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| **4.3 The Reproduction System allows the production of offspring** | | | |
| **Before you learned…** | * Some hormones regulate sexual development * Glands release hormones | | |
| **Now you will learn…** | * About specialized cells and organs in male and female reproductive systems * About fertilization * About the development of the embryo and fetus during pregnancy | | |
| **Define the following words.**  **Menstruation:** the flow of blood and tissue from the body through a canal called the vagina over a period of about five days.  **Fertilization:** occurs when one sperm cell joins the egg cell  **Embryo**: ball of cell that occurs after the egg cell has been fertilized.  **Fetus:** the developing embryo from eight weeks to birth | | | |
| **Question** | | **Answer** | |
| **The male and female reproductive systems are different but they do share an important characteristic….** | | They both make specialized cells.   * Male make sperm cells * Females have egg cells | |
| **Female specialized cells are called…** | | Egg Cells | |
| **The male specialized cells are called...** | | Sperm Cells | |
| **What is genetic material? Why is it important?** | | Genetic material contains the information that an organism needs to form, develop, and grow.  It is important because it acts as the organisms blue print. | |
| **Both the male and the female reproductive systems rely on….** | | Hormones from the endocrine system | |
| **Why are hormones important?** | | The hormones act as chemical messengers that signal the process of sexual development. | |
| **FEMALE REPRODUCTIVE SYSTEM** | | | |
| **Female reproductive organs…**   * **About how many eggs does each of these organs contain?** * **How do the ovaries get the uterus prepared to receive an egg?** | | * Ovaries   + Each ovary contains on average 100 egg cells   + They produce hormones to get the uterus ready to receive an egg. | |
| **Label the female reproductive organs…** | | | |
| **Where does the egg travel after it leaves the ovary?** | | The fallopian tube | |
| **Where is the egg cell fertilized?** | | In the fallopian tube | |
| **What happens if an egg is not fertilized?** | | If the egg cell is not fertilized within 24 hrs the egg cell leaves the ovary, both the egg and the lining of the uterus begin to break down. The muscles of the uterus contract in a process called menstruation. | |
| **What are the two main functions of the female reproductive system and where do they take place?** | | 1. Produce the egg cell, this takes place in the ovaries 2. To nourish offspring until birth, this takes place in the uterus   \*\*\*Ovaries produce/hold egg cells\*\*\* | |
| **MALE REPRODUCTIVE SYSTEM** | | | |
| **The organ that produces sperm is called the…**   * **What is inside this organ?** * **What is produced by the coiled tubes?** | | | Testes   * Inside this organ there are tiny coiled tubes hundreds of feet long * Sperm are produces by these coiled tubes. |
| **The testes release a hormone that is responsible for what?** | | | * Development of sperm * Development of physical characteristics   + Deep voice   + Facial hair |
| **When do males start producing sperm?** | | | During adolescence |
| **Sperm is a \_(1)\_ with a \_(2)\_ and a \_(3)\_.** | | | 1. Single cell 2. head 3. tail |
| **Describe the contents/job of the sperm’s head and tail** | | | Head: filled with chromosomes  Tail: function is to whip, making it highly mobile |
| **What is semen and why is it important to sperm and overall reproduction.** | | | Semen contains nutrients for the sperm cells. Helps transport the sperm cells. |
| \*\*We will label this together because it is not in your textbook\*\* | | | |
| **FERTILIZATION** | | | |
| **What is fertilization?** | | | occurs when one sperm cell joins the egg cell |
| **Where does fertilization occur?** | | | Fallopian tubes |
| **What is the ball of cells that grows from a fertilized egg?** | | | An embryo |
| **Where does the fertilized egg begin to divide?** | | | In the fallopian tubes |
| **Where does the embryo implant?** | | | In the uterus |
| **How does the egg progress to implantation?** | | | A sperm fertilizes the egg in the fallopian tube. The fertilized egg begins to divide as it passes down the tube. Within a few days, a ball of cells is formed and this embryo attaches itself to the wall of the uterus. |
| **Describe the development of an embryo and fetus at two weeks, eight weeks, and twelve weeks.** | | | Two Weeks: embryo grows rapidly, placenta develops  Eight Weeks: embryo becomes a fetus with developing facial features, organ systems, sexual traits, and skeleton  Twelve Weeks: bones of fetus develop further |
| **What happens during each of the three stages of birth?** | | | First Stage: labor, muscular contractions of the uterus  Second Stage: delivery, fetus is pushed out  Third Stage: delivery of the placenta |
| **How does the first stage of birth begin?** | | | With muscular contractions of the uterus |
| **How does the embryo change as pregnancy progress?** | | | By the eighth week the embryo has become a fetus. It begins to have facial features, major organ systems, some of its skeleton, and its sexual traits. In the second trimester the bones continue to grow and during the third trimester the fetus and all of its systems develop fully. |
| **Why are some twins identical and some are not?** | | | Identical twins come from a single fertilized egg that divides in two. Fraternal twins come from two separate fertilized eggs. |

\*\*\* What makes sperm and egg cells different from almost all other types of cells?\*\*\*

* They must join one another in order to reproduce