

NAME \_\_\_\_\_

PERIOD \_\_\_\_\_

DATE \_\_\_\_\_

## HOW DOES A HUMAN CHANGE DURING DEVELOPMENT? Lab # 39

**INTRODUCTION:** The gestation period (time before birth) is about 38 weeks. The fertilized egg (zygote) is about the size of a grain of sand. It goes through many mitotic cell divisions before it becomes a baby. When do most of the increases in size and mass occur?

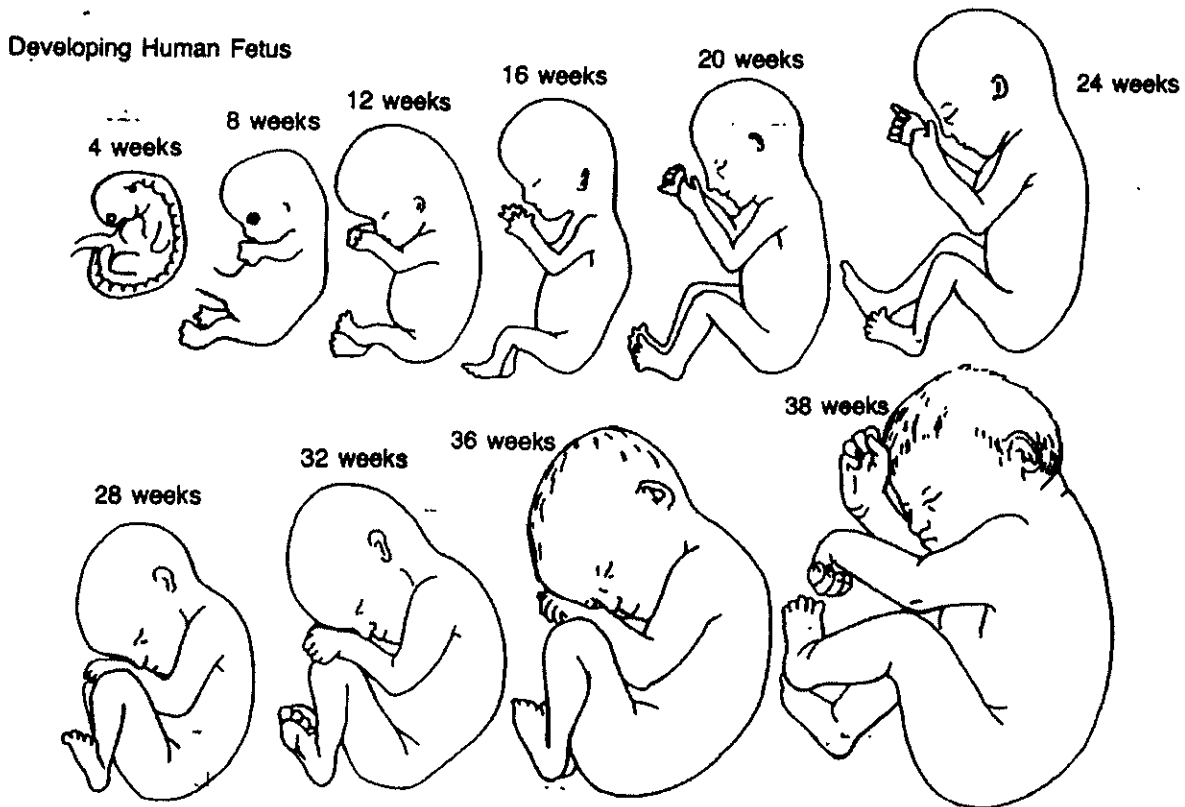
**OBJECTIVES:**

1. Graph the changes in size and mass of a developing baby.
2. Determine when during development most of the changes in size and mass occur in the baby.

**PROCEDURE:**

1. Examine the diagrams of the developing baby below.
2. Use the data in the first table to plot the size of the developing baby and use the data in the other table to plot the mass of the developing baby.

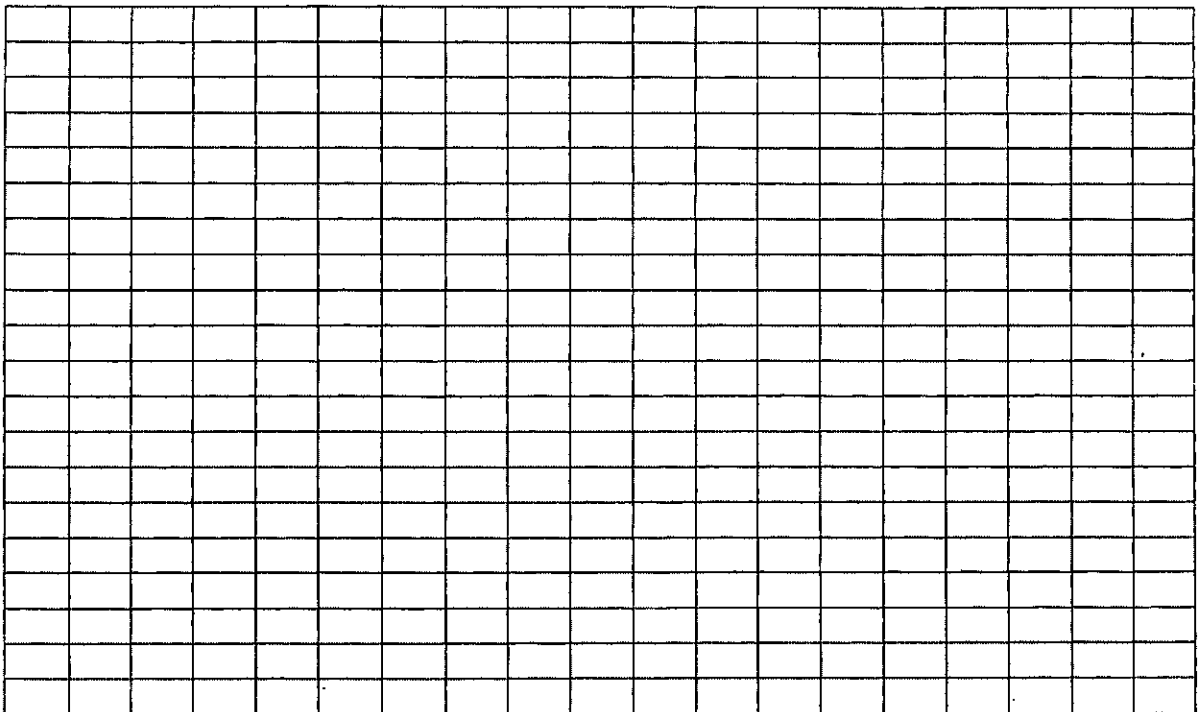
**Developing Human Fetus**



### Change in Size of a Developing Baby

Time (weeks)	Size (mm)	Time (weeks)	Size (mm)
4	7	24	300
8	14	28	350
12	75	32	410
16	160	36	460
20	240	38	500

### Size of Developing Fetus



A large empty grid consisting of 20 columns and 20 rows, intended for plotting the data from the table above.



**QUESTIONS:**

1. How long is the average baby when born? \_\_\_\_\_
2. How many grams is the average baby's mass at birth? \_\_\_\_\_
3. The halfway point in development is about 20 weeks.
  - a. Is the average fetus half its full length in 20 weeks? \_\_\_\_\_
  - b. Is the fetus half its total mass in 20 weeks? \_\_\_\_\_
  - c. At what week does it reach half its total weight? \_\_\_\_\_
4. Study the fetal development diagrams again. In complete sentences describe how the baby changes in the early weeks of its development.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. What are the major changes in development in the last few weeks before birth?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
6. Babies born early are called premature or "preemies." Often premature babies have difficulties because of their small size, mass, and that their internal organs are not completely developed. If a baby is born after 7 months of development, what is its size at birth? \_\_\_\_\_, mass at birth? \_\_\_\_\_.
7. Grams are units of \_\_\_\_\_; millimeters are units of \_\_\_\_\_.
8. The changes in size and mass of a fetus in the uterus is called its \_\_\_\_\_.
9. A baby born early is called a \_\_\_\_\_ baby.
10. What is meant by "average" baby in the question above? \_\_\_\_\_  
\_\_\_\_\_