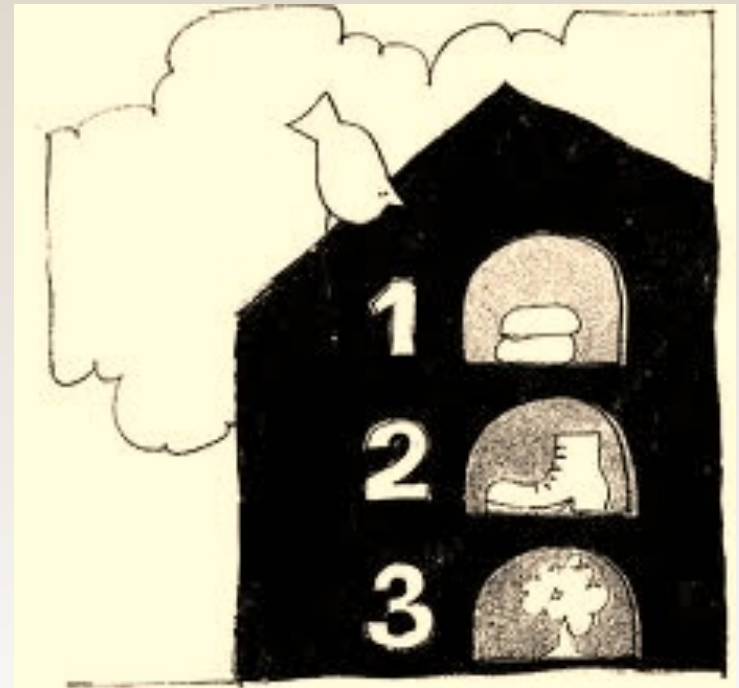
- A Rhyming Mnemonic is a catchy verse that includes important information.
- Example: Thirty days have September, April, June, and November. All the rest of 31 except February, which has 28, and in leap year 29.
- Red sky at night: shepherd's delight, Red sky in morning: shepherd's warning
- It's *i* before *e*. except after *c*, or when it sounds like "ay" as in *weigh* (and *weird* is weird).



Mnemonics - Pegword

A pegword is a short word that *rhymes with a specific number* and is easy to visualize. First you have to set up your peg-words.

1. Sun, bun, ribbon, orphan
2. Bamboo, crew, tissue, flu
3. Acne, zombie, frisbee
4. Boar, bookstore, shore
5. Alive, dive, nosedive
6. Attics, phoenix, picnics
7. Heaven, falcon, lion
8. Gate, classmate, crate, skate
9. Clothesline, porcupine, swine
10. Den, firement, pigpen





Mnemonics - Pegword

After you set your pegwords, you can begin memorizing lists of things. Example might be a class schedule. If you have English then math then science:

Assume One is Bun, Two is Shoe, and Three is Tree.

- **One:** since one is **bun**, imagine a bun read a book for English.
- **Two:** two is **shoe**: imagine shoe measurements on a graph for math.
- **Three:** three is **tree**: Imagine an apple falling from a tree from *gravity* for science

Mesmerized by Memory?

The World Memory Sports Council organizes an annual competition. The winner is dubbed the “Grandmaster of Memory.”

There is also the U.S.A. Memoriad. You can practice memorizing, and prep www.usamemoriad.com.

Book on Memory by competition participant Joshua Foer:
Moonwalking Einstein

