**Cognition**

**Memory:** learning that has continued over time

* **Information-Processing model:**
  + Encoding: stimuli from environment is converted into a form the brain can understand
  + Storage/Rehearsal: information is stored
  + Retrieval: recalling stored memories
* **The Multi Store Model:**
  + **Sensory Memory:** process everything we sense
    - Iconic Memory: fleeting visual images
    - Echoic Memory: auditory signals
    - Cocktail Party Effect: focus on one stimulus despite others
  + **Short Term Memory:** information stored up to 30 seconds “scratch pad” stage
    - Chunking: combining bits of related information (112 343 453 226)
    - Maintenance rehearsal: repeating info to prolong presence in STM
  + **Long Term Memory:** store information indefinitely
    - Episodic Memory: stories of our lives (experiences)
    - Semantic: memories drawn from common knowledge (name of states)
    - Procedural: memories of how to do something
* **Automatic processing:** brain’s ability to handle several stimuli at once
  + **Implicit memories** (nondeclarative memory): memories we retain without conscious effort
    - Priming: using cues to activate hidden memories (how we retrieve memories from long-term storage)
* **Effortful processing:** encoding that requires attention and conscious effort
  + Explicit memories (declarative memory): past knowledge consciously brought to mind
* **Recognition:** correct identification of previously learned material (multiple choice)
* **Recall:** direct retrieval of facts (fill in the blank)
  + Serial Position Effect: first and last items in a list are more easily remembered than middle
* **Forgetting Curve:** initially rapid then slow
* **State-Dependent Memory:** memories are most efficient when individuals are in the same state of consciousness (ex. Under influence of drugs/alcohol)
  + Mood-Dependent Memory: recall of info while in a mood similar to when it was acquired
  + Context-Dependent Memory: same environment/context

**Thinking:** a process of reasoning in order to solve a problem

* **Two different ways of thinking:**
  + Convergent thinking: questions that limit creativity, “how many letters are in the alphabet?”
  + Divergent thinking: questions that require creativity, “how many different ways are there to use a feather?”
* **Problem Solving Methods:** 
  + Trial and Error: a process of trying solutions until one works.
  + Algorithms: a systematic method to solve a problem that guarantees a solution.
  + Heuristics: a “rule of thumb” to solve problems efficiently.
  + Insight: a sudden realization of a solution to a problem.
  + Intuition: effortless, automatic feeling that allow us to solve a problem quickly.
* **Mindset**- A mental stance to problems
  + growth mindset: thinking that we have the ability to grow and improve.
  + fixed mindset: thinking that people are set in stone and cannot improve.
* **Problems in Problem Solving**:
  + Cognitive Biases: ways of thinking that steers us away from rational conclusions.
  + Confirmation bias: the tendency to search for information that supports our preconceptions and ignore things that we don’t agree with.
  + fixation: the inability to see or define a problem from a fresh point of view.
  + Functional Fixedness: tendency to think of things only in terms of their usual function.
  + Mental Set: a tendency to approach a problem in a particular way.
  + Representative Heuristic: describes how we think of things that resemble other previous objects.
  + Availability Heuristic: the likelihood of events based on their availability in memory.

**Language:** group processes in problem solving and decision making

* **The Basics of Language:**
  + Phoneme:the smallest distinctive sound unit in a language (40 phonemes in English)
  + Morpheme: smallest unit that carries some meaning
  + Grammar: a set of rules that enables us to communicate with and understand others
  + Syntax:determines the rules for combining or arranging words into grammatically sensible sentences
  + Semantics: refers to aspects of meaning assigned to language
* **The Development of Language:**
  + Overgeneralization: the application of grammar rules in instances to which they do not apply (ex. Daddy buyed me a present)
  + Undergeneralization: process failing to adequately categorize items (ex. All four legged animals are dogs)
  + Overextension: applying a word to a wide variety of similar items
  + Underextension: using a word to define only one object as though it were a proper name
* **Theories of Language Acquisition:** 
  + Skinner: learned through association, reinforcement, social imitation, shaping, and prompting
  + Chomsky:believed that language acquisition is innate from his observations that children create sentences they have never heard before and learning it too rapid to be explained solely by learning principles
  + Whorf: Linguistic Relativity Hypothesis; idea that the language one uses determines the way one thinks and one's view of the world