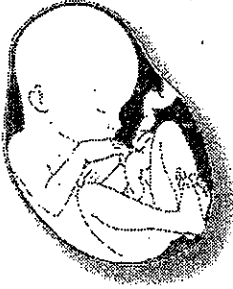


## Nova Online - Life's Greatest Miracle



<http://www.pbs.org/wgbh/nova/miracle/>

In this activity, you will watch a video, Miracle of Life. In this program, the process by which egg and sperm join to create an embryo is shown. The video then continues to follow the fertilized egg as tissues and then organs develop, finally ending with the birth of the baby.

1. DNA is very good at \_\_\_\_\_
2. Why is sexual reproduction more advantageous than cloning?  
\_\_\_\_\_
3. How many new sperm are created every day? \_\_\_\_\_
4. During meiosis, what happens to the matching X-shaped chromosomes?  
\_\_\_\_\_
5. How is the egg pushed along within the Fallopian tube?  
\_\_\_\_\_
6. To fertilize the egg, sperm encounter several obstacles, what is the last one they encounter before they penetrate the egg? \_\_\_\_\_
7. The blastocyst must do two things to survive, it must break out of the zona and what else?  
\_\_\_\_\_
8. Two weeks after conception, the cells organize themselves into an \_\_\_\_\_, a process called gastrulation.

Period \_\_\_\_\_

9. The three layers of cells created during gastrulation are destined for three different functions.

Describe what each will become:

Bottom Layer \_\_\_\_\_

Middle Layer \_\_\_\_\_

Top Layer \_\_\_\_\_

10. Genes turn on and off to make proteins. Collagen is a protein that makes tendons and bones, keratin makes hair. Hemoglobin in the blood has what job?

\_\_\_\_\_

11. An embryo with two X chromosomes will become a \_\_\_\_\_. An embryo with the XY combination will become a \_\_\_\_\_.

12. Two months after fertilization, the embryo is called a \_\_\_\_\_.

13. What structure is used to gather blood and nutrients from the mother's blood and pass it to the umbilical cord? \_\_\_\_\_

14. At the end of pregnancy, the baby is growing myelin around its neurons. This growth increases its need for what nutrient? \_\_\_\_\_

15. Why is it harder for human babies to be delivered than other animals?

\_\_\_\_\_