3. Psychoanalysis
   - Freud (1856-1939)
     - unconscious mind, repression
   - must examine mind (unconscious) thoroughly through dream analysis, word association, & other techniques

4. Behaviorism
   - John Watson (1878-1958)
     - studied experiments of Pavlov
   - must limit psychology to observable phenomena, but not unobservable things like unconscious mind
     - only look at behavior and causes of behavior
   - P. F. Skinner
     - expanded basic ideas of behaviorism, ex. reinforcement
   - dominance of behaviorism from 1920s to 1960s

5. Multiple perspectives
   - not only one way of thinking about human mind
   - many psychologists are eclectic, draw from 1+ perspectives

Psychological Perspectives
   - Humanist perspective
     - Abraham Maslow (1908-1970) individual choice
     - Carl Rogers (1902-1987) free will
     - opposite to deterministic behaviorists: all behaviors caused by past conditioning
     - such theories not easily tested by scientific method
- Z-score: measures the distance of a score from the mean in units of standard deviation. 
  Ex. score of 72% with mean of 80% & standard deviation of 8, so Z-score is -1.
- Percentile: distance from a score of zero.
- Inferential Statistics:
  - Determines whether or not findings can be applied to the larger population.
  - Sampling error: the degree to which the sample differs from the population you want the sample to represent.
  - P-value: probability that the difference between groups is chance.

APA Ethical Guidelines:
- Animal Research:
  - Clear scientific purpose
  - Must answer specific, important scientific question
  - Animals chosen must be best-suited to answer the question
  - Care for & house animals humanely
  - Acquire animals legally
  - Design experimental procedures that employ least amount of suffering
- Human Research: no coercion, informed consent, anonymity or confidentiality, no significant risks, debriefing.
1. Cornea (protective covering)
2. Pupil (like a shutter), controlled by iris which dilates it
3. Light focused by lens (curved & flexible) through process called accommodation
4. Image flipped upside down and inverted while light passes through lens
5. Focused, inverted image projected on retina

Step Three: Transduction

- The translation of incoming stimuli into neural signals (in vision occurs when light activates neurons in retina up to many layers)
- First layer of cells
  - Rods (black & white) and cones (color)
  - Rods: cones is 20:1
  - Cones concentrated towards center of retina - fovea has highest concentration
- Bipolar cells - activated if enough cones & rods fire
- Ganglion cells - activated if enough bipolar cells fired
  - Axons of these cells make up optic nerve that sends impulses to region in thalamus called lateral geniculate nucleus (LGN)
- LGN - visual cortices in occipital lobes
- Blind spot - spot where optic nerve leaves retina - has no rods or cones
- Impulses from left side of retina to left hemisphere (same for right)

Step Four: In the Brain

- Feature detectors - nerve cells in brain respond to specific features of visual stimulus (David Hubel & Torsten Wiesel)
- extinction - the process of unlearning (in classical conditioning - when CS no longer elicits CR)
- spontaneous recovery - the re-emergence of a previously extinguished conditioned response after delay
- generalization - the tendency to respond to similar CSs
- John Watson & Rosalie Rayner - classical conditioning on humans
- aversive conditioning - stimuli are associated w/ undesirable or unwanted behavior (alcoholism, nail biting, etc...)
- second-order/higher-order conditioning - once a CS elicits a CR, the CS can be used as a US to condition a response to a new stimulus
- Biology & classical conditioning
- learned taste aversions - while a person associates the taste of a certain food with negative sensations caused by it
- Garcia effect - the condition in which animals learn taste aversions

Operant conditioning
- based on association of consequences w/ one's behaviors
- law of effect - (Thorndike) if the consequences of a behavior are pleasant, then the stimulus-response (S-R) connection will be strengthened & the likelihood of the behavior will increase
- if consequences of a behavior unpleasant, then S-R connection weakens - likelihood of re-occurrence lowers
- B.F. Skinner - coined term "operant conditioning" - prominent psychologist
- Skinner Box - has a way to deliver food to animal & a lever or disc to get the food
- Latent Learning - Learning that becomes obvious only once reinforcement is given for demonstrating it.
- Abstract Learning - It involves understanding concepts (like tree or same) rather learning one specific task (like pressing a bar for food) - deeper than S-R connections.
- Insight Learning (W. Köhler) - when one suddenly realizes how to solve a problem.
Cognition Overview

- Memory - any indication that learning has persisted over time
- Models of Memory
  - Three-Box/Information Processing Model
    - Three stages information passes through before it's stored
  - Sensory Memory - first step for external events - a holding tank for incoming sensory information (less than a second)
    - George Sperling - recalling nine letters flashed @ 1/20th of a second
    - Iconic Memory - a split second perfect photograph of a scene
  - Short-Term Memory - determines which sensory information gets encoded
  - Usually fade in 10-30 sec.
    - Limited to about 7 items (George Miller)
    - chunking - allows you to expand the limits of short-term memory
  - Long-Term Memory
    - Episodic Memory - specific events stored sequentially
    - Semantic Memory - general knowledge of world stored as facts, meanings, or categories

- Procedural Memory - skills & how to perform them
  - Explicit Memories - conscious memories of facts/events we tried to remember
  - Implicit - Unintentional memories
Developmental Psychology

Research Methods
- Cross-sectional research: uses participants of different ages to compare how certain variables may change over a lifespan.
- Longitudinal research: examines one group over a long time.

Prenatal Influences on Development
- Genetics
- Teratogens - chemicals or agents that can cause harm if ingested/contracted by mother.
  - Fetal alcohol syndrome (FAS): small, malformed face, mental retardation, learning disabilities, behavioral problems.
- Polluting chemicals: lead, pesticides, etc.

Motor/Sensory Development
- Reflexes
  - Rooting, sucking, grasping reflex.
  - Moro reflex: startled baby will fling their limbs out & then quickly retract them.
  - Balanski reflex: baby’s foot stroked → spread toes.
- The Newborn’s Senses
  - Preferences for tastes and smells (born w/ basic).
  - Almost legally blind.
  - Like to look at faces more than anything else.

Motor Development
- Myelination: hairing/developing a myelin sheath.