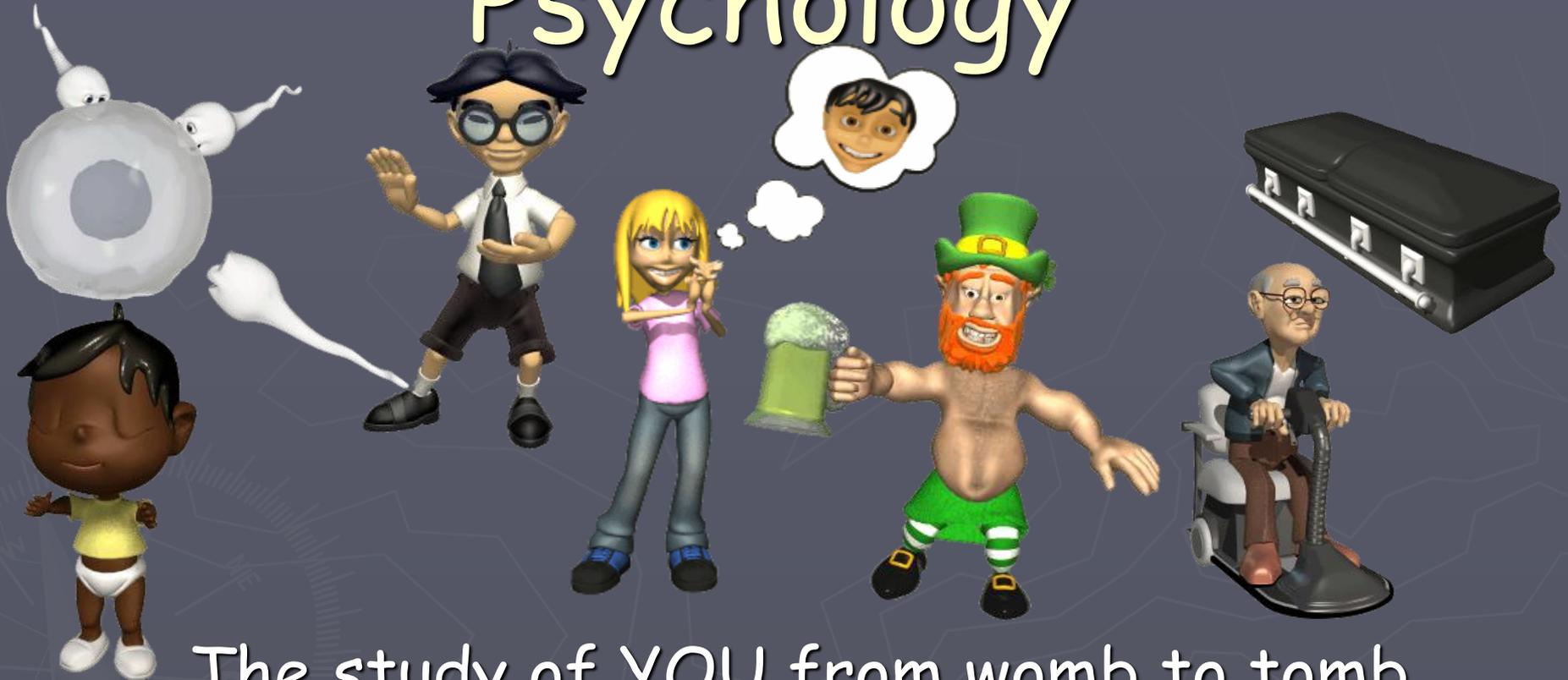


Developmental Psychology



The study of YOU from womb to tomb.
We are going to study how we change physically, socially, cognitively and morally over our lifetimes.

Nature Versus Nurture

While going through this unit always been in the back of your head....

Are you who you are because of:

- ▶ The way you were born- Nature.
- ▶ The way you were raised- Nurture.



Research Methods

Cross-Sectional Studies

- ▶ Participants of different ages studied at the same time.

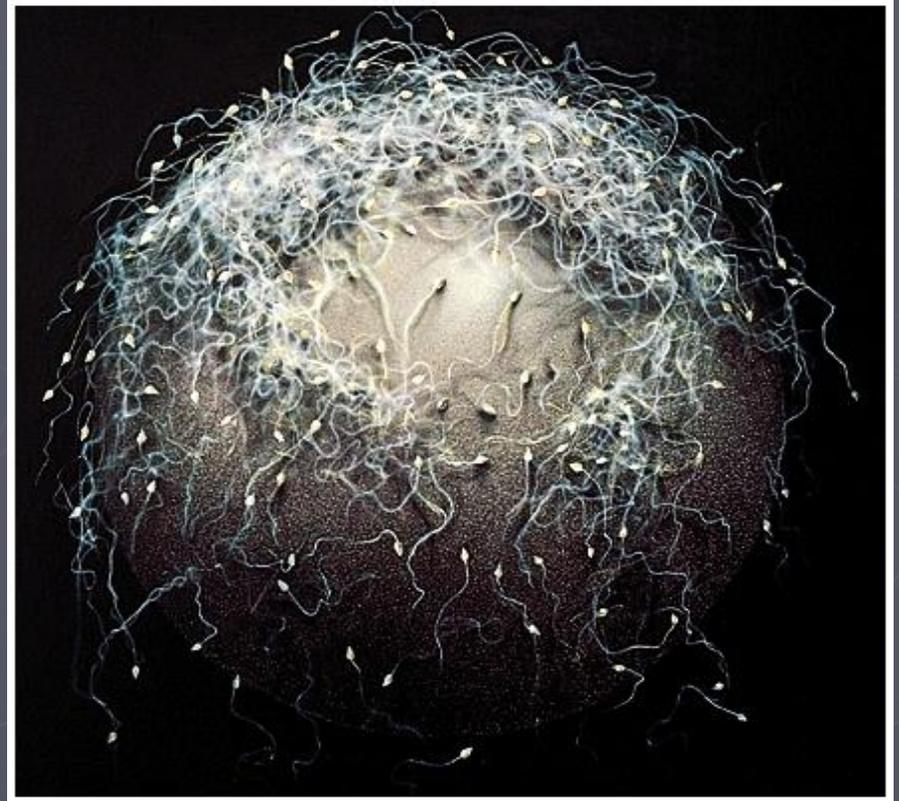
Longitudinal Studies

- ▶ One group of people studied over a period of time.



Prenatal Development

- ▶ Conception begins with the drop of an egg and the release of about 200 million sperm.





Once the sperm penetrates the egg- we have a fertilized egg called.....

The Zygote

The first stage of prenatal development. Lasts about two weeks and consists of rapid cell division.

Zygotes

- ▶ About 10 days after conception, the zygote will attach itself to the uterine wall.
- ▶ The outer part of the zygote becomes the placenta (which filters nutrients).



Prenatal Development

- ▶ At about 14 days the zygote turns into an embryo (a and b). This stage lasts about 6 weeks
- ▶ Milestone of the embryonic stage: differentiated cells develop into organs and bones



(a)



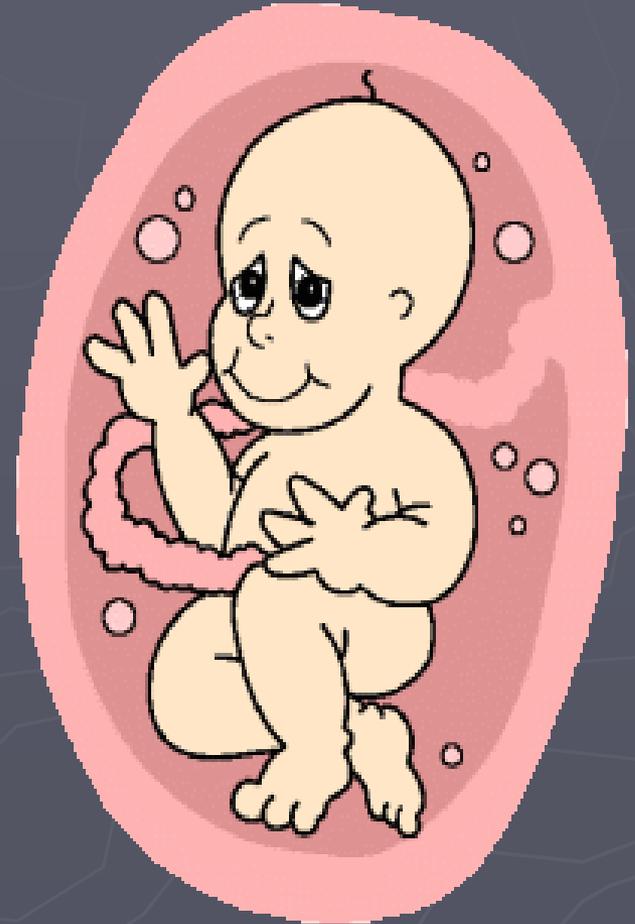
(b)



7 WEEKS
7 wks pc

The Fetus Stage

- ▶ At 9 weeks, an embryo turns into a fetus
- ▶ By about the 6th month, the stomach and other organs have formed enough to survive outside of mother.
- ▶ At this time the baby can hear (and recognize) sounds and respond to light.



NORMAL BRAIN DEVELOPMENT



1

13

Weeks

26

40

Neurons develop

Neurons multiply

Neurons migrate

Neurons branch, form synapses

Pruning (apoptosis)

Synapses reorganize

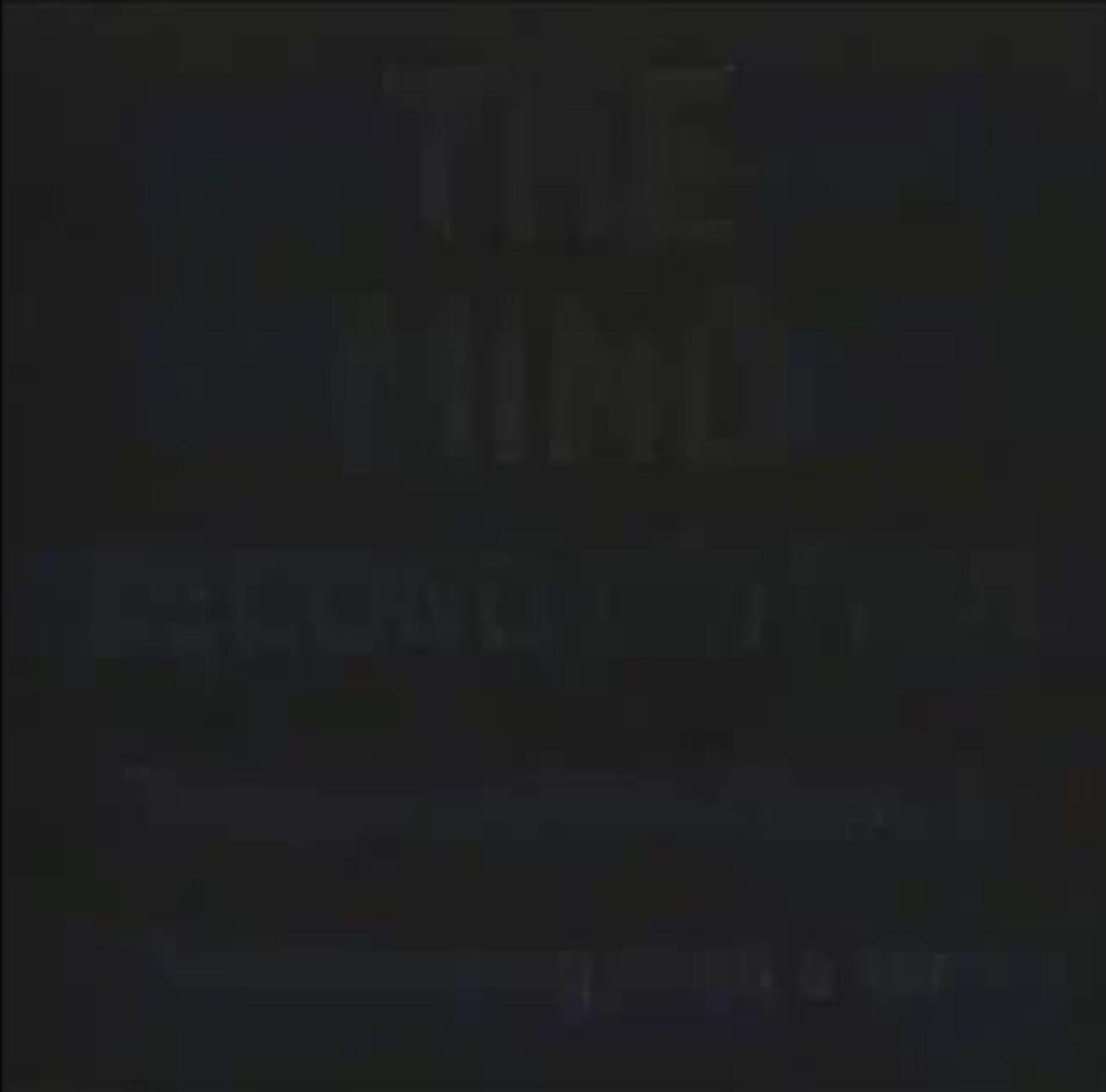
Myelination

1st TRIMESTER

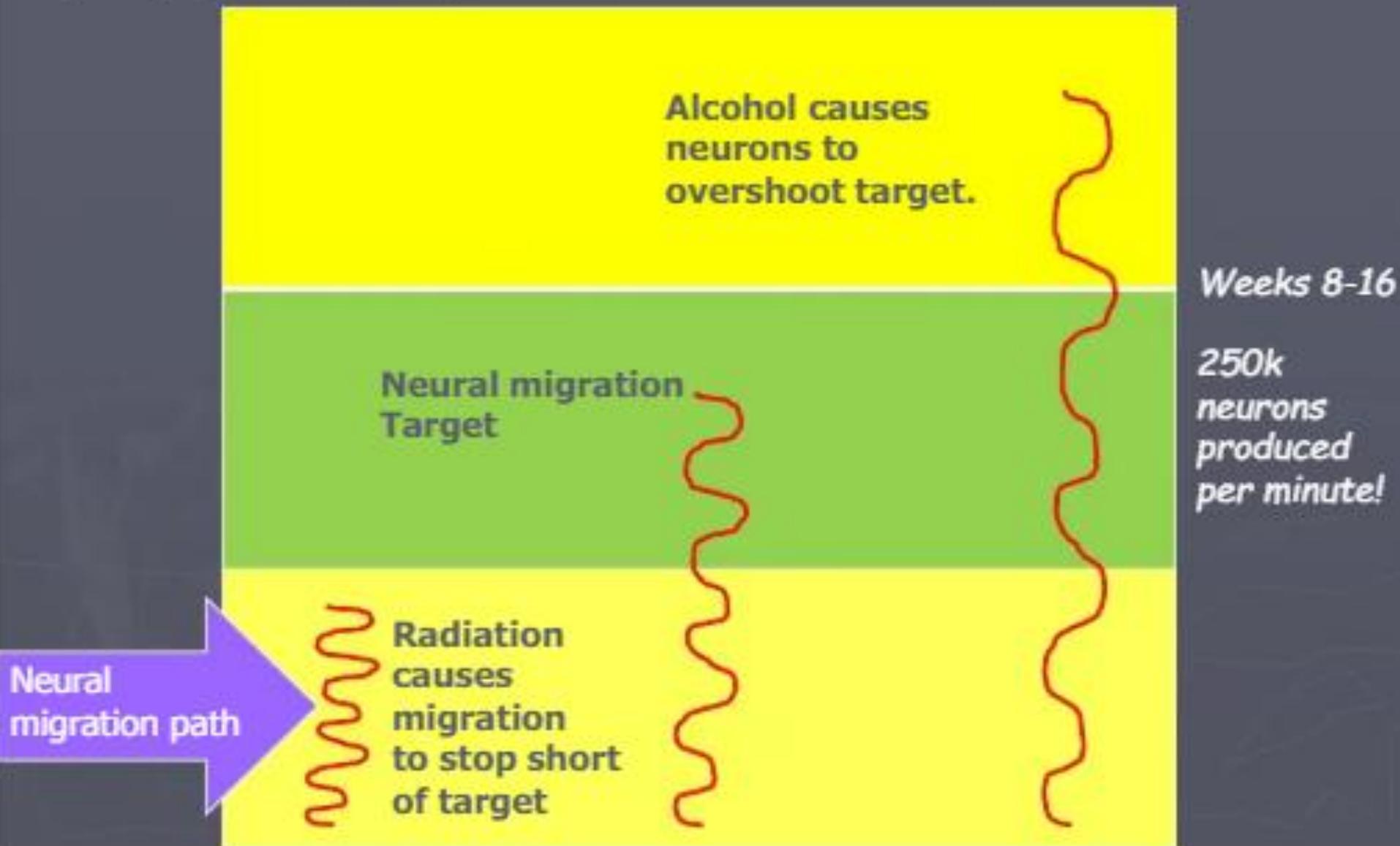
2nd TRIMESTER

3rd TRIMESTER

Teratogens



Each neuron has a genetic code that tells it where it should be located in the brain. Teratogens can cause the migration of neurons to miss their target by stopping short or by overshooting the target. "Function follows position," so if neurons are not where they are programmed to be, the brain can suffer from deficiencies.



BIRTH DEFECTS

Teratogens are environmental substances that can cause birth defects in the developing fetus.

DRUGS (street or over-the-counter)

Alcohol

Cigarettes

Disease

Poor nutrition

Stressors

Chemicals



Almost anything can impact a developing fetus.

- Nicotine exposure leads to premature births, low birth weights, fetal deaths, cognitive problems, behavioral abnormalities



But my mom smoked when she was pregnant with me and I am fine!

- ▶ Students sometimes ask why the effects of different teratogens have different effects on an individual.
- ▶ The effects of a teratogen are very personal because it depends on the timing of exposure.
- ▶ Organs have critical periods of development, and the effect of the teratogen depends on which organ or system was in its critical period at the time the teratogen was introduced.

Fetal Alcohol Syndrome

This syndrome is a result of a pregnant woman drinking excessive amounts of alcohol during pregnancy.

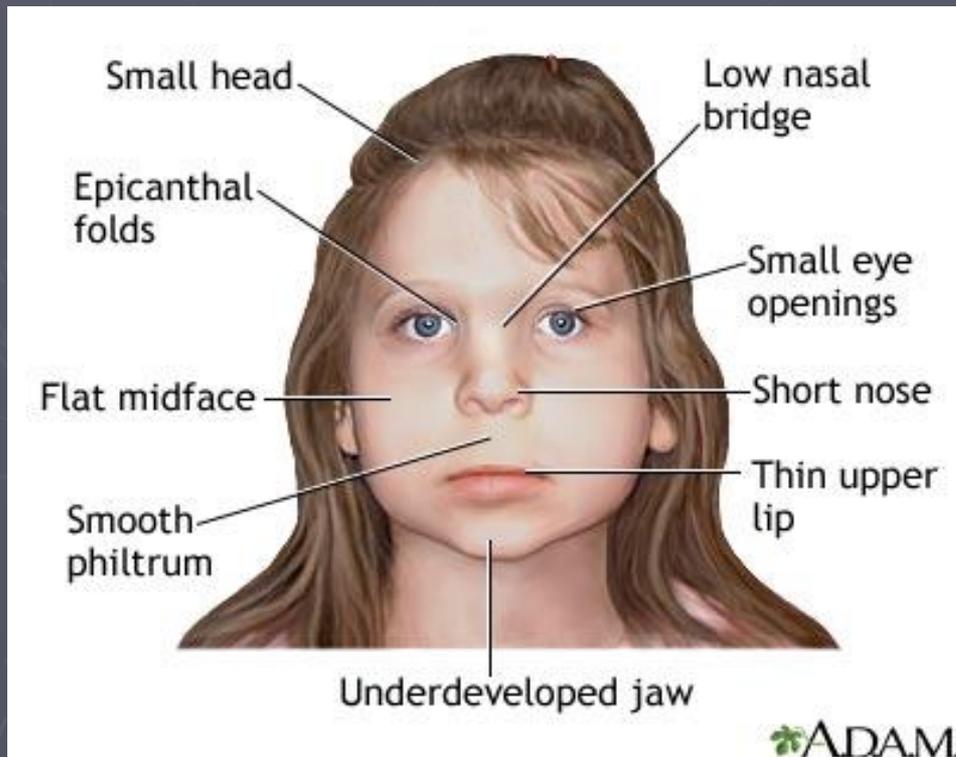


Heavy drinking during the second trimester seems to have the greatest effect on the developing fetus.



Fetal Alcohol Syndrome

- Symptoms include facial deformities, heart defects, stunted growth, and cognitive impairments.



FETAL ALCOHOL EFFECT (FAE)

- ▶ Less severe set of FAS symptoms
- ▶ Mothers who drink moderately or lightly while pregnant may have a child with Fetal Alcohol Effect (FAE)
- ▶ The brain of babies with FAE may have varying degrees of damage.