

### Learn about Prenatal and Newborn Development

#### Learn about prenatal and newborn development

- a) from conception to birth is about nine months
  - b) a single fertilized egg cell (carries all genetic info needed) will turn into a baby
  - c) during this time many positive/negative things can affect the child
- 12.1- trace physical development from conception through birth and identify influences on prenatal development*
- 1) Fertilization, the Zygote, and Twinning
    - a) egg (aka ovum) and sperm meet in process of fertilization
    - b) resulting cell has 46 chromosomes and is called a zygote
    - c) zygote divides (1,2,4,8,...) & each new cell also has 46 chromosomes b/c DNA molecules duplicate themselves before each division (called mitosis)
    - d) normally produces baby, sometimes messes up and produces 2+
    - e) 2 main types of twins: **monozygotic**- identical; both come from one fertilized egg. **dizygotic**- fraternal; two fertilized eggs (more likely in older women or those taking fertility drugs.
    - f) very useful in Nature vs. Nurture debate research
    - g) mass of cells might not completely split apart: which causes conjoined twins
  - 2) The Three Stages of Development
    - 2.1) The Germinal Period
      - a) **germinal period**- first two weeks after fertilization, during which the zygote moves down to the uterus and begins to implant the lining
      - b) during the germinal period, cells begin to differentiate (developing into specialized cells to become various cells (ex. skin, heart, ect...))
      - c) btw- stem cells are super important
    - 2.2) The Embryonic Period
      - a) **embryonic period**- the period from 2 to 8 weeks after fertilization, during which the major organs and structures of the organism develop.
    - 2.3) The Fetal Period
      - a) **fetal period**- the time from about 8 weeks after conception until the birth of the child (now referred to as *fetus*).
- 12.2- Explain the role of sensitive and critical periods in development*
- 1) Critical Periods
    - a) **critical periods**- times during which certain environmental influences can have an impact on the development of an infant
  - 2) Prenatal Hazards: Teratogens
    - a) **teratogen**- any factor that can cause a birth defect.
    - b) The most common teratogen is alcohol.
    - c) Teratogens can cause **fetal alcohol syndrome (fas)**, which is a series of mental and physical health defects.



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