

# FERTILIZATION AND BIRTH

6<sup>th</sup> Grade

The mission of Polk County Schools is to provide a high quality education for all students.

# 6th grade EXPECTATIONS



**C** Conversation: Level 0 while teaching.

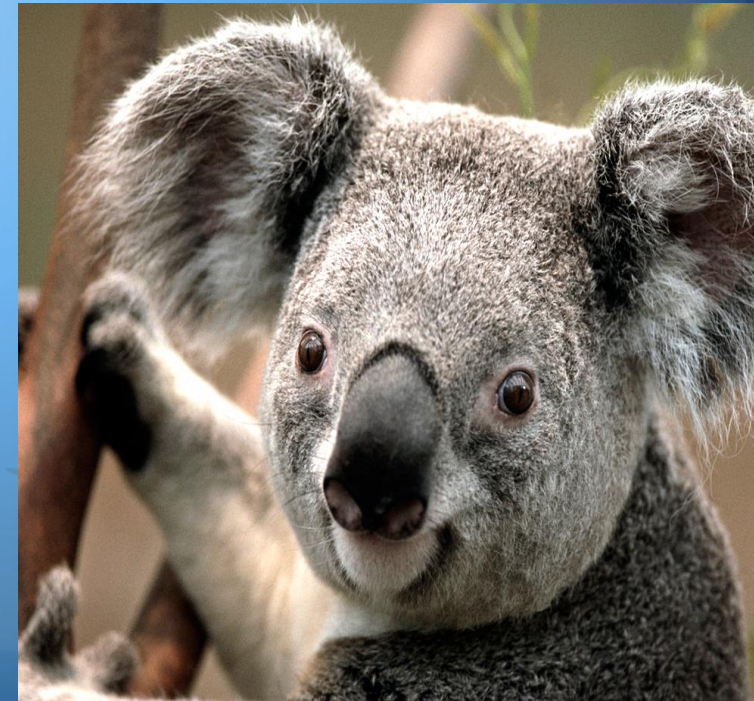
**H** Help: Yes, raise your hand.

**A** Activity: Will vary day to day.

**M** Movement: Please stay seated.

**P** Participation: Yes, it is expected.

**S** Success: Absolutely !!!



**MALE  
PUBERTY**

**6<sup>th</sup>  
GRADE**

**FEMALE  
PUBERTY**

**Fetal  
Growth &  
Development**

**The Body  
Fights  
Disease /  
HIV**

By the end of the lesson, you should know the following:

What are the two cells needed for fertilization and development to occur?

What is the function of the placenta during fetal development?

How can a healthy lifestyle influence the outcome of a pregnancy?



## **Fetal Growth and Development Vocabulary**

**abstinence** - not taking part in any high-risk behavior such as sexual activity or drug use, including alcohol and tobacco.

**amniotic fluid** - liquid surrounding the fetus as it develops inside the uterus.

**amniotic sac** – thin membrane surrounding the fetus throughout its development.

**chromosomes** – threadlike structures in the nucleus of a cell that carry genes (the codes for inherited traits).

**contractions** – tightening of the muscles of the uterus during labor.

**C-section** – operation in which the doctor cuts through the mother's abdomen and uterus to deliver the baby.

**embryo** – name given to a developing baby from the second week through the eighth week of growth.

**fallopian tubes** - the tubes through which the ovum (egg cell) passes on the way to the uterus; fertilization of the ovum (egg cell) occurs in one of these tubes.

**fertilization** – joining of a sperm with an ovum (egg cell).

**fetus** – name given to a developing baby from the 9th week through birth.

**genes** – basic units of heredity found in the chromosomes of all cells which carry the codes for individual traits.

**implantation** – attachment of the fertilized egg cell to the lining of the uterus.

**labor** – contractions of the uterus which bring about the birth of a baby.

**ovum** - the female sex cell (egg cell); (plural: ova).

**placenta** – organ through which materials are exchanged between the mother and the baby.

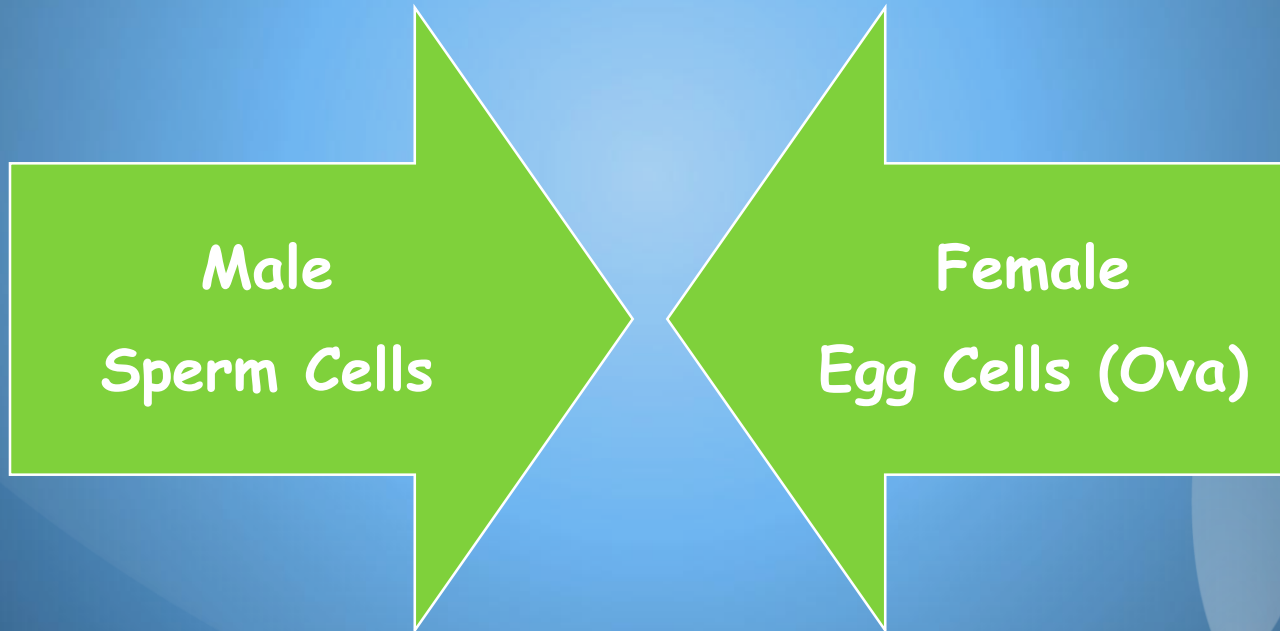
**pregnancy** – condition of having a developing embryo or fetus in the body.

**sperm** – male reproductive cell.

**umbilical cord** – connection between the fetus and the placenta.

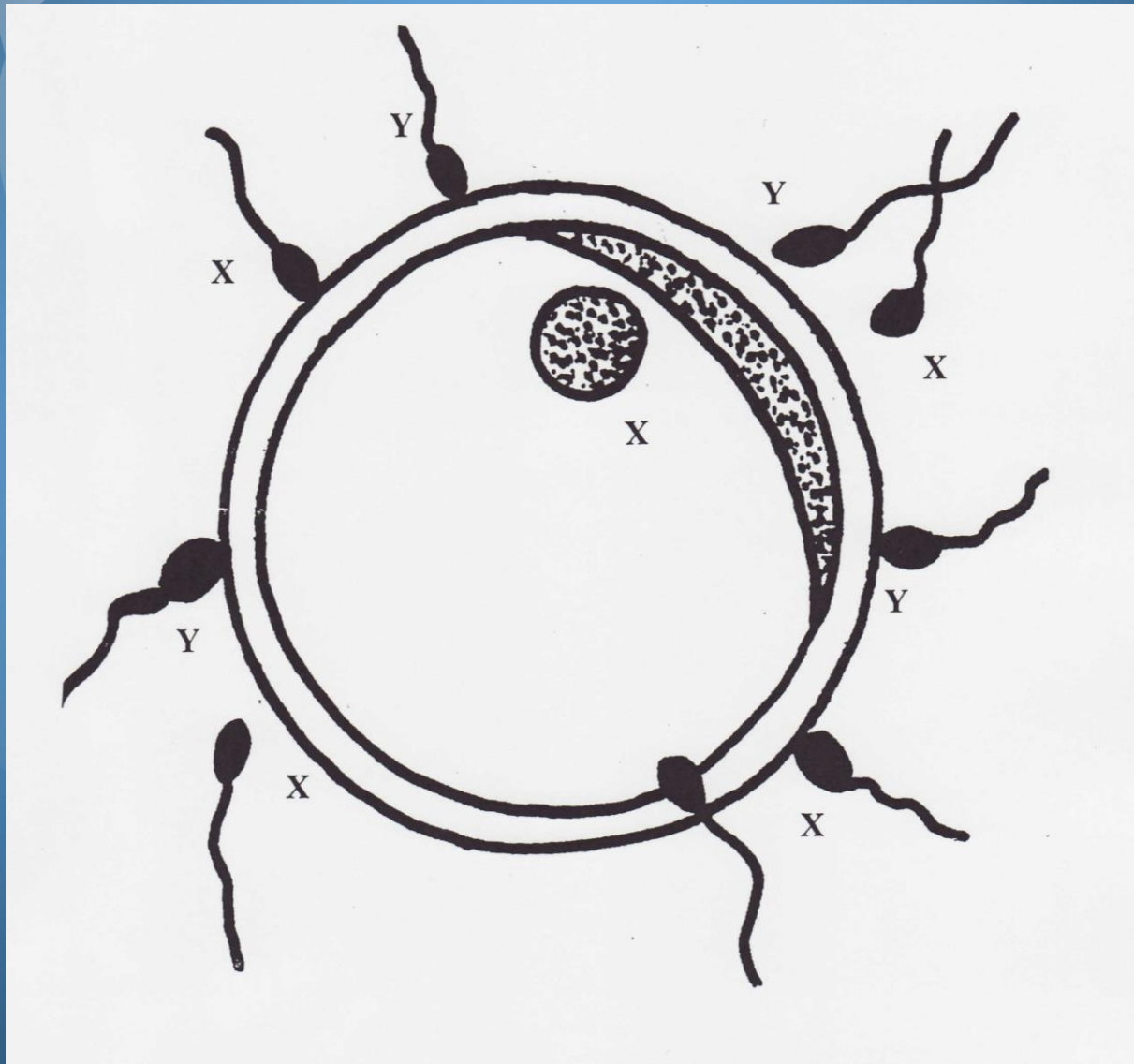
**uterus** - the muscular hollow pear-shaped organ in which a fetus grows and develops.

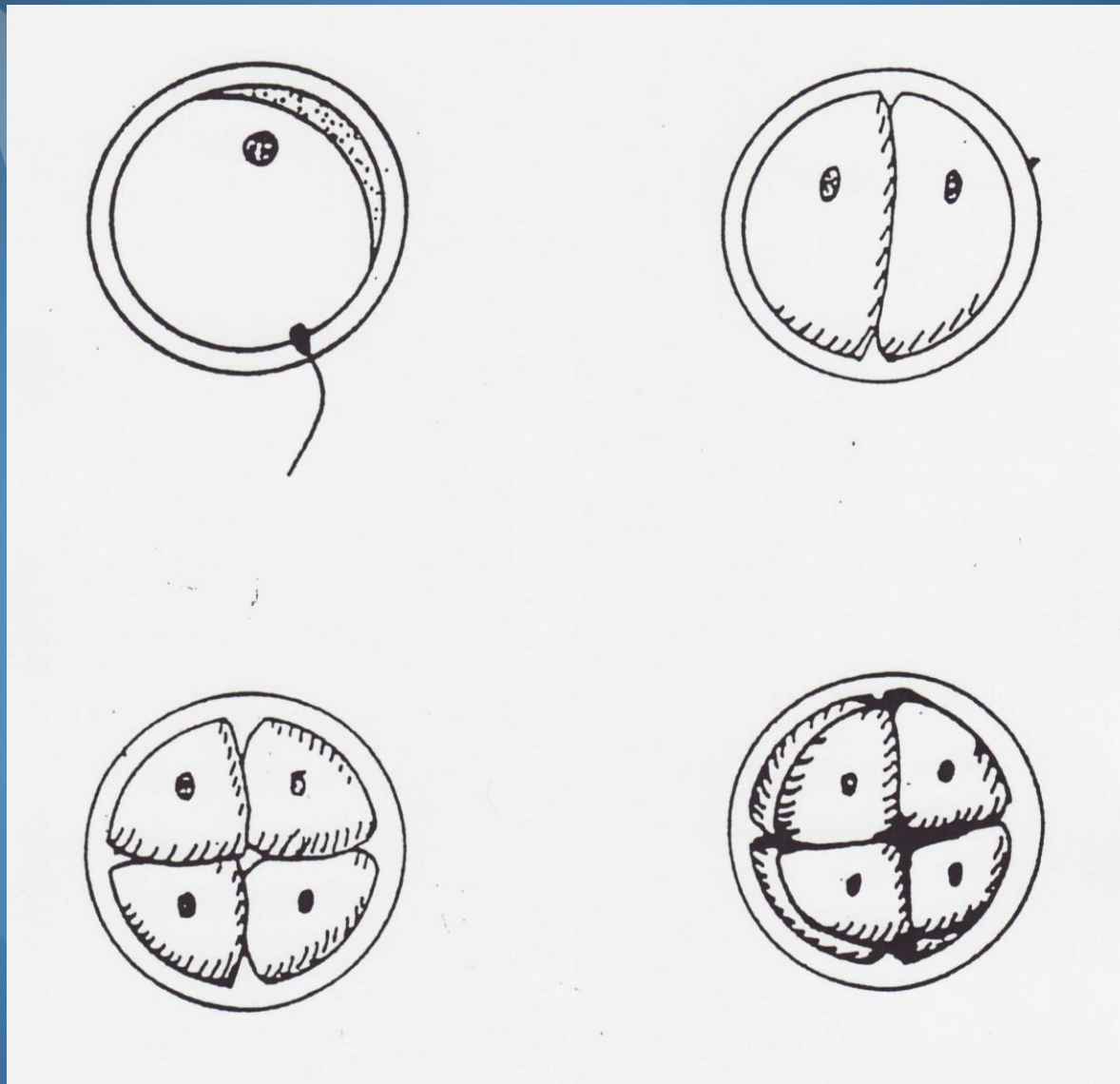
**vagina** - the passageway leading from the uterus to the outside of the body through which a baby passes during birth.



# FERTILIZATION

The joining of a sperm with an ovum.

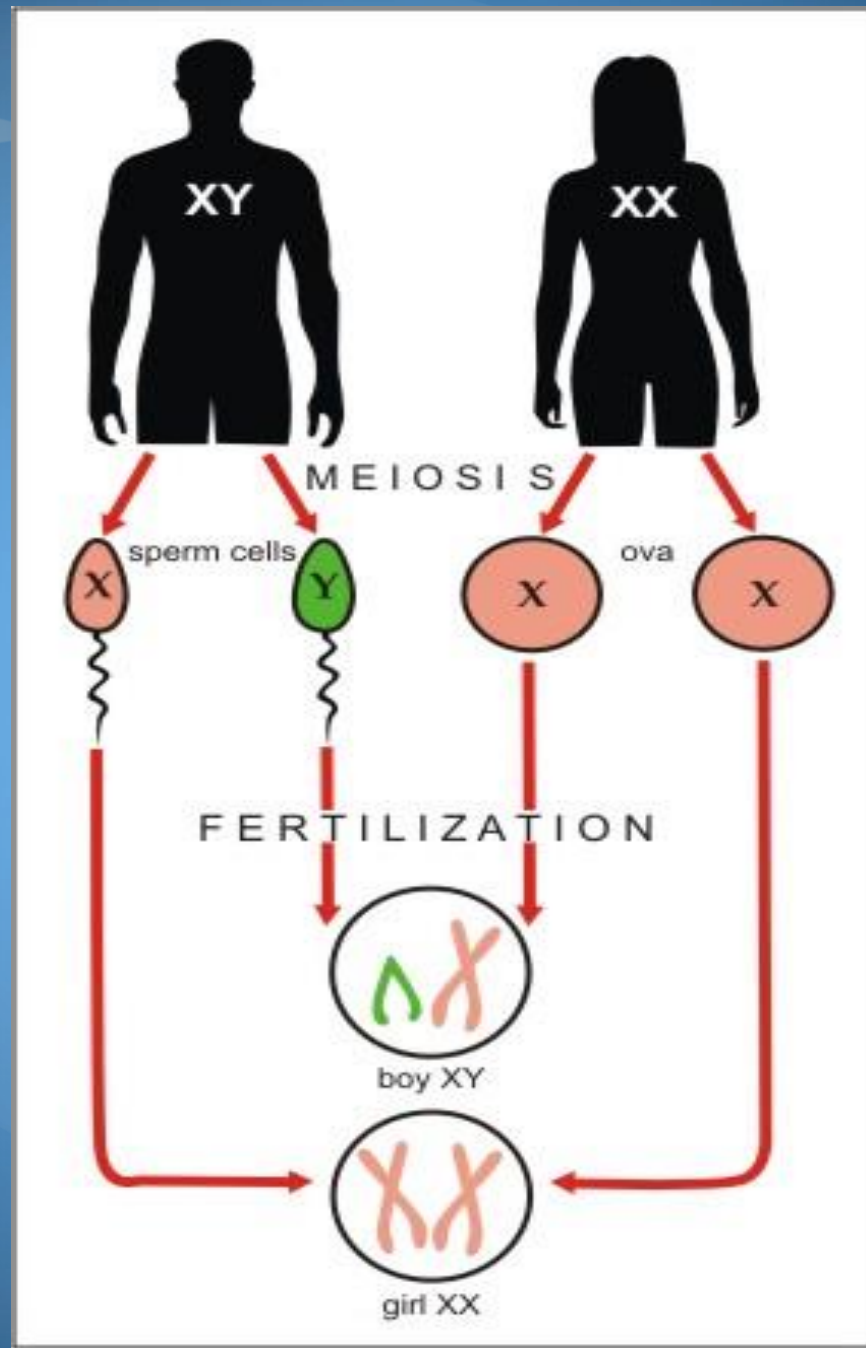




Cell division:

Fertilized cell, 2 cell stage, 4 cell stage, 8 cell stage



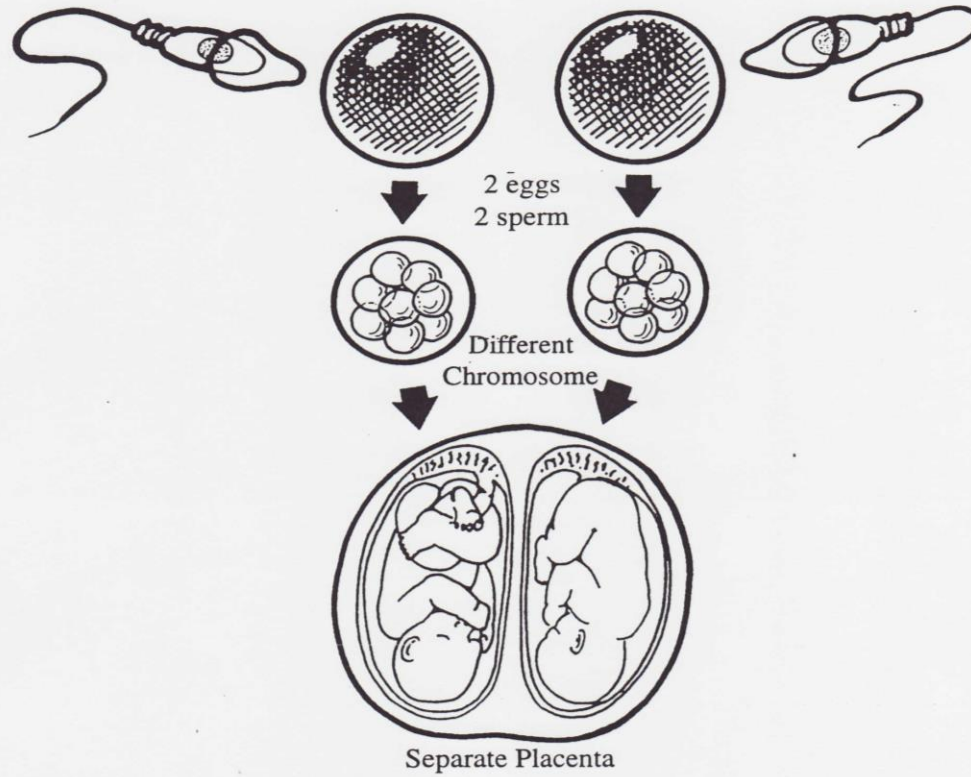


# TWINS...

There's two???



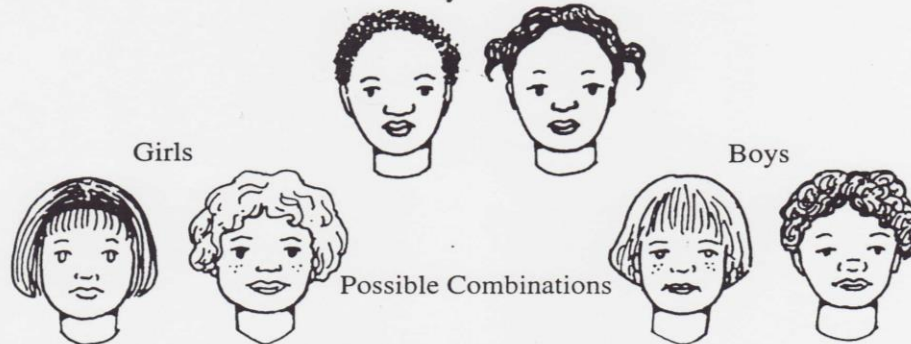
# Fraternal Twins



Boy and Girl

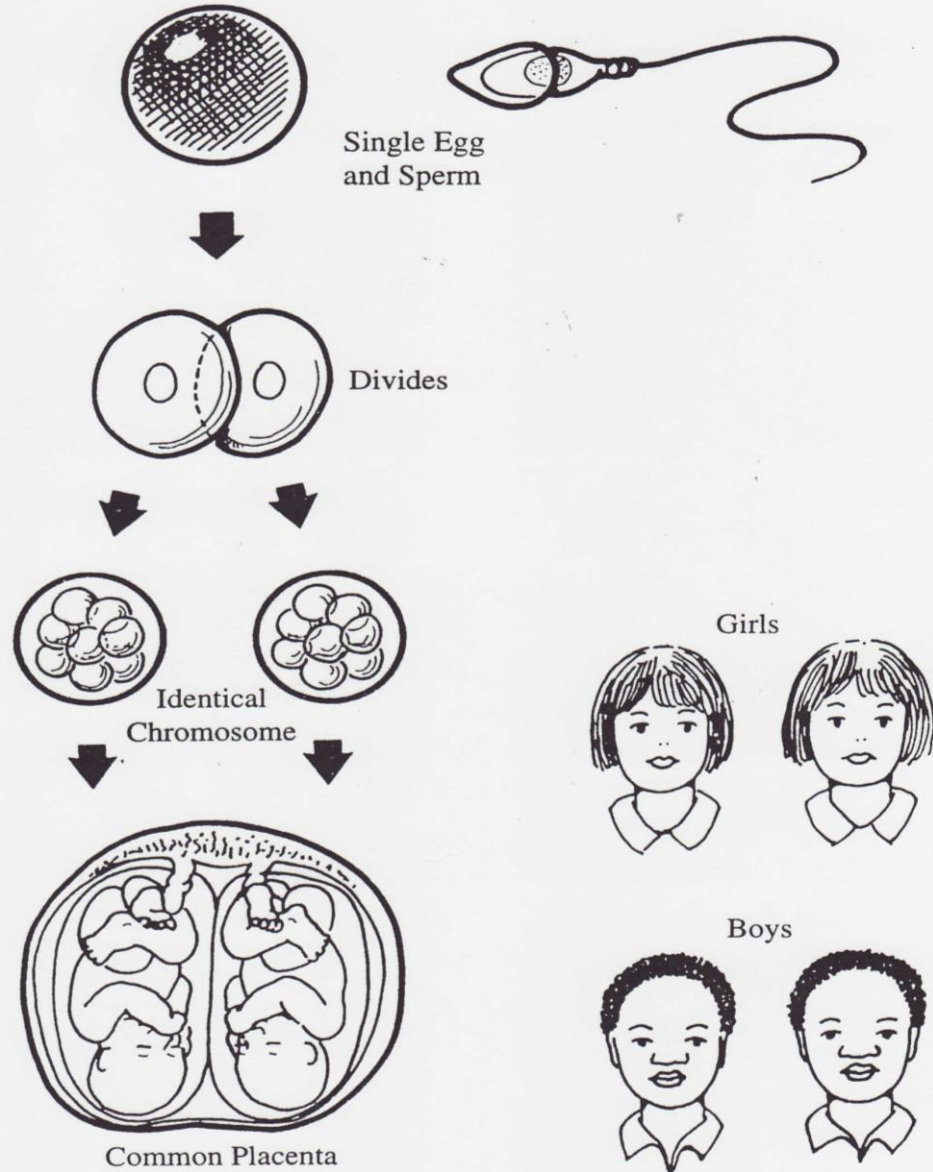
Girls

Boys

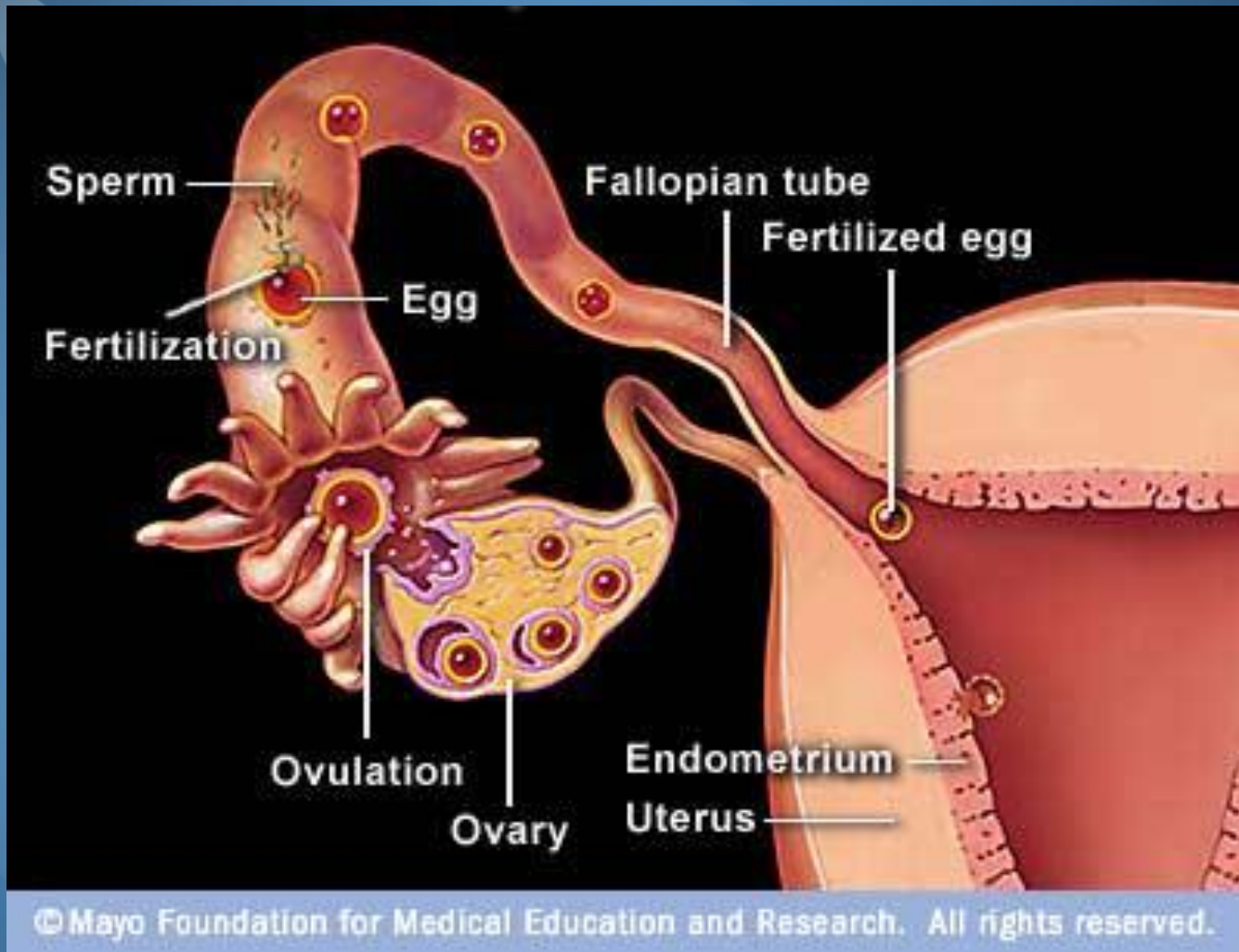




# Identical Twins



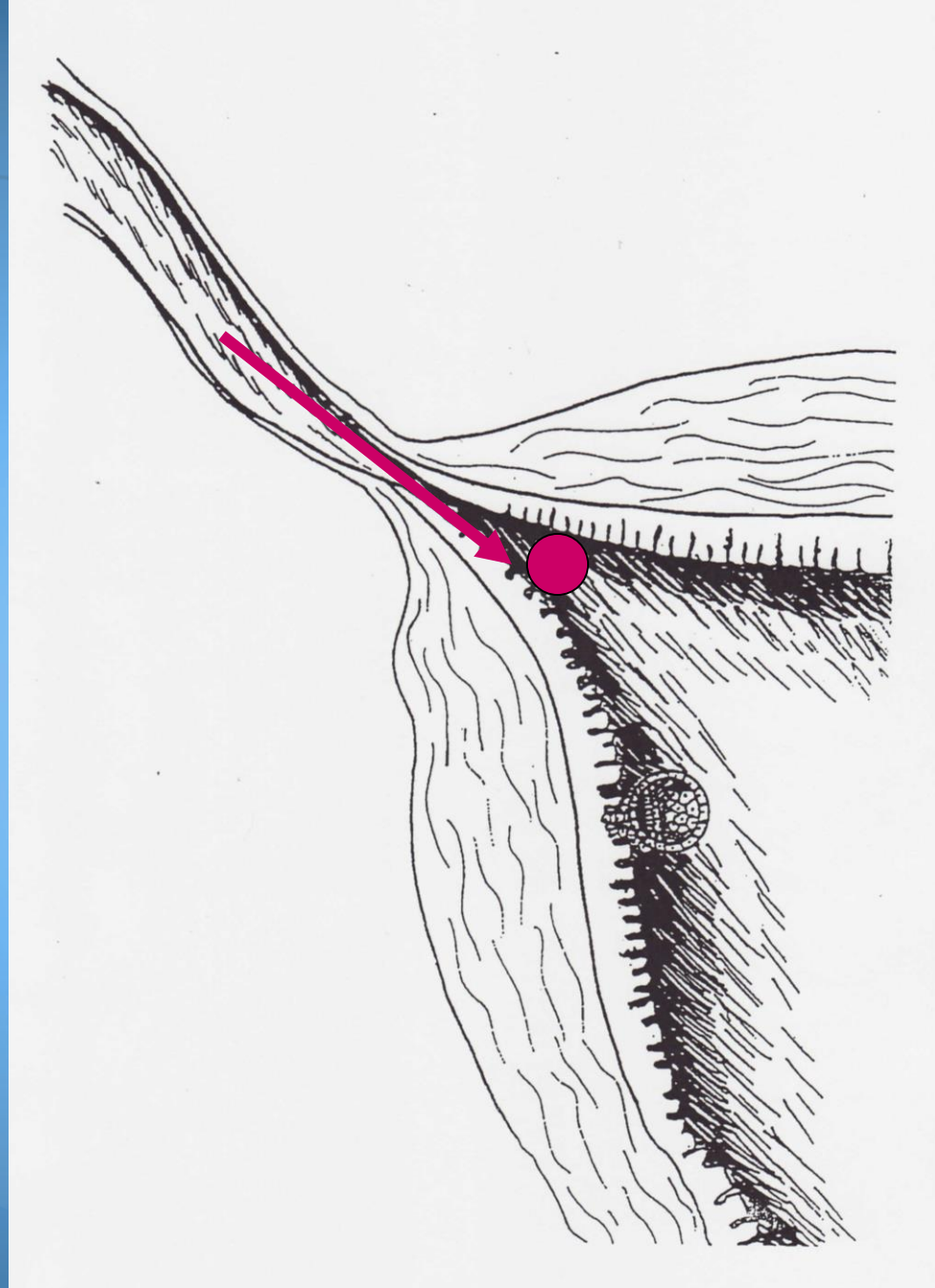




***After ovulation, fertilization takes place in the outer third of the fallopian tube.***

## IMPLANTATION -

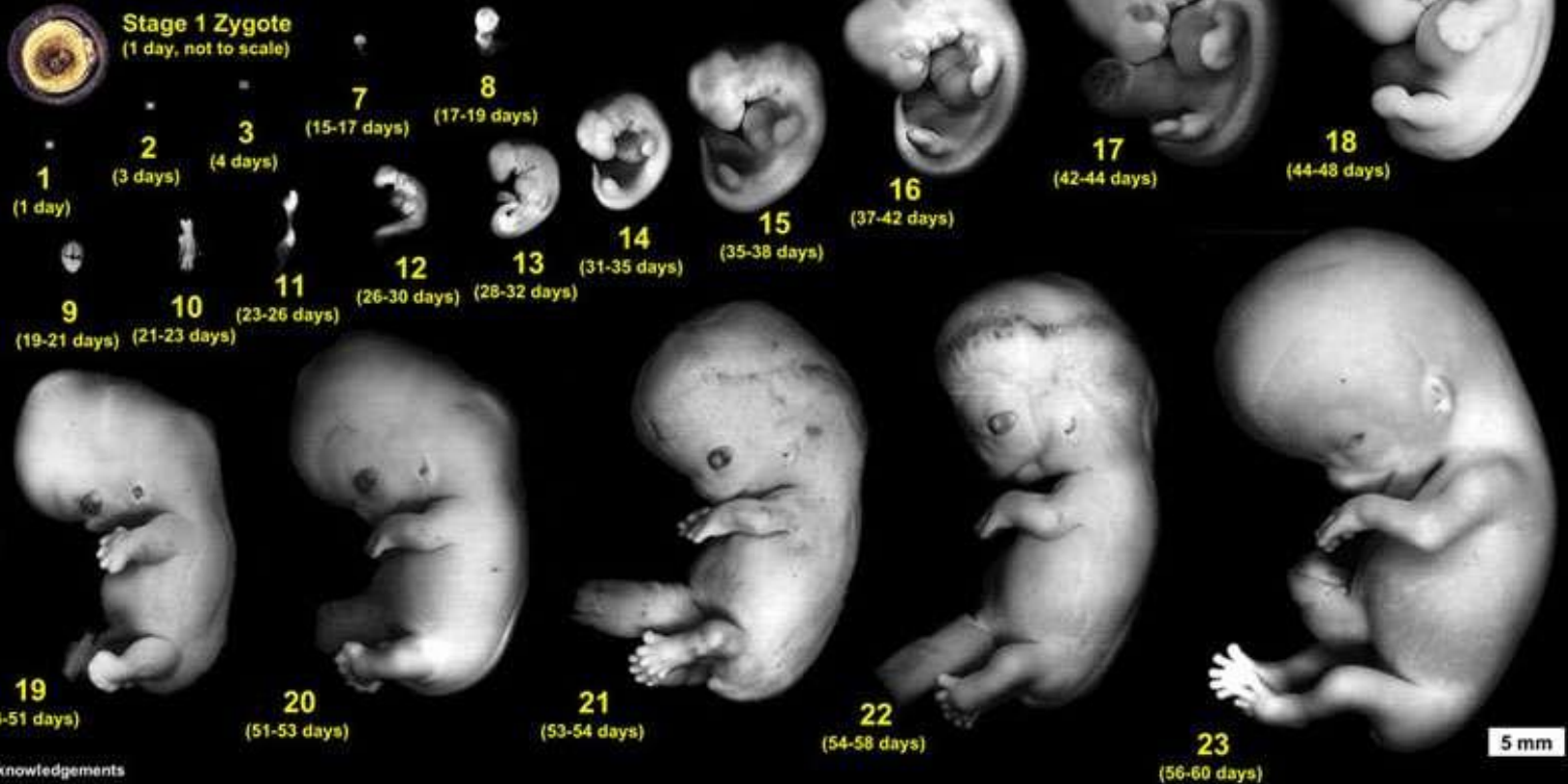
Attachment to the lining of the uterus



Let's see how the baby develops...

# Carnegie Stages of Human Development

Dr Mark Hill, Cell Biology Lab, School of Medical Sciences (Anatomy), UNSW



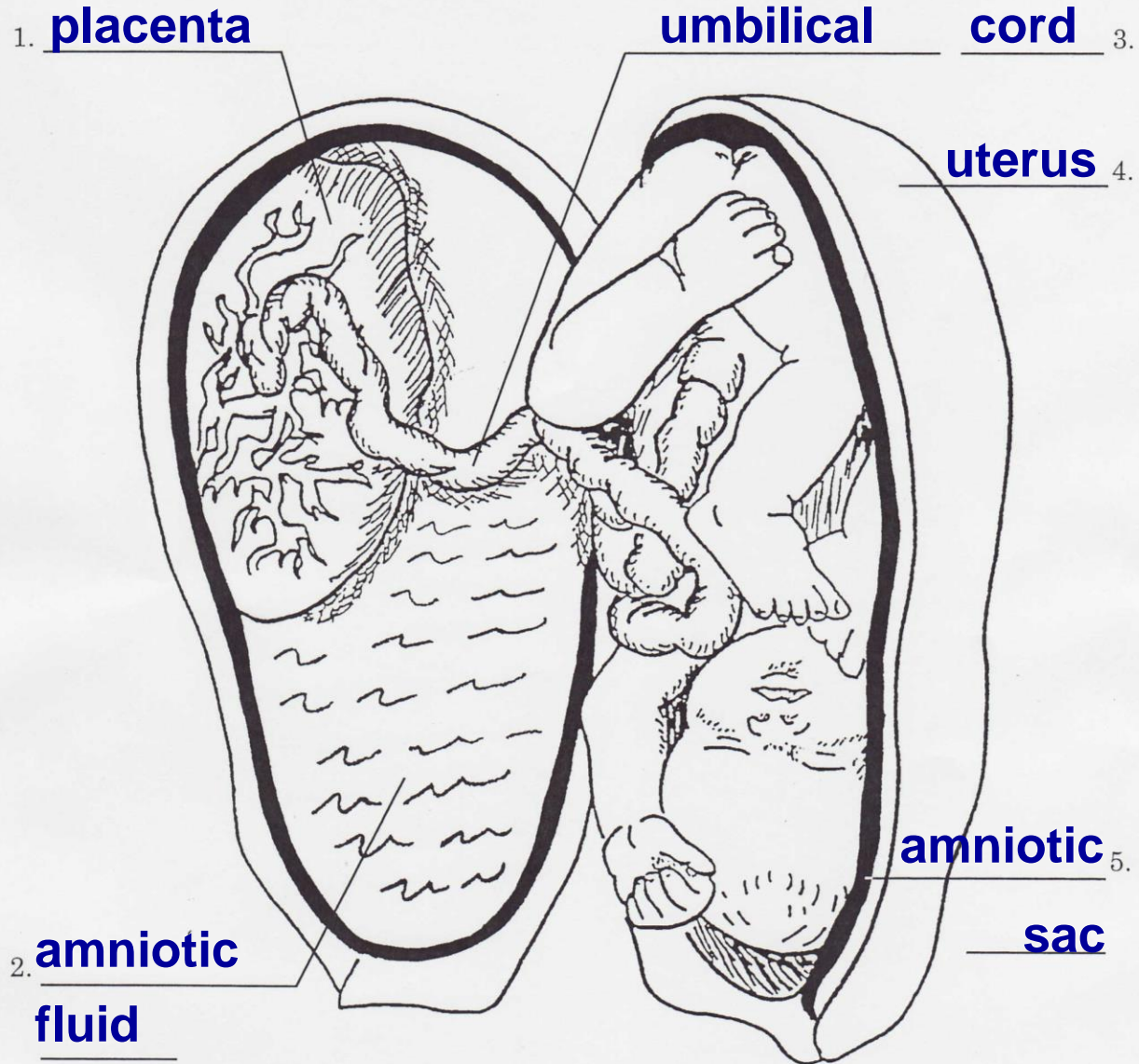
## Acknowledgements

Special thanks to Dr S. J. DiMarzo and Prof. Kohel Shiota for allowing reproduction of their research images and material from the Kyoto Collection and Ms B. Hill for image preparation.

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# Fetus with Umbilical Cord and Placenta



1. The 2 cells needed for fertilization are the ovum and the sperm.
2. Materials are exchanged between the mother and baby through which organ?

placenta

3. Name at least 3 healthy choices a pregnant woman can make –

**See doctor**

**Healthy food**

**Exercise**

**No smoking**

**No alcohol**

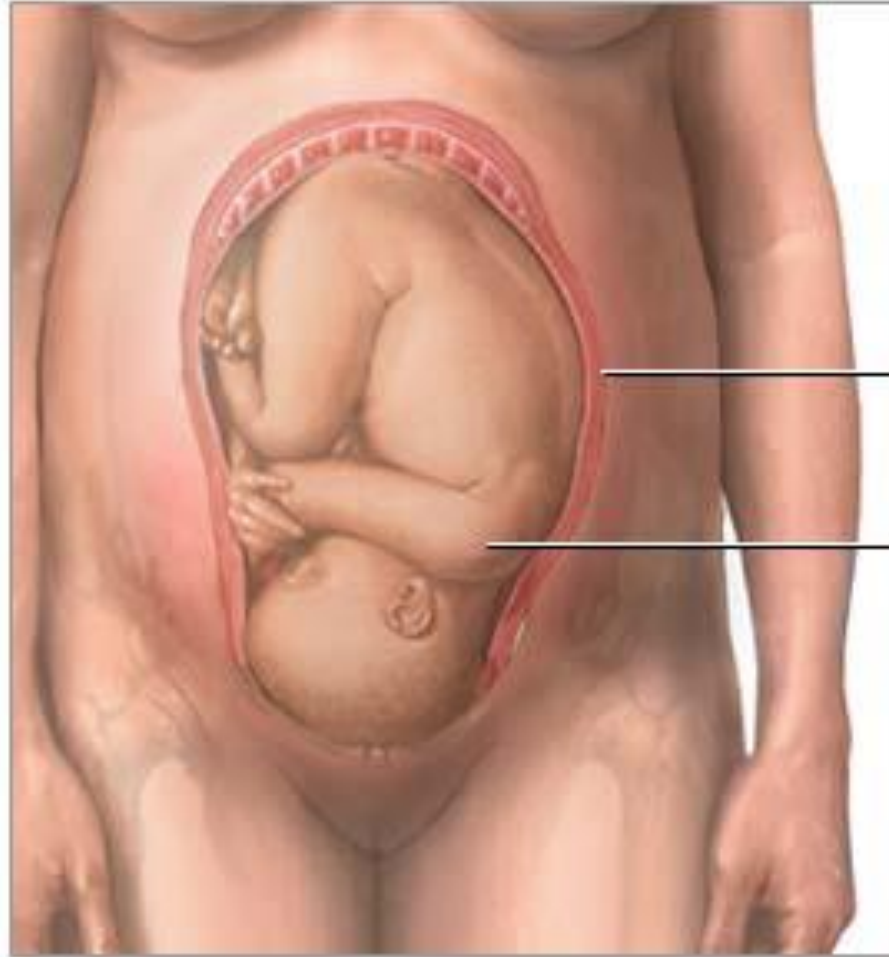
**No drugs**

**Avoid unnecessary x-rays**

**No medications without Dr. OK**

**Rest**

# BABY AT TERM (When it's due)



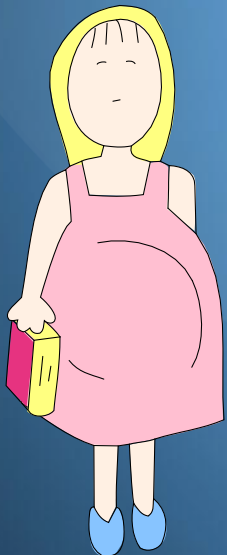
Uterus

Baby



**When does a woman find out she is pregnant?**

**How does she know?**

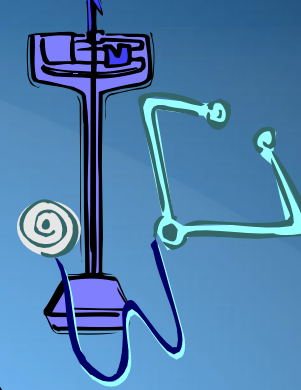


**What choices can she make  
to try to have a healthy  
baby?**



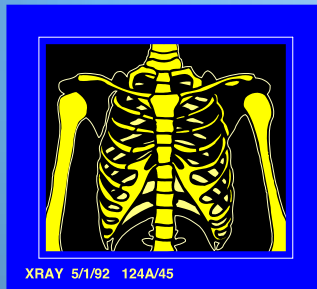


**HEALTHY**



## Choices

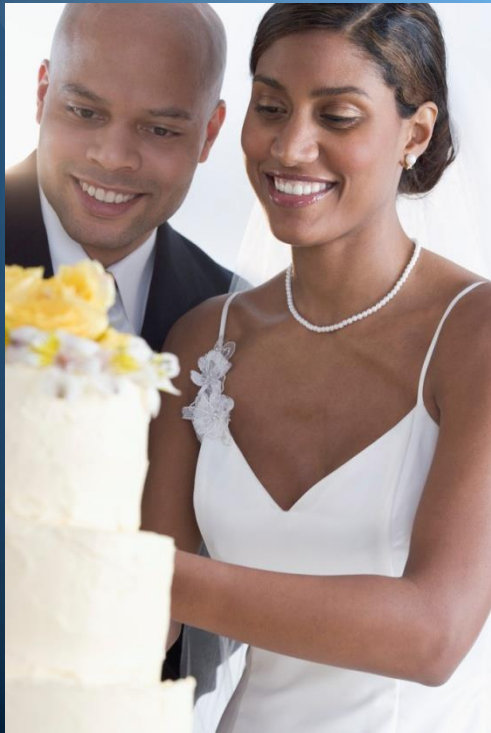
What are the effects of healthy and unhealthy lifestyle choices on a developing baby?



**UNHEALTHY**

MARSH *media*  
MARSH

# When is the best time to have a baby?



## Definition

Not taking part in any high-risk behavior such as sexual activity or drug use, including alcohol and tobacco.

## Characteristics

High self esteem  
High personal standards  
High level of resistance skills  
Ability to understand consequences

# ABSTINENCE

## Examples

Avoiding high risk behaviors  
Saying no to alcohol  
Saying no to illegal drugs  
Saying no to smoking  
Saying no to sexual activity

## Non-Examples

Smoking  
Drinking alcohol  
Using illegal drugs  
Sexual activity



## Can You Answer The Following:

What are the two cells needed for fertilization and development to occur? *Sperm and Ovum (Egg Cell)*

What is the function of the placenta during fetal development? *The placenta is the organ through which materials are exchanged between the mother and baby.*

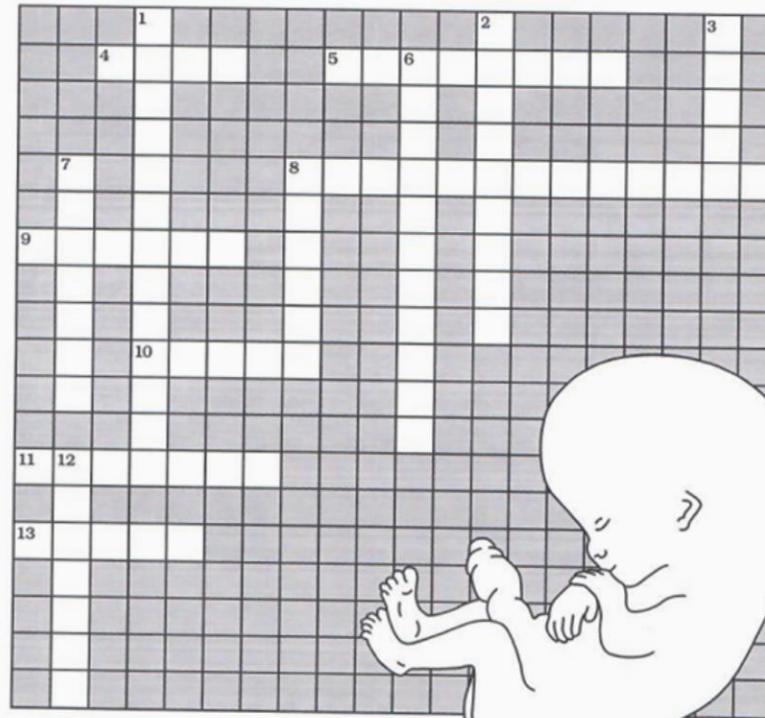
How can a healthy lifestyle influence the outcome of a pregnancy? *Healthy sperm and egg are needed for healthy development of a baby.*

# Crossword Puzzle

# Reproduction Puzzle

## WORD LIST

amniotic sac  
fallopian tube  
labor  
male  
male  
ovaries  
penis  
placenta  
puberty  
testicles  
twins  
umbilical cord  
urethra  
uterus  
vagina



### Across:

4. opposite of female.
5. organ through which materials are exchanged between mother and baby.
8. connection between the developing baby and the placenta.
9. passageway leading from the uterus to the outside of a girl's body.
10. two babies carried in the uterus at the same time.
11. period of life during which one becomes capable of reproduction.
13. male sex organ located outside the body.

### Down:

1. tube through which the egg cell travels from the ovary to the uterus.
2. male sex glands which produce sperm cells and the hormone testosterone.
3. contractions of the uterus that bring about the birth of a baby.
6. thin membrane surrounding the developing baby.
7. female sex glands that release egg cells.
8. pear-shaped female organ in which a baby grows and develops.
12. tube through which urine leaves the bladder.

# REPRODUCTION PUZZLE

## KEY

