



# Intelligence

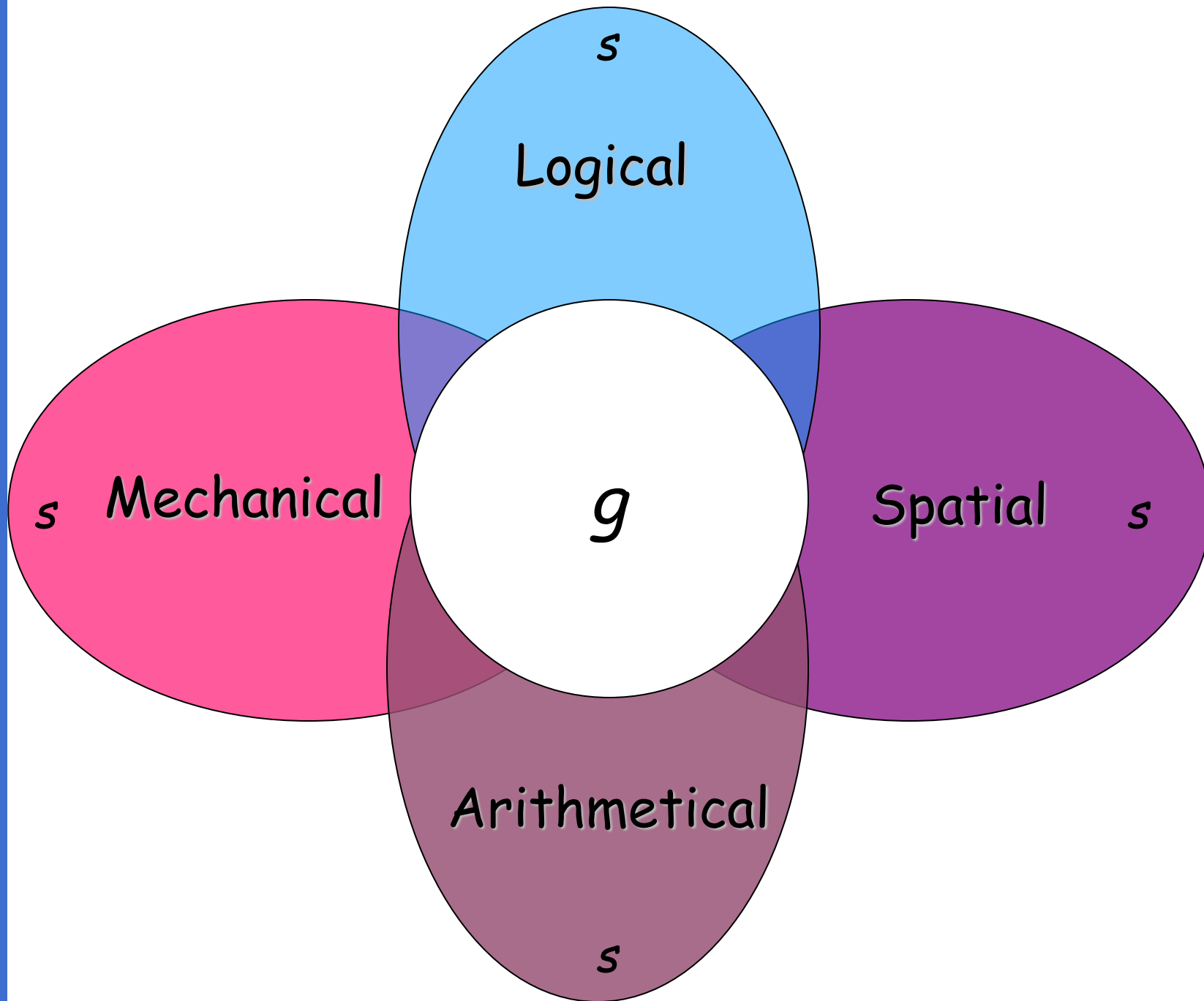
Intelligence and Individual Differences

# What is Intelligence?

- Intelligence is an inferred process that humans use to explain the different degrees of adaptive success in people's behavior
  - The mental abilities that enable one to adapt to, shape, or select one's environment
  - The ability to judge, comprehend, and reason
  - The ability to understand and deal with people, objects, and symbols
  - The ability to act purposefully, think rationally, and deal effectively with the environment

# Spearman's Psychometric Approach - Intelligence as a Single Trait

- Psychometric Approach
  - The measurement (metric) of individual differences in behaviors and abilities
- George Spearman reported findings supporting the idea that performance on any test of mental ability was based on a single general ability factor that he termed "g"
- Spearman also believed that performance on any test of mental ability required the use of a specific ability factor that he termed "s"



# Quiz

- Who has used specific ability termed?  
(A) Spearman (B) Cattell

# Cattell's View of Intelligence - Intelligence as a Few Basic Abilities

- Fluid Intelligence

- The ability to think on the spot and solve novel problems
  - The ability to perceive relationships
  - The ability to gain new types of knowledge

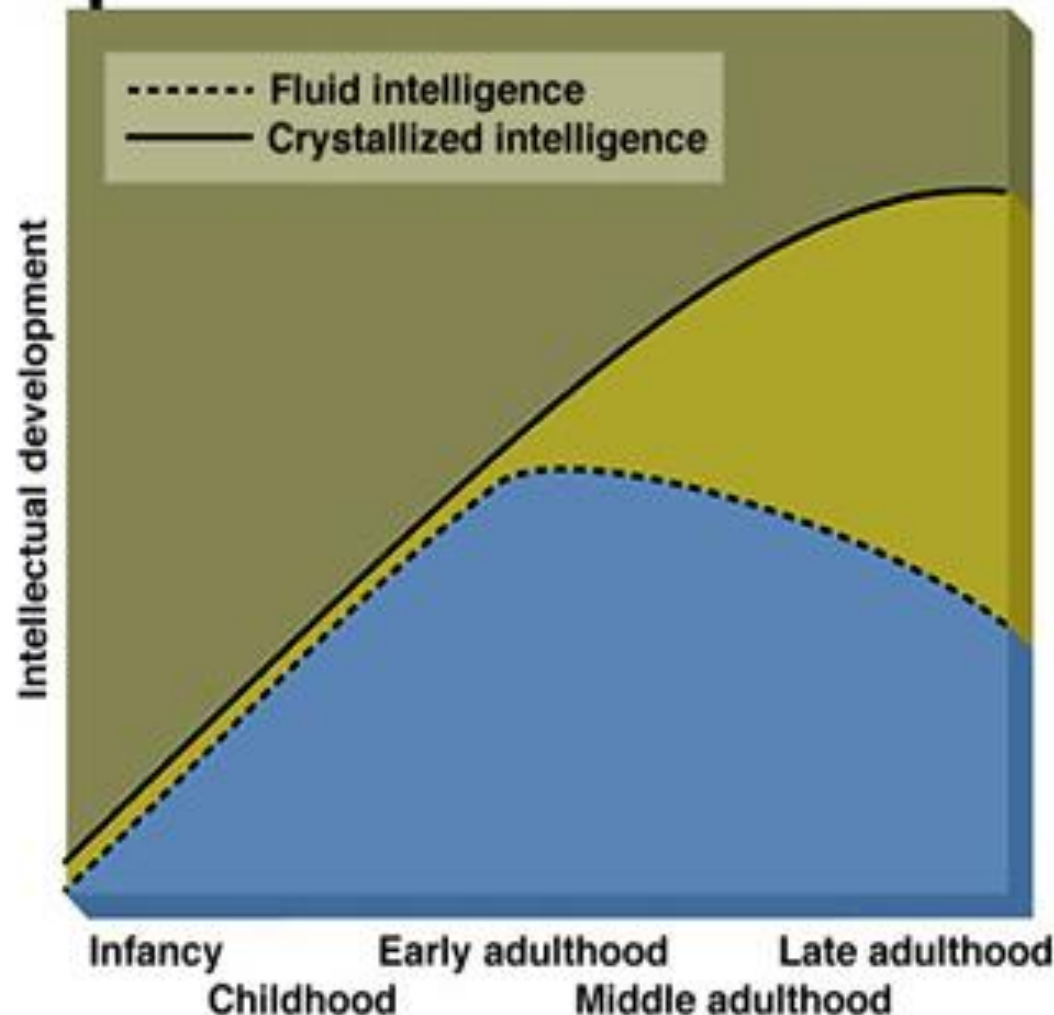
- Crystallized Intelligence

- Factual knowledge about the world
  - The skills already learned and practiced
  - Examples
    - Arithmetic facts
    - Knowledge of the meaning of words
    - State capitals

# Intelligence Tests and Basic Abilities

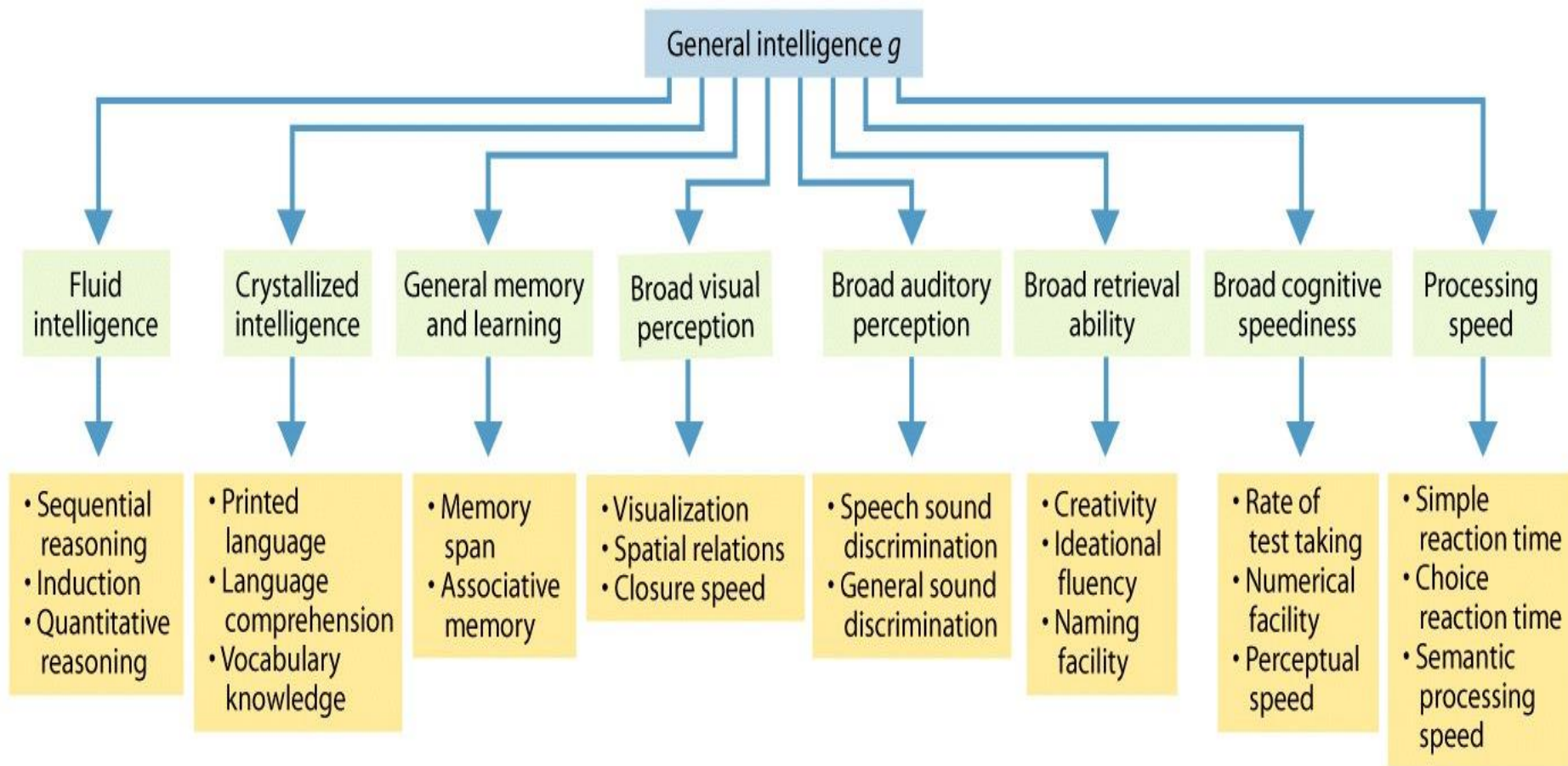
- Fluid intelligence on tests is measured by:
  - The ability to assemble novel puzzles
  - The ability to determine the next entry in a series of numbers
  - The ability to identify which one of four objects is related to the others
- Children who do well on one test of fluid intelligence usually do well on other tests of fluid intelligence
  - They may not necessarily perform well on tests of crystallized intelligence

# Fluid and Crystallized Intellectual Development Across the Life Span





# Three-Stratum Theory of Intelligence - John Carroll



# Gardener's Theory of Multiple Intelligence

- Gardener's remaining 6 distinct intelligences are unique to Gardner's theory:
  - Musical
  - Bodily-kinesthetic
  - Interpersonal
  - Intrapersonal
  - Naturalistic
  - Existential intelligence

# What are these Intelligences?

- Musical - Sensitivity to individual tones and phrases of music, an understanding of ways to combine tones and phrases into larger musical rhythms and structures, awareness of emotional aspects of music
- Bodily-Kinesthetic - Use of one's body in highly skilled ways for expressive or goal-directed purposes, capacity to handle objects skillfully
- Interpersonal - Ability to notice and make distinctions among the moods, temperaments, motivations, and intentions of other people and potentially to act on this knowledge
- Intrapersonal - access to one's own feelings, ability to draw on one's emotions to guide and understand one's behavior, recognition of personal strengths and weaknesses
- Naturalistic -- sensitivity and understanding of plants, animals, and other aspects of nature
- Existential - sensitivity to issues related to the meaning of life, death, and other aspects of the human condition