Today in Class

- Notes – Stages of Development
- Take out your notebook
- In your down time work on your note cards

Meet the Two Jims

- Are their similarities hereditary or luck?

More of a Coincidence

- Psychologists say that while some of the Jims' similarities are due to hereditary, many are not.

- If you took two strangers together who were born on the same day, in the same country and ask them to find similarities, you might find a lot of astounding coincidences.

Identical Twins

- Identical twins do show remarkable similarities, but only in characteristics you would expect: intelligence, temperament, gestures, posture and pace of speech.

- However, environment plays a big role too.
  - increase in age = greater difference in personality
  - twins often treated alike

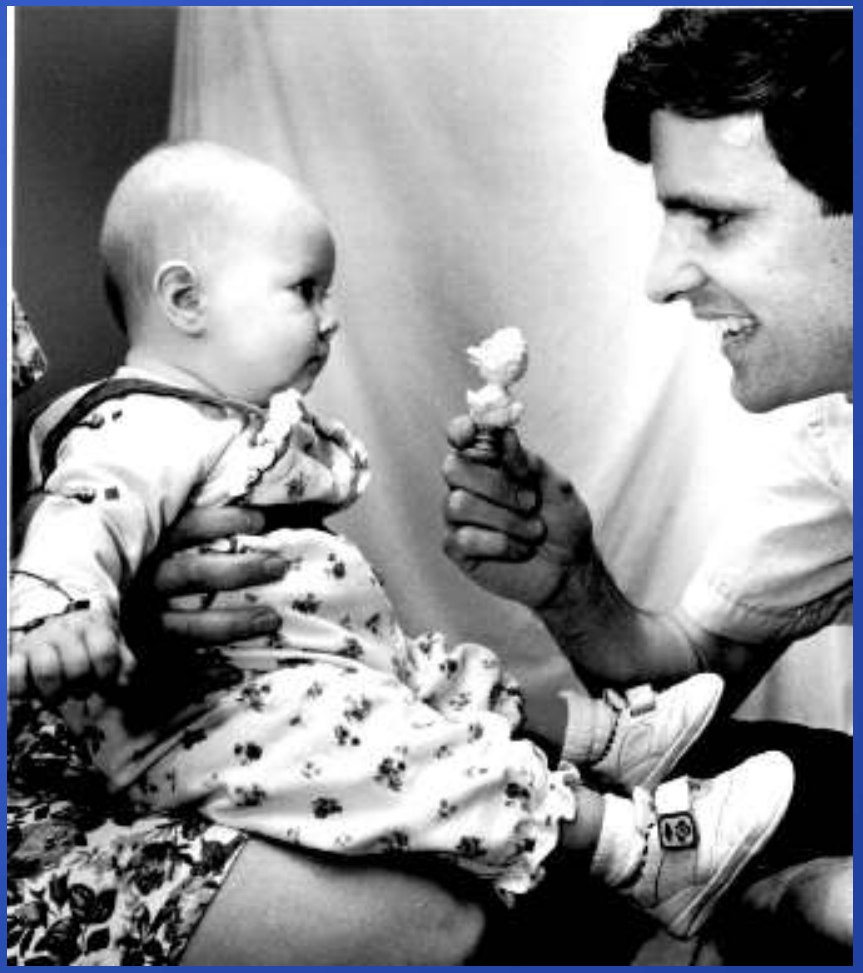
Problems with Twin Studies

- Expectancy biases has proven to be a big challenge for these studies.

- Investigators of identical twins expect to find some hereditary influences so they often pay more attention to the similarities than differences.

Developmental Psychology

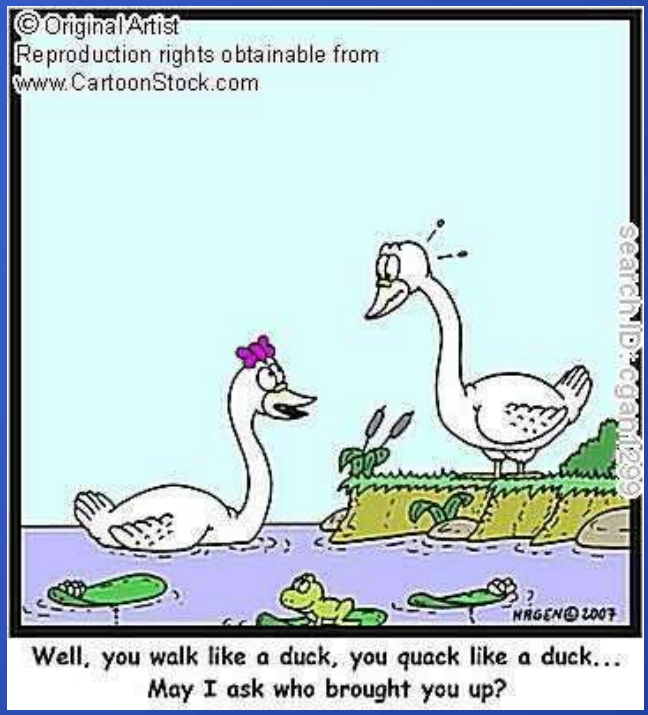
- Developmental psychology is the psychology of growth, change and consistency though the lifespan.
  - Developmental psychology looks at how thinking, feeling, and behavior change throughout a person's life.
  - It looks at three debates:
    - Nature vs. Nurture
    - Continuity vs. Discontinuity
    - Stability vs. Change



Nature vs. Nurture Issue

- Developmental psychology seeks to answer two big questions about heredity and environment:
  1. How much weight does each wield?
  2. How do they interact?

- Nature refers to the effects of heredity and nurture to the influence of environment.



How to Study the Nature-Nurture Interaction

- There are two effective ways to study nature-nurture.
  - *Twin studies:* Identical twins have the same genotype, and fraternal twins have an average of 50% of their genes in common.
  - *Adoption studies:* Similarities with the biological family support nature, while similarities with the adoptive family support nurture.

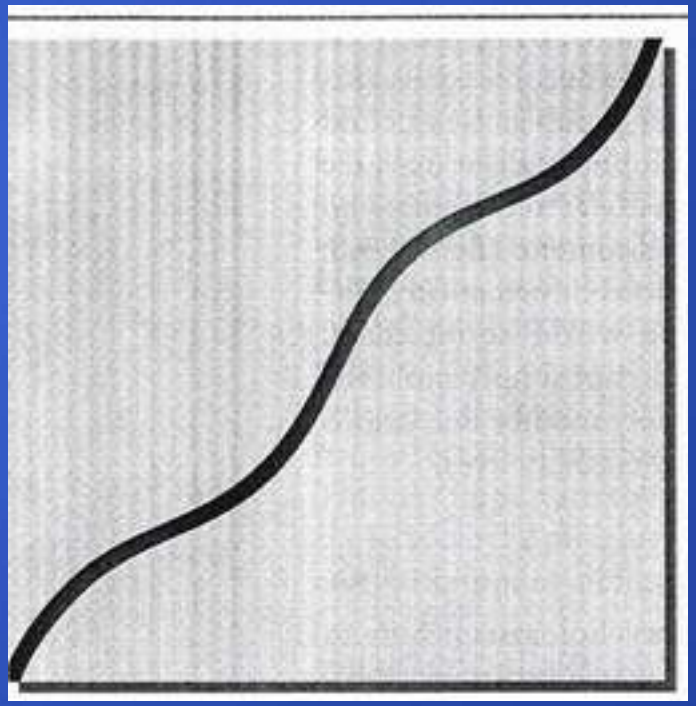
Gradual vs. Abrupt Change

- Think about how children become adults. Is there a predictable pattern they follow regarding thought and language and social development?

- Do children go through gradual changes or are they abrupt changes?

Continuity View

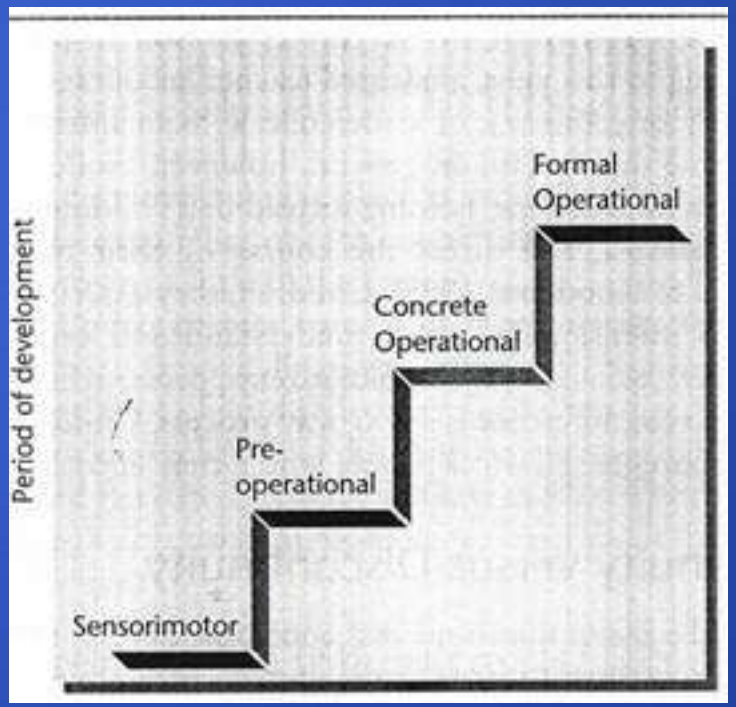
- The *continuity view* says that change is gradual.
  - Children become more skillful in thinking, talking or acting much the same way as they get taller.



- We know that skilled behaviors often happen in this way as with the trial and error method of learning to walk or eat with a spoon. (Observable skills…what about mental processes?)

Discontinuity View

- The *discontinuity view* sees development as more abrupt-a succession of changes that produce different behaviors in different age-specific life periods called stages.
  - This is evident in beginning readers who suddenly discover the connection between letters and sounds.



Discontinuity View

- We often hear people taking about children going through "stages" in life (i.e. "terrible twos.")
- These are called *developmental stages*-periods of life initiated by distinct transitions in physical or psychological functioning.
- Psychologists of the discontinuity view believe that people go through the same stages, in the same order, but not necessarily at the same rate.
- However, if a person misses a stage, it can have lasting consequences.

Capabilities of Newborns

- People used to think that newborns began life as a "blank slate"-an empty brain and no abilities.
  - Tabula rasa

- Studies have shown that newborns have innate abilities to find nourishment, interact with others and avoid harmful situations.

https://www.youtube.com/watch?v=_JVINnp7NZo

Developmental Periods to Know

- Prenatal Period: The developmental period before birth.
- Neonatal Period: Birth-1 month.
- Infancy: 1 month-18/24 months.

Three Developmental Periods

- Prenatal Period: 9 month developmental period before birth.
  - During this time, the genetic plan determines how all of the organs that will be formed later begin to form.
  - Here we get differentiation (cells forming specific organs). Before we differentiation, cells are "stem cells" and are capable of forming into any organ in the body.
  - One concern during this time are *teratogens*, or substances from the environment that can damage the developing baby.

A Tough Discussion

- Thirteen states can terminate parental rights if evidence of substance abuse exists during pregnancy. Eight states require doctors to report if evidence of parental substance abuse exists.
  - How do you think the criminal justice system should deal with mothers who abuse drugs during pregnancy?
  - If states pursue offenders of this crime, how do you think society, in general would be affected?

Prenatal Stages of Development

- Zygote
  - The fertilized egg
  - Enters a 2 week period of rapid cell division
  - Develops into an embryo
- Embryo
  - The developing human organism from 2 weeks through 2nd month
- Fetus
  - The developing human organism from 9 weeks after conception to birth

Three Developmental Periods

- Neonatal Period: Birth to one month old.
  - During this stage babies are capable of responding to stimulation from all of their senses.

- Infancy Period: 1 mo. to 24 mo.
  - This is a period of rapid development, but is still heavily reliant on reflexive behavior.
    - Part of the reason we remember very little between birth and age 3 ½ is that our brain circuits are not fully developed

Learning in Development

- During infancy, youngsters begin to exploit their abilities for learning.
  - Crying, cooing, smiling, etc.

- Classical conditioning in newborns.
  - Stroking forehead and giving sweets: Newborns who were stroked on the forehead were classically conditioned to turn their head toward the side where the sweetened water was provided, even if the bottle of water wasn't present.

Social Abilities

- During infancy we also see babies engage in a lot of social interaction.

- *Synchronicity:* close coordination between the gazing, vocalizing, touching and smiling of mothers and infants.
  - Babies are preprogrammed to their mother's voice
  - Babies are preprogrammed to recognize faces

- This is so strong that we will see infants engage in the same behavior as their mother.
  - Laugh when she laughs/cry when she displays negative emotion.

Mimicking

- The idea that babies will mimic is not something that is unique to human babies.

Makak Neonatal Imitation

Attachment

- During early development we also see *attachment*, or the enduring social-emotional relationship between a child and parent or caregiver.

- Attachment occurs instinctively in many species. One example in birds is called *imprinting* where a powerful attraction occurs between infants and the first moving object or individual they spend time with.

Imprinting

- *Example:* A baby chick is hatched by a mother duck. The chick will follow the duck around and even try to get into the pond with the mother duck and her ducklings.

Imprinting with Human Babies

- While human babies are not as capable to move around at an early age, they will develop a strong connection to anyone who responds regularly to their signals-crying, cooing, smiling…etc.

Just how Strong is Imprinting?

- One study found that when mothers left the room, 2-4 month old babies' skin temperature dropped, a sign of emotional distress. In these youngsters, skin temperature dropped even more when the mother was replaced by a stranger.
  - In contrast, skin temperature remained constant steady if the mother stayed in the room-even if the stranger was present.
  - Monkeys raised by artificial mothers

were terror-stricken when placed in strange situations without their surrogate mothers.

- https://www.youtube.com/watch?v=43Tz3pVb9Dg

Lasting Effects

- Despite the strength of attachment and imprinting, individuals who lack healthy attachments in infancy are not necessarily doomed for life.
- While attachment problems are good predictors of later problems with social relationships, many people do succeed in overcoming early attachment issues.

Contact Comfort

- Why do infants become attached to parents?
- Evolutionary psychology explains attachment as a way to safeguard an infants survival by providing support and protection.
- Through natural selection, individuals with genetic tendencies to "attach" will survive, thrive and pass along those tendencies.

Cupboard Theory

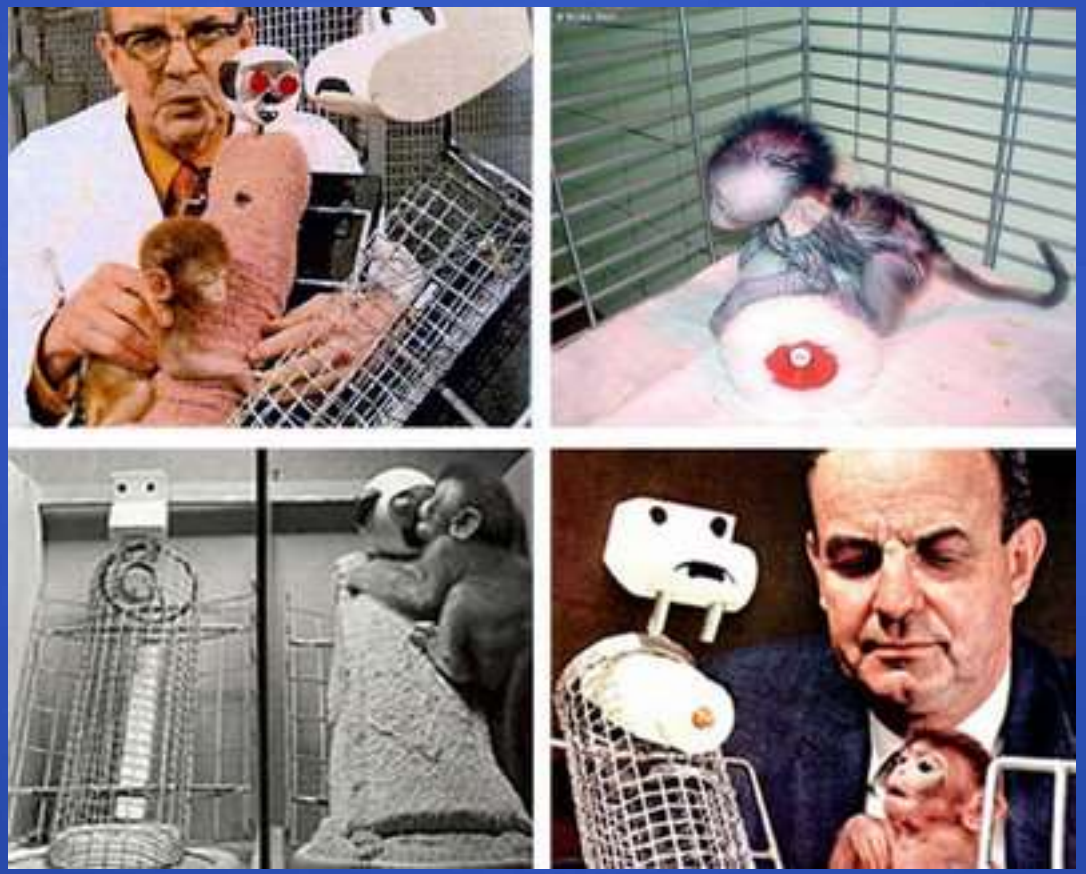
- Freud had convinced most doctors that young infants and children were so mentally underdeveloped that the only thing of real importance to infants was the breast or the bottle.
  - *Cupboard Theory:* Infants become attached to those who provide the "cupboard" containing the food supply.

Disproving Freud

- Harry and Margaret Harlow thought physical contact was important to child development.
- They conducted an experiment that used infant monkeys who had been separated from their mothers at birth.
- The monkeys had the choice between a wire monkey that provided milk (a cupboard), and a cloth covered monkey that provided only stimulation from the soft cloth it was made out of.

Harry Harlow and a test subject

Harlow's Monkeys



https://www.youtube.com/watch?v=_O6oTYAIgC4

Harlow's Findings

- Infants need more than food, they need contact comfort too. *A lack of close, loving relationships in infancy even effects physical growth.*

- A study of children in emotionally detached family environments showed slower growth and bone development. When removed from such a situation they may grow again. If, however they are placed back in the poor environment, their growth is stunted once again.
  - This phenomenon is known as *psychological dwarfism.*

Maturation

- Maturation is the orderly sequence of biological growth by which an organism develops over time, both physically and mentally.
  - Studies have shown that, when raised under adequate environment, maturation follows a predictable pattern.
- Maturation sets the basic course of development, experience adjusts it.
  - Nature and nurture at work.

Cognitive Development: Piaget's Theory

- Jean Piaget developed a theory about development called the Cognitive Theory of Development.

- Piaget's theory was a *discontinuous stage model* of development which said children will undergo a revolutionary change in *thought* at each stage.

Cognitive Development Piaget's Theory

- Piaget's theory was based on three key ideas:
  - Schemas
  - Assimilation and accommodation
  - Stages of cognitive development

- *Schemas* are mental structures that guide thinking.
  - According to Piaget, they are also the building blocks of development.
  - Schemas form and change as we develop and organize our knowledge to deal with new experiences and predict future events.

Cognitive Development: Piaget's Theory

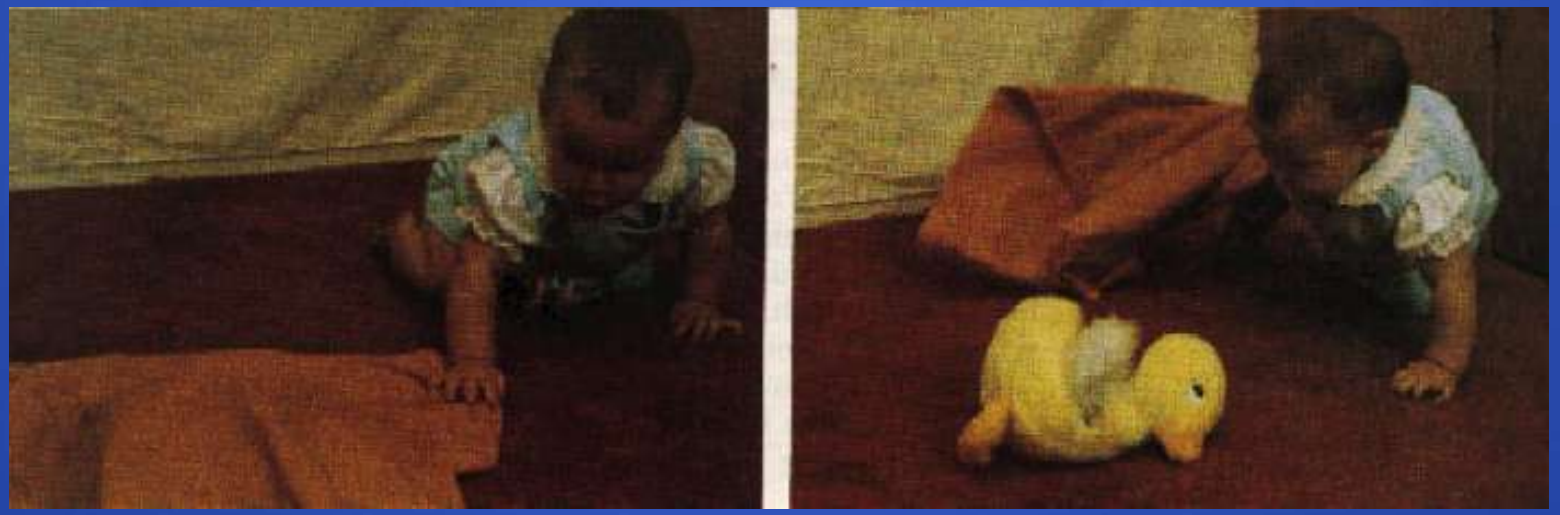
- *Assimilation:* process that modifies new information to fit with existing schemas or with what is already known.
  - Babies suck on anything put in front of them as if it was a bottle.
- *Accommodation:* process of restructuring or modifying schemas to incorporate new information.
  - When a child learns that a butterfly is not a "bird."
  - *Assimilation makes new information fit our existing view of the world. Accommodation changes our views to fit new information.*

Piaget's Stages: Sensorimotor Stage

- *Sensorimotor Stage (Birth to age 2):* children mostly give reflexive responses with very little thinking involved.
  - Stranger Anxiety, or fear of strangers, is very common during this period (8 months).
  - A major step in thinking happens by year two, the ability to make mental images of objects, called *mental representation*.
    - This is the foundation of being able to problem solve

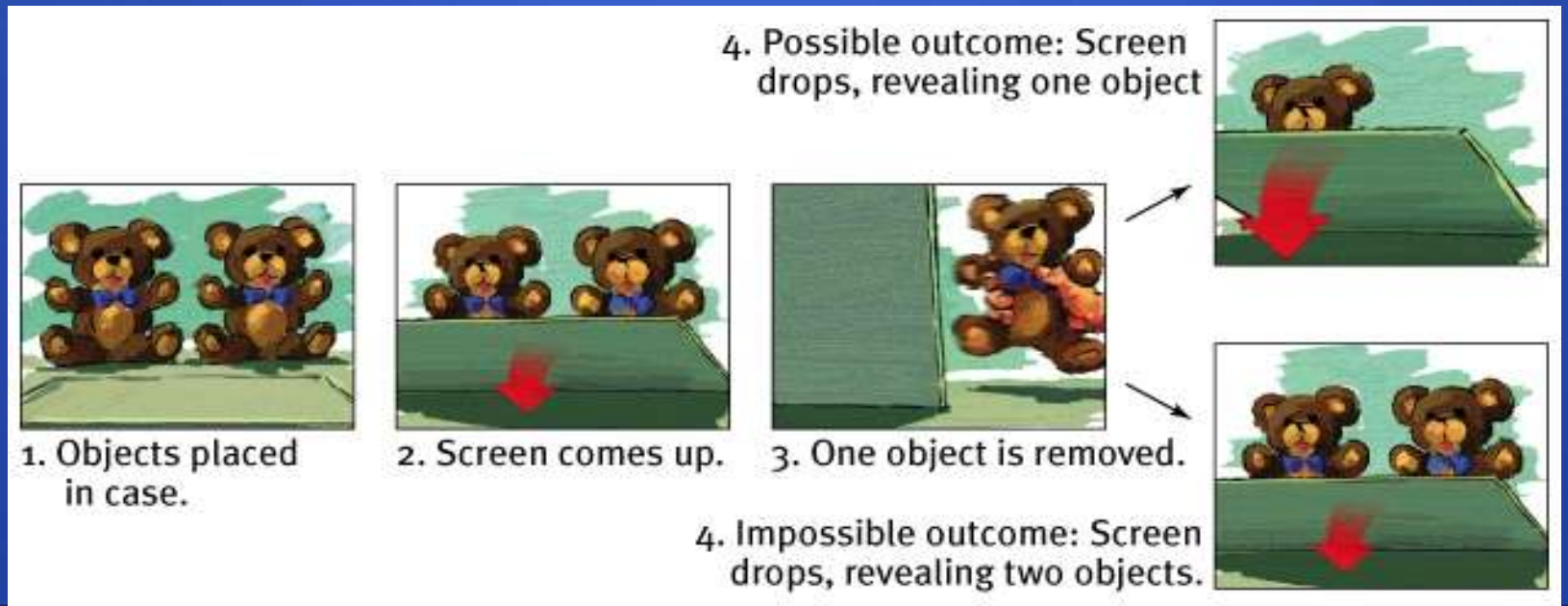
Piaget's Stages: Sensorimotor Stage

- Another key feature of this stage is object permanence, or the knowledge that objects exist independently of one's own actions or awareness.



Piaget's Stages: Preoperational Stage

- *Preoperational Stage (2 to 6/7 yeas of age):* A stage marked by well-developed mental representation and the use of language.
  - Despite these increased abilities, however, children still cannot solve problems requiring logical thought, but they can recognize when something is not right.

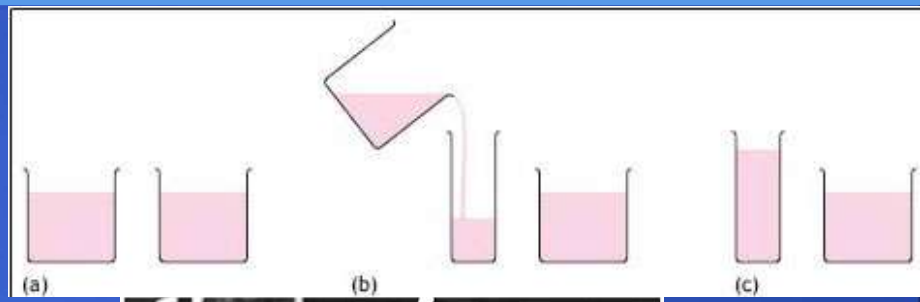


Piaget's Stages: Preoperational Stage

- Piaget developed other key features of the preoperational stage, including:
  - *Egocentrism:* a self centered focus that causes children to see the world only in their own terms.
    - Talking to child on phone
  - *Animistic thinking:* believing inanimate objects have life and mental processes.
    - "Bad table"
  - *Centration:* an inability to understand an event because the child focuses their attention too narrowly.
    - Moving objects closer together—now more or fewer items?
  - *Irreversibility:* an inability to think through a series of events or steps and then reverse course.
  - Artificialism: believing all objects are made by people.

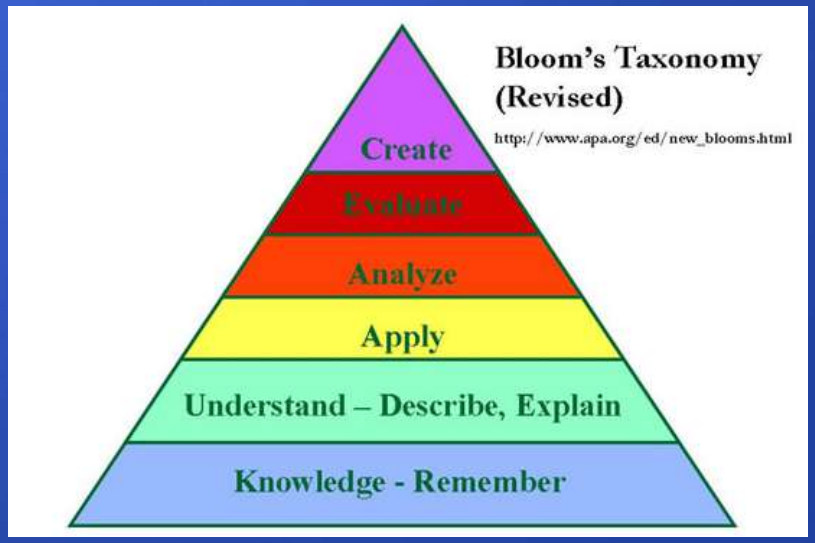
Piaget's Stages: Concrete Operational Stage

- *Concrete Operational Stage (7 to 11 years):* child develops the abilities of irreversibility, conservation and mental operations.
  - *Conservation:* the principle that quantity remains the same despite changes in shape.
  - *Mental operations:* the ability to solve problems by manipulating images in one's own mind.



Piaget's Stages: Formal Operational

- In Piaget's final stage, *formal operational stage*, he says people begin to think about issues like being more accepted by peers, and abstract issues like love, fairness and our reason for existence.
  - Consists of 4 unique structural properties:
    - Hypothetical reasoning
    - Analogical/Abstract reasoning
    - Deductive reasoning
    - Reflective abilities



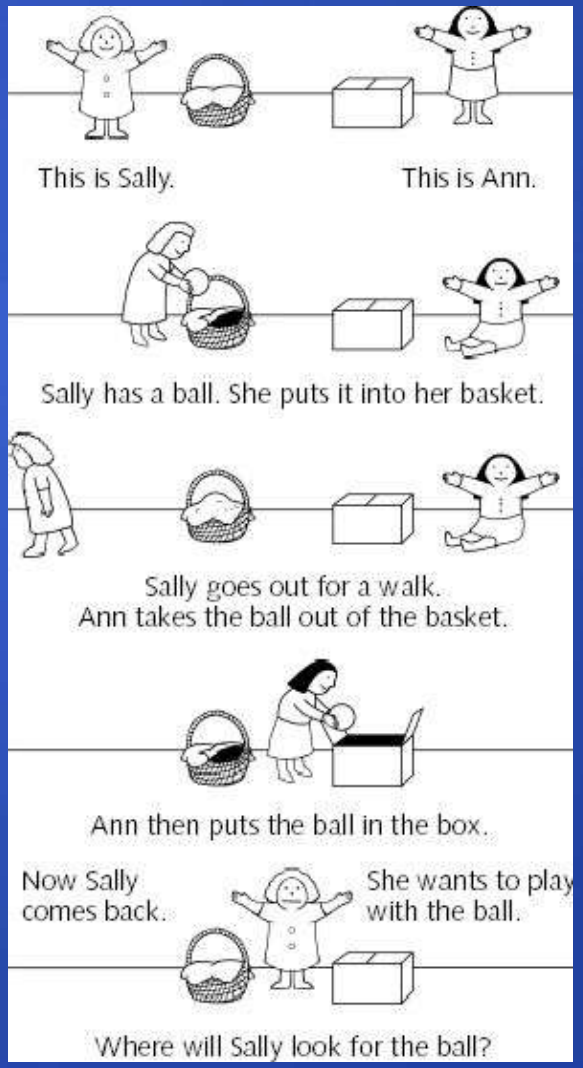
Testing Your Theory of Mind

- Draw a capital letter E on your forehead.
- Did you draw it to look like an E from your point of view, or an E from the point of view of someone looking at you?
  - Most people will be egocentric and draw it from their own perspective, rather than that of someone looking at them

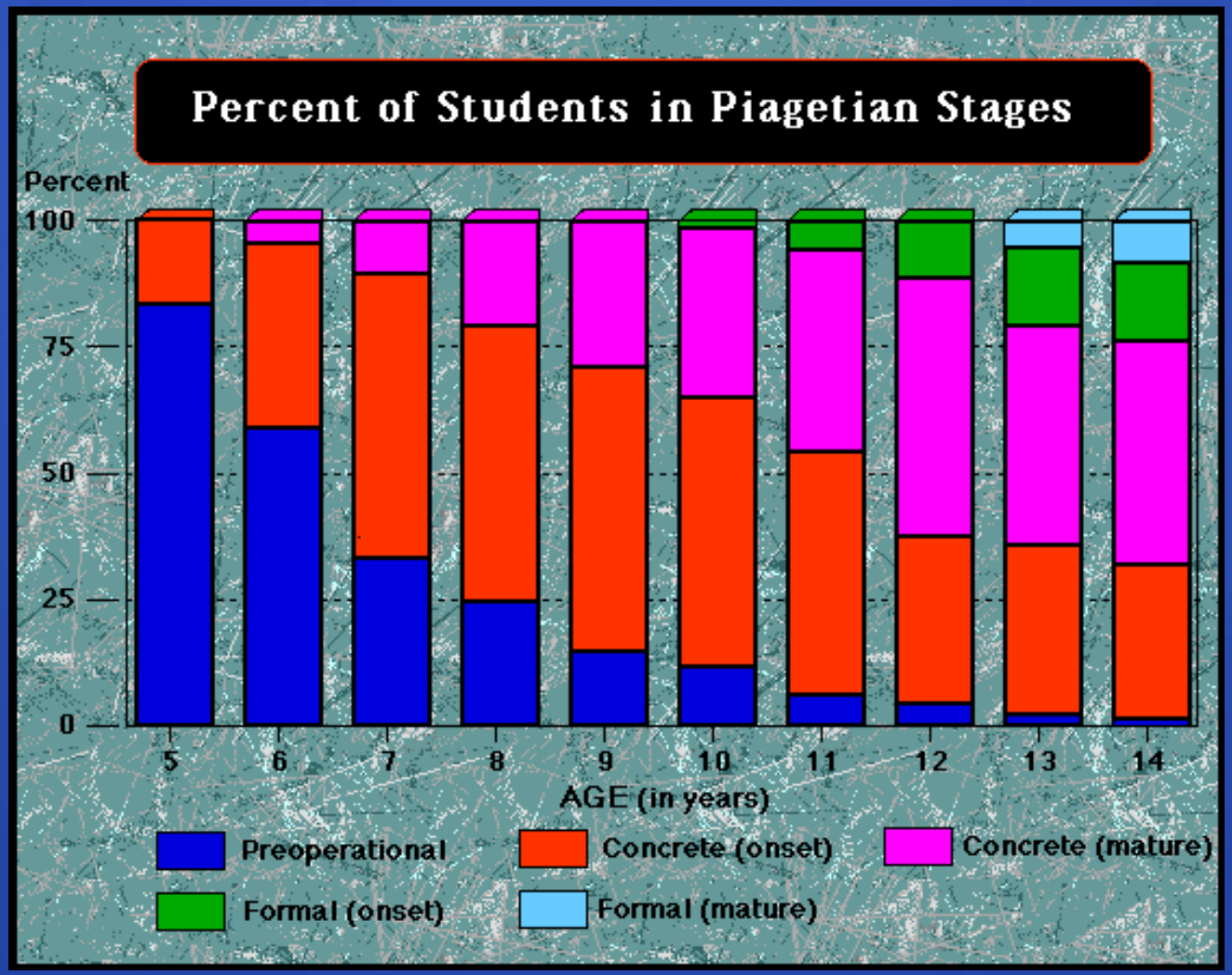
https://www.youtube.com/watch?v=8hLubgpY2_w

Theory of Mind

- Theory of mind is the ability to infer (understand) other's mental states, and know they may be different than our own.
  - Piaget thought this did not happen until around age 8, but studies suggest this actually happens as young as age 4 or 5.



Piaget's Theory Graphically



Piaget's Stages of Cognitive Development

Typical Age Range	Description of Stage	Developmental Phenomena
Birth to nearly 2 years	*Sensorimotor* Experiencing the world through senses and actions (looking, touching, mouthing)	•Object permanence •Stranger anxiety
About 2 to 6 years	*Preoperational* Representing things with words and images but lacking logical reasoning	•Pretend play •Egocentrism •Language development
About 7 to 11 years	*Concrete operational* Thinking logically about concrete events; grasping concrete analogies and performing arithmetical operations	•Conservation •Mathematical transformations
About 12 through adulthood	*Formal operational* Abstract reasoning	•Abstract logic •Potential for moral reasoning

Reflecting on Piaget

- Piaget remains one of the most significant psychologists in the history of the science. While he may have been a little off on the ages for his stages, his emphasis was more on the sequence (order) of specific milestones.
  - Studies from around the world have confirmed that human cognition unfolds basically in the sequence that Piaget described.

Jean Piaget
1896-1980

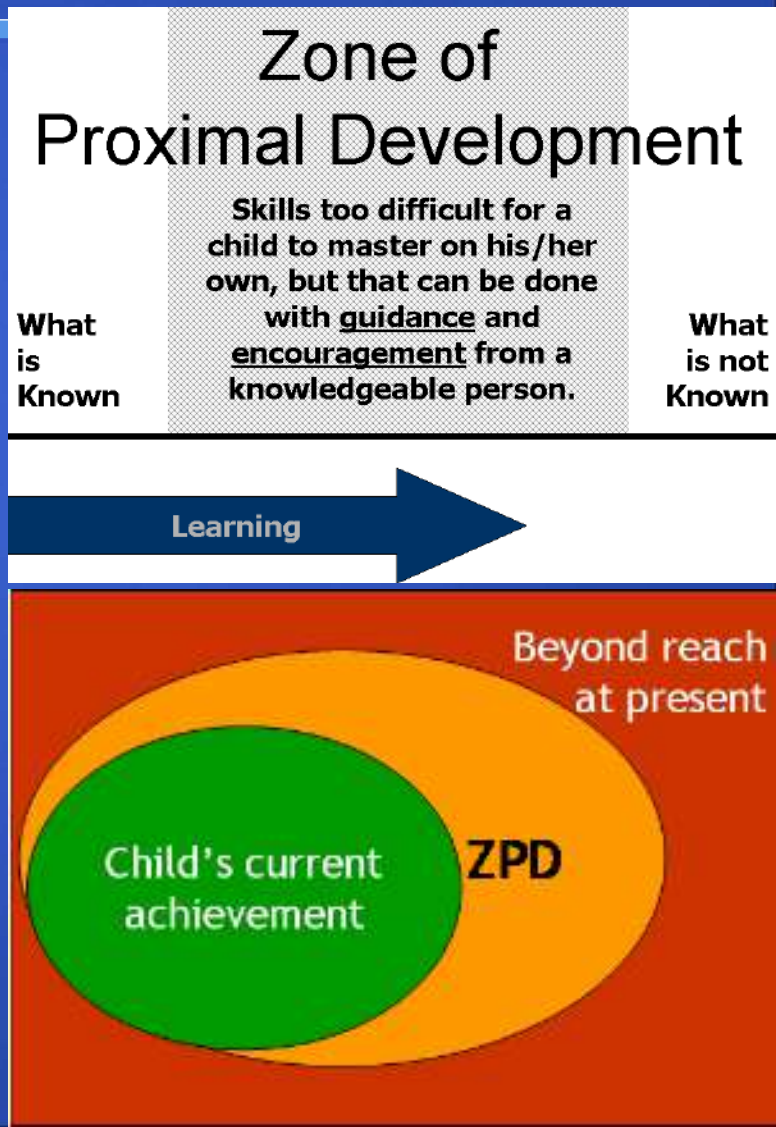
Lev Vygotsky

- Piaget's emphasis on how the child's mind grows through interaction with the physicl environment is complemented by Vygotsky's emphasis on how the child's mind grows through interaction with the social environment.
  - Language is an important ingredient in social mentoring that provides the building blocks for thinking.

Lev Vygotsky
1896-1934

Zone of Proximal Development

- Vygotsky stated that a child follows an adult's example and gradually develops the ability to do certain tasks without help or assistance.
  - Zone of proximal development presents it as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers"



Erikson's Theory of Psychosocial Development

- Erik Erikson saw human development as a sequence of psychosocial stages, defined by common problems that emerge throughout life.

- Erikson identified 8 stages, with each bringing a new challenge. To move onto the next stage of life, the problem of the previous stage must successfully be coped with.

Age/Period (approx)	Principal Challenge	Adequate Resolution	Inadequate Resolution
0-1 ½ years	Trust vs. Mistrust: Babies learn either to trust or to mistrust that others will care for their basic needs, including nourishment, sucking, warmth, cleanliness, and physical contact.	Basic sense of safety; ability to rely on forces outside oneself	Insecurity, anxiety
1 ½- 3 years	Autonomy vs. Self-doubt: Children learn either to be self-sufficient in many activities, including toileting, feeding, walking, and talking, or to doubt their own abilities.	Perception of self as agent; capable of controlling one's own body	Feelings of inadequacy about self control, control of events
3-6 years	Initiative vs. Guilt: Children want to undertake many adult-like activities, sometimes overstepping the limits set by parents and feeling guilty.	Confidence in oneself as being able to initiate, create	Feeling of lack of self worth
6-puberty	Competence vs. Inferiority: Children busily learn to be competent and productive or feel inferior and unable to do anything well.	Adequacy in basic social and intellectual skills; acceptance by peers	Lack of self-confidence; feeling of failure
Adolescence	Identity vs. Role Confusion: Adolescents try to figure out, "Who am I?" They establish sexual, ethnic, and career identities, or are confused about what future roles to play.	Comfortable sense of self as a person, both unique and socially accepted	Sense of self as fragmented, shifting, unclear sense of self
Early Adulthood	Intimacy vs. Isolation: Young adults seek companionship and love with another person or become isolated from others.	Capacity for closeness and commitment to another	Feeling of aloneness, loneliness, separation; denial of intimacy
Middle Adulthood	Generativity vs. Stagnation: Middle-age adults are productive, performing meaningful work and raising a family, or become stagnant and inactive.	Focus of concern beyond oneself, to family, society, future generations	Self-indulgent concerns; lack of future orientation
Late Adulthood	Ego-identity vs. Despair: Older adults try to make sense out of their lives, either seeing life as a meaningful whole or despairing at goals never reached and questions never answered.	Sense of wholeness; basic satisfaction with life	Feelings of futility, disappointment

Erikson's Stages of Psychosocial Development

Approximate age	Stage	Description of Task
Infancy (1st year)	Trust vs. mistrust	If needs are dependably met, infants develop a sense of basic trust.
Toddler (2nd year)	Autonomy vs. shame and doubt	Toddlers learn to exercise will and do things for themselves, or they doubt their abilities.
Preschooler (3-5 years)	Initiative vs. guilt	Preschoolers learn to initiate tasks and carry out plans, or they feel guilty about efforts to be independent.
Elementary (6 years-puberty)	Competence vs. inferiority	Children learn the pleasure of applying themselves to tasks, or they feel inferior.

Erikson's Stages of Psychosocial Development

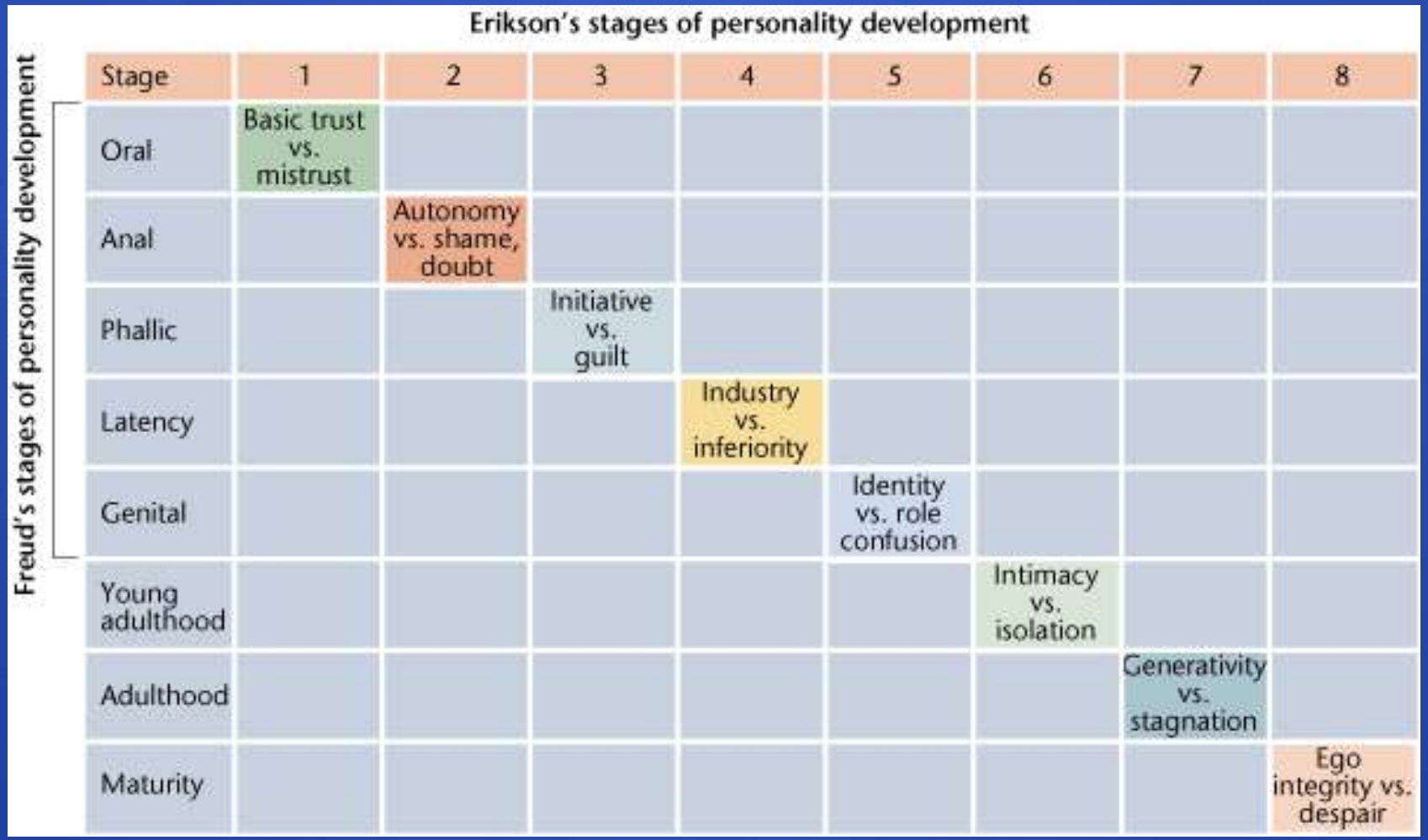
Approximate age	Stage	Description of Task
Adolescence (teens into 20's)	Identity vs. role confusion	Teenagers work at refining a sense of self by testing roles and then integrating them to form a single identity, or they become confused about who they are.
Young Adult (20's to early 40's)	Intimacy vs. isolation	Young adults struggle to form close relationships and to gain the capacity for intimate love, or they feel socially isolated.
Middle Adult (40's to 60's)	Generativity vs. stagnation	The middle-aged discover a sense of contributing to the world, usually through family and work, or they may feel a lack of purpose.
Late Adult (late 60's and up)	Integrity vs. despair	When reflecting on his or her life, the older adult may feel a sense of satisfaction or failure.

Erikson and Freud

- Like Freud and many others, Erik Erikson maintained that personality develops in a predetermined order. Instead of focusing on sexual development, however, he was interested in how children socialize and how this affects their sense of self.

- He saw personality as developing throughout the lifetime and looked at identity crises at the focal point for each stage of human development.

Erikson and Freud



Erikson Summarized

- His model was a lifespan model of development, taking in 5 stages up to the age of 18 years and three in adulthood.
  - There is still plenty of room for continued growth and development throughout one's life.
- According to the theory, successful completion of each stage results in a healthy personality and successful interactions with others.
- Failure to complete a stage can result in a reduced ability to complete further stages and resulting in an unhealthy personality and sense of self.
  - Stages can be resolved successfully at a later time.

Criticisms of Erikson

- Critics of Erikson said his "research" was based on clinical observations and lacked rigorous scientific method.

- Also, critics said it did not do enough to adequately capture the problems faced by girls and women.
  - Can you think of "problems" females face that do not have a place in Erikson's stages?

Erikson's Theory of Young Adulthood

- The big challenge Erikson singles out for young adults is establishing close relationships with other adults.
- The individual must resolve the conflict between wanting to establish closeness to another and fearing the vulnerability and risks such closeness can bring.
- Making intimate commitments requires compromising personal preferences, accepting responsibilities and yielding some privacy and independence.

Erikson's Deep Thought

- Anything that isolates us from sources of social support-from a reliable network of friends and family-puts us at risk for a host of physical ills, mental problems, and even social pathologies.

- We are social creatures and we need each others help and support to be effective and healthy.

Erikson on Relationships

- We are social creatures and we need each others help to and support to be effective and healthy.

- Erikson said you must know who you are before you can begin to love someone else and share your life with that person.

homework

- Do the worksheet that was just handed to you.