Prenatal Development

Egg: Ovum
Contributed by the female
Always an X Chromosome (and 22 others)
Sperm
Contributed by the ________________
Either an X or a Y (and 22 others as well)

What order do the following happen in the developing fetus?
1. Fingernails develop
2. Hands are able to grasp
3. Nervous system begins to form
4. Eyes able to function properly
5. Embryo reaches 1.5 inches in length
6. Sexual organs develop
7. Digestive organs able to function

In general
The rule is that ___________________develop first
_______________of the parts develops later

At conception
The sperm fuses with the egg
The outside layer of the egg hardens
Prevents a _________________sperm from fusing with the egg

Stages of Prenatal Development
Stage 1: ________________Stage: conception - 2 weeks
Conception
Penetration of sperm causes the hardening of the membrane of the egg, so that no other sperm can penetrate
The chromosomes from the egg and sperm combine to give 23 pairs

Upon conception, the cell rapidly divides

What happens during the germinal stage?
Differentiation: the specialization of cells to be a certain type
During the germinal stage, the beginning steps of differentiation occur
3 layers develop
Layer 1: Forms skin and _________________tissue
Layer 2: Forms connective tissue (blood vessels, muscles)
Layer 3: Forms _________________organs
Other stages of prenatal development
Stage 2: ___________________Stage: 2 – 8 weeks
Zygote attaches to uterine wall
Further differentiation begins
Bone, organs, and muscle begin to develop
Brain and Spinal cord begin to develop
_______________fully develops
Produces pregnancy hormones
Filters out harmful substances
Cannot filter out all harmful substances

What happens when an unwanted substance crosses the placenta?
Fetal _______________Syndrome
Caused by heavy drinking within the first 12 weeks
physical traits as flattened nose, short eye openings, and short height
psychological deficits such as retardation and hyperactivity

What if I don’t drink heavily?
_______________Exposure to Alcohol (aka PEA)
Caused by moderate drinking
3x more common than FAS
deficits in cognitive tasks, _________________skills, and fine motor speed and coordination

Final stage of prenatal development
Stage 3: Fetal Stage: 8 weeks – birth
_______________grows
Movement develops
Body organs become functional

What exactly does the baby have at birth?
________________
Rooting: touch cheek, baby turns head to suck
Babinski: fanning of the toes when the bottom of the foot is stroked
Stepping: lifting the baby upward with feet near the ground leads to the baby making a stepping motion
_______________: finger in palm of the baby’s hand, the baby grasps the finger
Still exist, are inhibited early (by about 1 year) on in life

What order do the following happen in the developing infant?
1. Visually recognizes mother’s face
2. Smiles at any face
3. Expects to be fed, dressed and bathed (knows the routine)
4. Crawls
5. Able to distinguish between different smells and sounds
Attachment Theory
Attachment: an emotional bond between the infant and their

Harry ________________
Worked in the 1950’s and 60’s with monkeys

Scientific question:
What is the most important aspect of proper child development?

What did Harlow do?
Examined two aspects of mother baby relationships
Providing basic needs, like food and drink
Providing bodily ________________
Raised monkeys with ________________monkeys and with ________________monkeys
Wire monkeys provided food and drink
Cloth monkeys did not have food and drink capabilities

What happened with the baby monkeys?
Monkeys preferred the ________________monkeys to the ________________monkeys
Babies would hang from the cloth mothers while eating, but not really touching the wire mothers
Bodily contact very important for a developing infant

Attachment Theory in Humans
Mary Ainsworth
The ________________Situation
1 yr old enters playroom filled with toys and mother leaves for a short period
Does the child experience separation anxiety?

What did Ainsworth find?
Found four typical responses
______________ attachment - 65%
explore, sometimes cry but are easily soothed when mother returns
Avoidant attachment - 20%
show little distress when mother leaves and ignores her when she returns
______________ attachment - 10%
experience extreme distress when mother is gone, not comforted when mother returns
Disorganized/disoriented attachment - 5%
Are quiet but unable to cope or interact, show lack of understanding when mother returns

Cognitive Development
Piaget’s Stages
______________: experience through senses and actions
Birth to 2 years
Object permanence
Stranger anxiety

Object Permanence

Piaget continued
___________________: representing things with words and images; intuitive reasoning
2-6 years
Lack of conservation
___________________
Develops Theory of mind

Conservation

Theory of Mind
Acknowledging that others have ______________ states
These thoughts have consequences as well

Concrete Operational
Thinking logically
7-11 years
Develop idea of ______________
Develop ability to perform mathematical transformations
531+682 = 1213
1213-682 = ???

Formal Operational
___________________ reasoning
12 and older

Parenting Styles
___________________
Impose rules and expect obedience
“Because I said so”
___________________
Submit to children’s desires, make few demands, little punishment
___________________
Both demanding and responsive
Encourage discussion and reasoning

Which technique is best?
Authoritarian?
___________________ social skills and self-esteem
Permissive?
More ______________ and immature
Authoritative?
Critical Periods
Critical Period
an optimal ___________________ shortly after birth when an organism’s exposure to
certain stimuli or experiences produces proper development
________________________

Imprinting
forming attachments during a critical period very early in life

Adolescence
Physical Development
Begins with __________________
When a person becomes capable of reproducing
Primary sexual characteristics
   Reproductive organs and genitalia develop fully
Secondary sexual characteristics
   Nonreproductive traits develop

Development of Morality: Kohlberg
As moral development progresses, the focus of concern moves from the
________________________to the __________________________

Social Development: Adolescence
________________________
one’s sense of self
the adolescent’s task is to solidify a sense of self by testing and integrating various roles
________________________
the ability to form close, loving relationships
a primary developmental task in late adolescence and early adulthood

Parental relationships change

Adulthood
How well do things hold up?
   Physical abilities decline with age
   More susceptible to short-term illness
   ¼ of 65 and over live in elderly facilities
   Brain neurons begin to __________________
   Memory __________________ with old age
   Life satisfaction peaks in 50’s and then declines
   Women: menopause in the 50’s

Physical Development
Declining __________________ and abilities
Alzheimer’s Disease
**Cognitive Development**
Cognitive Decline
Senses decline as well

___________________
Smell

___________________

**Social Development**
At what age are people most satisfied with life?
Varies around ___________________ death; otherwise, very consistent across age