Thinking
- Cognition, most simply, is thinking. It encompasses the process associated with: Perception, knowledge, Problem-solving, Judgement, Language, Memory.

Concepts and Prototypes
How does the brain organize information?
Concepts — categories of linguistic information, images, ideas, or memories
- Use to see relationships among different elements of experience
- Can be complex and abstract or concrete

Prototype — the best example or representation of a concept

Natural and artificial concepts
Natural concepts — created "naturally" though either direct or indirect experience
Artificial concepts — Defined by a specific set of characteristics

Schemas — is a mental construct consisting of a cluster or collection of related concepts
- The term schema encompasses our knowledge and impression of: Other people (stereotype), ourselves (self-schema), Social roles (role schema), specific events (script).

Function of schemas
- Organize what we know
- Interpret new situations

Schema affect what we remember
- Linda Carli's (1999) study
- Two versions of the story about a couple
- Ends with a marriage proposal / End with a sexual assault
- Two weeks later participants falsely remembered the details that were consistent with their schemas

Language — a communication system that involves using words and systematic rules to organize those words to transmit information from one to another.

Components of language
- Lexicon: the words of a given language
- Grammar: the set of rules that are used to convey meaning through the uses of the lexicon
- Phoneme: a basic sound unit.
- Morphemes: the smallest units of language that convey some types of meaning

Language is construct through semantics and syntax
- Semantics: the meaning we derive from morphemes and words
- Syntax: the way that words are organized into language

Language development

Noam Chomsky—proposed that the mechanisms underlying language acquisition are biologically determined

- Language develops in the absence of formal instruction
- Language acquisition follows similar patterns in children from different cultures or backgrounds.

Critical period — proficiency at acquiring language is maximal early in life

- Being deprived of language during the critical period impedes the ability of fully acquire and use language

Language development

- Stage one: 0-3 month, reflexive communication
- Stage two: 3-8 month, reflexive communication; interest in others
- Stage three: 8-13 month, intentional communication; sociability
- Stage four: 12-18 month, first words
- Stage five: 18-24 month, simple sentences of two words
- Stage six: 2-3 years, sentences of three or more words
- Stage seven, 3-5 years, complex sentences, has conversation

Language and thinking — state that the language one uses can influence their cognition

Accents
Phonemes (basic sound units) play a crucial role when it comes to accents

Problem solving strategies — is a plan of action used to find a solution

- Trial and error — continue trying different solutions until the problem is solved
- Algorithm — step-by-step problem-solving formula
- Heuristic — general problem-solving framework

Pitfalls in Problem Solving

- Knowledge and reasoning are used to make decisions. However, sometimes our ability to reason can be swayed by biases and heuristics.
- Common biases and heuristics: Confirmation bias, Hindsight bias, Anchoring and adjustment heuristic, Representative heuristic, Availability heuristic

Confirmation Bias — a tendency to search for information that confirms one's preconceptions.

Hindsight Bias — a tendency to exaggerate prediction of an outcome after knowing that it occurred (I knew it all along phenomenon).

Anchoring and adjustment heuristic — a tendency to be biased toward the starting value or anchor in making quantitative judgements

Representativeness heuristic — a mental shortcut where people classify something according to how similar it is to a typical case
Availability heuristic — where people base a judgement on the ease with which they can bring something to mind (but sometimes what is easiest to remember is not typical of the overall picture, leading to faulty conclusions

Intelligence
Charles Spearman
- Believe intelligence consisted of one general factor, galled g
- Focused on commonalities amongst various intellectual abilities

Raymond Cattell
Divided intelligence into two components:
- Crystalized intelligence — acquired knowledge and the ability to retrieve it
- Fluid intelligence — the ability to see complex relationships and solve problems

Triarchic Theory or Intelligence — Robert Sternberg's theory identifies three types of intelligence: Practical, creative, and analytical
Analytical intelligence: Academic problem solving and computation
Practical intelligence: Street smarts and common sense
Creative intelligence: imaginative and innovative problem solving

Multiple Intelligences Theory — Howard Gardner proposed that each person possesses at least 8 intelligences: Visual-spatial, linguistic-verbal, interpersonal, intrapersonal, logical-mathematical, musical, bodily-kinesthetic, naturalistic

Emotional intelligence
- Inter and intrapersonal intelligence are often combined and called emotional intelligence
- Emotional intelligence — the ability to understand the emotions of yourself and others, show empathy, understand social relationships and cues, and regulate your own emotions and respond in culturally appropriate ways.

Creativity — the ability to generate, create, or discover new ideas, solutions, and possibilities
Creativity is often thought of as one's ability to engage in divergent thinking
Divergent thinking — thinking "outside the box"
Convergent thinking — ability to provide a correct or well-established answer or solution to a problem

Measures of Intelligences
- IQ (intelligence quotient) — a score earned on a test. Designed to measure intelligence
- The Stanford-Binet Intelligence Scale
- Early 1900's — Alfred Binet developed an intelligence test to use on children to determine which ones might have difficulty in school

- Louis Terman (a Stanford psychologist) modified Binet's work by standardizing the administration of the test and testing thousands of children to establish a norm

Measurement of Intelligence
- Weehsler Adult Intelligence Scale (WAIS)
- David Wechsler's definition of intelligence — "the global capacity of a person to act purposefully, to think rationally, and to deal effectively with his environment."
- In 1939, Wechsler developed a new IQ test by combining several subtests from other intelligence tests
- Wechsler Intelligence Scale for Children (WISC-V) is one of the many version used today hat tests: Verbal comprehension, visual spatial, fluid reasoning, working memory, processing speed

The Bell Curve
- Results of intelligence tests follow the bell curve
- Representative sample — a subset of the population that accurately represents the general population

IQ Bell Curve
The average IQ score is 100
Standard deviations — describe how data are dispersed in a population One standard deviation in IQ testing is 15 points

The Source of Intelligence
Nature or Nurture?
Nature perspective — intelligence is inherited from a person's parents
Nurture perspective — intelligence is shaped by a child's developmental environment
Most psychologists now believe levels of intelligence are combined with both

Range of Reaction
The theory is that each person responds to the environment is a unique way based on their genetic makeup
- Genetic makeup is a fixed quantity
- Whether you reach your full intellectual potential is dependent upon environmental factors