**Reproductive System Guided Notes**

**Human Male Reproductive System**

-Reproductive glands are called the \_\_\_\_\_\_\_\_\_\_\_\_\_. They are located outside of the \_\_\_\_\_\_\_\_\_\_ cavity in a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

A temperature lower than \_\_\_\_\_\_\_\_\_\_ is required for the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of sperm.

Sperm Cells= male gamete that carries \_\_\_\_\_\_\_ chromosomes

-They develop in the \_\_\_\_\_\_\_\_\_\_ in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ tubules 🡪 travel to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and are stored 🡪 travel through the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-transports \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The two \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ join together and enter the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Vasectomy**

-A physician makes a small \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then cuts through and ties off the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Flow of sperm: \_\_\_\_\_\_\_\_\_\_\_\_\_ 🡪 epididymis 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 🡪 urethra

-Sperm are still \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, but they cannot travel to the body’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Female Reproductive System**

-The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are the female \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ organ. They produce \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and eggs= female \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that carry \_\_\_\_\_\_ chromosomes. An egg (\_\_\_\_\_\_\_\_\_\_\_\_\_\_) will be released from the \_\_\_\_\_\_\_\_\_\_\_\_\_ every month.

Estrogen and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are steroid hormones made by cells in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The anterior \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ gland also produces \_\_\_\_\_\_ and \_\_\_\_\_\_. The egg drifts towards the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ shaped opening of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, pushed by the ciliated fingerlike projections called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The egg travels through an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (also called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ tubes), a tube that connects to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

From the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the egg would enter the \_\_\_\_\_\_\_\_\_\_\_\_\_-a hollow, thick walled, smooth muscle \_\_\_\_\_\_\_\_\_\_\_\_\_ that functions to receive, \_\_\_\_\_\_\_\_\_\_\_\_\_, and nourish a fertilized \_\_\_\_\_\_\_\_\_\_\_.

The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ at the lower end of the \_\_\_\_\_\_\_\_\_\_\_\_ has a narrow opening into the \_\_\_\_\_\_\_\_\_\_\_\_, which leads to the outside of the female’s \_\_\_\_\_\_\_\_\_\_.

**Fertilization**

-Occurs in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ tubes (oviduct).

-Process of a \_\_\_\_\_\_\_\_\_\_\_\_\_ joining with an \_\_\_\_\_\_\_\_\_\_.

-Sperm and eggs each are \_\_\_\_\_\_\_\_\_\_\_\_\_\_, and each normally has \_\_\_\_\_\_\_ chromosomes. Fertilization \_\_\_\_\_\_\_\_\_\_\_\_ diploid number of \_\_\_\_\_\_\_ chromosomes.

During \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the man expels millions of \_\_\_\_\_\_\_\_\_\_\_ into the vaginal \_\_\_\_\_\_\_\_\_\_\_\_\_. Sperm can be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by vaginal \_\_\_\_\_\_\_\_\_\_\_, phagocytes, or the \_\_\_\_\_\_\_\_\_\_\_\_ that surrounds the \_\_\_\_\_\_\_\_\_\_\_\_\_\_. The sperm will travel through the \_\_\_\_\_\_\_\_\_\_\_, uterus, and to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ tube to an \_\_\_\_\_\_\_\_\_\_\_\_\_.

The oocyte is viable for \_\_\_\_\_\_ to 24 hours. Sperm is viable for \_\_\_\_\_\_\_ to 48 hours after \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

For fertilization to occur, sex must occur no more than \_\_\_\_\_\_\_ days before ovulation. Fertilization: when the sperm’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ combine with those of an \_\_\_\_\_\_\_\_\_\_\_\_ to form a fertilized egg (\_\_\_\_\_\_\_\_\_\_\_\_\_).

The tip of each \_\_\_\_\_\_\_\_\_\_\_ cell is a specialized \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that contains acrosin-a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that weakens the plasma membrane \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the egg. Eventually, the plasma membrane becomes \_\_\_\_\_\_\_\_\_\_\_ enough that one sperm can \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the egg.

Immediately following this \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the egg (\_\_\_\_\_\_\_\_\_\_\_\_) forms a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to prevent other sperm from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the now fertilized egg-called an \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Early Development**

-The fertilized egg is called a \_\_\_\_\_\_\_\_\_\_\_\_\_ at the moment that the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ material combines. Around \_\_\_\_\_\_ hours after fertilization, the \_\_\_\_\_\_\_\_\_\_\_\_ undergoes its first mitosis and cell division-the beginning of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Cleavage= \_\_\_\_\_\_\_\_\_\_\_\_\_\_ divisions of zygote by \_\_\_\_\_\_\_\_\_\_\_\_ with little or no growth between \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ divisions. First cleavage at \_\_\_\_\_\_\_ hours🡪 two \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cells (blastomeres).

By the third day, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ called a \_\_\_\_\_\_\_\_\_\_\_\_ (16 or more cells) leaves the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and enters the uterus. At day 3 or \_\_\_\_\_, the embryo of \_\_\_\_\_\_\_\_\_ cells (blastocyst) has reached the \_\_\_\_\_\_\_\_\_\_\_\_. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ attaches to the endometrium (lining of the \_\_\_\_\_\_\_\_\_\_\_\_\_) around the sixth day and is fully \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by day \_\_\_\_\_\_\_-day 14.

Extraembryonic Membranes

-Four \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ membranes form. These membranes are the \_\_\_\_\_\_\_\_\_\_\_\_\_, the chorion, the \_\_\_\_\_\_\_\_\_ sac, and the allantois.

-Chorion-will form the \_\_\_\_\_\_\_\_\_\_ part of the placenta

-Allantois-structural \_\_\_\_\_\_\_\_\_ of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cord

-Yolk sac-forms part of the \_\_\_\_\_\_\_ and earliest \_\_\_\_\_\_\_\_\_\_\_ cells

-Amnion-forms a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ membrane sac that surrounds the \_\_\_\_\_\_\_\_\_\_\_\_ and eventually fills with \_\_\_\_\_\_\_\_\_\_.

-As an \_\_\_\_\_\_\_\_\_\_\_\_\_ develops the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ villi begin to grow into the \_\_\_\_\_\_\_\_\_\_\_\_\_ wall and forms part of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

-Nutrients, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and waste diffuse across maternal and \_\_\_\_\_\_\_\_\_\_\_\_ blood vessels, and are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to and from the \_\_\_\_\_\_\_\_\_\_\_ through the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cord.

-The placenta contains \_\_\_\_\_\_\_\_\_\_\_\_\_\_ from both mother and \_\_\_\_\_\_\_\_\_\_\_\_\_, but blood does not come in actual \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**The Placenta**

-Provides \_\_\_\_\_\_\_\_\_\_\_, oxygen, and removes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The placenta has \_\_\_\_\_\_\_ surfaces. A fetal side that forms from the \_\_\_\_\_\_\_\_\_\_\_\_\_ and faces the \_\_\_\_\_\_\_\_\_\_\_, and has a maternal side that \_\_\_\_\_\_\_\_\_\_\_\_ from uterine \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Umbilical Cord-filled with \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Three Trimesters of Development**

-Human development takes around \_\_\_\_\_\_\_\_\_\_\_ days from fertilization to birth (\_\_\_\_\_\_\_ days since last \_\_\_\_\_\_\_\_\_\_\_\_\_\_). The time span is \_\_\_\_\_\_\_\_\_\_\_\_\_\_ into three \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**First Trimester**

-The heart is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ blood at the fourth week. All tissues, \_\_\_\_\_\_\_\_\_\_\_\_\_\_, and organ systems begin to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. At the end of eight \_\_\_\_\_\_\_\_\_\_\_\_, the \_\_\_\_\_\_\_\_\_\_\_\_ is called a \_\_\_\_\_\_\_\_\_\_\_. By the 12th week, the \_\_\_\_\_\_\_\_\_\_\_ can be determined \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ using an ultrasound.

**Second Trimester**

-Period of \_\_\_\_\_\_\_\_\_\_\_. Genitalia can be seen on a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Yawns, \_\_\_\_\_\_\_\_\_\_ thumb, and makes movements. Secretions of the \_\_\_\_\_\_\_\_\_\_\_\_\_ glands \_\_\_\_\_\_\_\_\_\_\_\_\_ the skin with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Between 21-30 Weeks**

-Eyes are \_\_\_\_\_\_\_\_\_\_\_\_. Spinal cord becomes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The testes enter the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in males. It is possible for the \_\_\_\_\_\_\_\_\_\_\_\_\_ to survive at this time, but there is a \_\_\_\_\_\_\_\_\_ mortality rate if the fetus is born in the weeks 21-23.

**Third Trimester**

-The fetus continues to \_\_\_\_\_\_\_\_\_\_\_\_ at a rapid rate. Fat is \_\_\_\_\_\_\_\_\_\_ down in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ tissues to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Problems with Prematurity**

-The \_\_\_\_\_\_\_\_\_\_ are lacking \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ production and \_\_\_\_\_\_\_\_\_\_\_\_\_ can collapse, leading to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ failure. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is immature and unable to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ body \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Effect on Mother**

-Breasts become more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and enlarge. The \_\_\_\_\_\_\_\_\_\_\_\_\_ grows from the size of a fist to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ process. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ organs push on the thoracic cavity, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the stomach and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-causing heartburn and difficulty \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The center of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ change may cause \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Fluctuating \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cause nausea.

**Childbirth (Parturition)**

1. Dilation- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ causes rhythmic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the uterus that causes the cervix to become fully \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to allow for the head to fit through. As the cervix \_\_\_\_\_\_\_\_\_\_\_\_\_\_, the tissue thins out or \_\_\_\_\_\_\_\_\_\_\_\_\_\_. At this time, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ membrane ruptures, causing \_\_\_\_\_\_\_\_\_\_\_\_ to escape (water breaking).

2. Expulsion-this stage lasts from \_\_\_\_\_\_\_\_ dilation until the baby is \_\_\_\_\_\_\_\_\_\_. The usual head \_\_\_\_\_\_\_\_\_\_\_ delivery is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_. Buttocks first delivery is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

3. Placental stage-delivery of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ after it detaches from the \_\_\_\_\_\_\_\_\_\_\_\_ wall.

**Lactation**

-Rising levels of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ stimulates the \_\_\_\_\_\_\_\_\_\_\_\_ gland to secrete \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which causes the prepared mammary glands to secrete \_\_\_\_\_\_\_\_\_\_\_\_\_. The first \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. True milk is produced around day \_\_\_\_\_\_\_\_ in response to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Continued \_\_\_\_\_\_\_\_\_\_\_\_\_ feeding is required for continued \_\_\_\_\_\_\_\_\_\_ production.