**January Notes: Day 2 Fertilization to Birth**

Name: Period: Date:

**Aim: Human Reproductive System**

Do Now: If every cell in your body has the same DNA, then why do we have different looking and functioning cells?

Don’t Copy

* During intercourse a male will ejaculate about 50 - 500 million sperm.
* These sperm will swim up through the female reproductive system.
* Not all of the sperm will reach the egg.
* Some sperm will reach the egg however only one will penetrate into the egg.
* The union of an egg and a sperm is called fertilization.

**So what happens after fertilization?**

* The process of combining a with an is called
* The majority of occurs in the
* Once the egg is fertilized ( ), it will have some from the and some DNA from the .
* The will continue to move down the till it reaches the .
* Once in the , the will itself into the .

**Day 0-** The sperm  **the** inside the , forming the

**In 2 days**- the  into two . After this first division, the developing organism is now called an .

**By day 4**, the  has divided to form a ball of 50  cells.

**By day 5**, the embryo is a  of cells called a .

**By day 7** (**1 week**), the becomes  into the  of the , where it continues to  and .

**How can one tiny cell make all the different cells in your body?**

* the  is the  .
* The DNA contains all the  to  an  .
* At first, all the  in the  are  but as the zygote  , the cells begin to move to a  place.

**How can one tiny cell make all the different cells in your body?**

* Once the reaches its  , certain genes “  ” and some “  ”
* This is called .
*  are of on DNA that is for a specific job in the (example: eye color, height, skin color)
* The cells in the will eventually give rise to ALL different cells
* in the of the , all the cells are exactly the
* These cells are said to be or .



**What are stem cells and why are they important?**

* are the cells made during the first few cell divisions.
* Because these cells are ***not*** yet, they have the ability to become cell in the body.
* If a stem cell is and place in part of the body, the stem cell will grow into that part.

**Problem with Stem Cells**

* medical stem cells only come from .
* Removing these stem cells will the child.
* An problem occurs: Is it OK to “kill” a embryo to same someone else?

**When is the embryo called a fetus?**

* At weeks ( ), the developing organism is called a **f** .
* The fetus is suspended in a fluid-filled sac, called the .
* The fetus is totally by (it is “underwater”).
* This fluid protects the from and . (a pillow)
* The is a organ that the makes inside the uterus. It allows and to from the mother’s blood to the fetus’s letting the blood mix.
* Also, the placenta allows (like CO2) to go from fetal to the mother’s where they can be .
* The placenta is to the fetus by the .
* Your is a left from your .

**What goes in a mother, goes in the baby?**

Substances like , and are molecules.

They can move through the .

These can the baby causing birth