Memory – process of recalling prior events, experiences, and information from the past

- Input – receive information from senses a.k.a. encoding
- Central processing – storing and sorting
- Output/retrieval – ideas and actions from info.

Input

- Selective attention – ability to pick and choose among various inputs
  - Ex. Studying while watching t.v. [http://www.bbc.co.uk/science/humanbody/sleep/tmt/instructions_1.shtml]
- Feature extraction – locating characteristics of incoming info.
  - Ex. Car accident/bank robbery
  - [http://www.youtube.com/watch?v=Ahg6qcgoay4&feature=youtu.be]

Where is the cat?
Input/Encoding – put information into memory codes

- Visual codes – make a mental picture
  - ex. spell my name
- Acoustic codes (auditory code) – remember as spoken
  - ex. say my name
- Semantic codes – “relating to meaning” make sense of the information
  - ex. quiz examples

Central Processing – maintain in memory

- Maintenance rehearsal – repeating the information over and over
- Elaborative rehearsal – relate to information you already know really well
- Organizational systems – similar to files

Types of Memory

- Explicit memory – deliberately try to remember something
- Episodic memory – memory of a specific event
- Flashbulb memories – photographed it in every detail
- Semantic memory – general knowledge
- Implicit memory – unintentional recollection and influence of prior experiences
  - Ex. Root beer barrels - shiver
  - Ex. don't like someone first time meet but don't know why - looks like someone

Retrieval – recover from memory

- Recall – reconstruction of information
  - 1. Context-dependant memories – the situation where a person first experienced the memory
    - Ex. Test better in math if in same math room as where taught
  - 2. State-dependent memory – remember better if in the same emotional state
  - 3. Tip-of-the-tongue phenomenon – incomplete or improperly stored memories
- Recognition – retrieval aided by clues
  - ex. multiple choice tests
  - ex. police line up

Three Stages of Memory

- Sensory Storage
- Short Term memory
- Long term memory
Sensory storage – image of a memory held for a brief second
- Iconic memory - snapshots (fraction of a second)
- Echoic memory – sounds (last several seconds) **easier to remember list of word spoken than written
- Eidetic imagery - photographic memory

Short-term memory - working memory
- 7 (+ or - 2) unrelated items for 20 seconds
- Primacy effect - remember first items in a list
- Recency effect - remember last items in a list

Short-term memory cont.
- Interference - When new information appears and takes place of information already in short-term memory
  Ex. mom asks question while remembering phone #
- Stroop effect - colors/words
- Method of Loci - walking methods
Long-term Memory - Indefinite

**Declarative Memory**
1. Semantic - general knowledge in the form of words and facts
2. Episodic - account of past experiences
3. Autobiographical - recount of our past lives into a larger picture

**Nondeclarative Memory**
1. Procedural - how to complete a physical task...hard to define in words
   i.e. riding a bike
2. Classical conditioning - a stimulus signals an upcoming event
   i.e. get nervous before dentist

Problems with Long-Term Memory
- Retroactive interference - new information interferes with old information
- Proactive interference - old information interferes with learning new information

Long-term memory continued
- Confabulation - memory that was never there
  Ex. Yield sign vs. stop sign
  Ex. Eyewitness testimony
- Repression - material still exists but inaccessible because it is disturbing
- Eidetic memory - photographic memory
  ex. Kim Peek
Processing information
• Mnemonics - strategies for placing information into organized context
  Ex. HOMES
• Set - strategy becomes a habit
  Ex. Monopoly
  ex. spelling in English

• Rigidity - set interferes with problem solving
  1. Functional fixedness - inability to imagine new functions for familiar objects
  2. Wrong assumptions
     Ex. Black, white, read
     Ex. Dots
  3. Direct method
     ex. handcuffs
     ex. soldiers

8 soldiers need to cross a river, but the only way to cross is in a small boat in which 2 children are playing. The boat can carry at most 2 children or 1 soldier.
• Creativity - ability to use information in a new, original way
• Flexibility - ability to overcome rigidity
  ex. list of words (next page)
• Recombination - new mental rearrangement of the elements
  Ex. Dance moves
• Insight - sudden emergence of a solution by recombination of elements
  Ex. Chimps, bananas
Strategies
Repetition
Relate the meaning
Method of Loci

Artist Vomits Paint Onto Canvas, Literally

http://cache.gawkerassets.com/assets/images/7/2011/04/explore_gawker_924.jpg

Mille Brown is the Jackson Pollock of acid reflux. She's performance artist who drinks colored milk, then vomits it, then she vomits onto. Brown started vomiting rainbows in 2007, dripping multicolored splotches down the front of her shirt, that sells for five hundred dollars, but now she’s progressed to vomiting onto a white canvas, which proved less popular but “seemed more personal” and “more to my aesthetic.” The artist says she’s “playing with pattern and color,” and would like to see her works on sale at a higher price. The website lists the resulting canvas, “Nexus Vomitus,” for sale at £1500, or $2400. [ShowSTUDIO.com](http://showstudio.com/project/livestudio/session/millie_brown)

http://www.buzzfeed.com/mathieus/vomit-artist-8q4

Biological bases of memory
Acetylcholine - neurotransmitter that affects memory

Problem found in Alzheimer’s patients

Adrenaline - hormone that aids in memory

Brain structures
- Anterograde amnesia - loss of memory after the injury
- Retrograde amnesia - loss of memory of events before the injury

Mar 14-8:19 AM

Apr 18-11:47 AM

http://www.oocities.org/heartland/park/6934/MTQuestions.html

Two girls that look exactly alike go into a job interview when they hand the interviewer their portfolios they have the same last name, the same address and the same birthday and they are both 16. The interviewer asks are you twins? They said no. How could this be?

Stool powder ball
blue cake cottage
man wheel high
motion poke down
line birthday surprise
wood liquor luck
house village golf
card knee rope
news doll tiger
painting bowl nail
weight wave house
made cuff left
key wall precious
bull tired hot
knife up hi
handle hole police
plan show walker
1. A person robbed a jewelry store. The stolen sack of jewelry was found in a bush in the middle of nowhere miles away from the crime scene. The investigator had two suspects, but was unable to talk to them at all and the investigator immediately picked the guilty suspect. How could this be?

2. A tree doubles in size each year. It reached its maximum height at ten years. At what year was the tree half its maximum height?

3. Mrs. Dempsey was found on her bed dead. A pair of scissors was used as the murder weapon. They found no blood, cuts, or bruises on Mrs. Dempsey's body. How could this be?