

**USING LEARNING CYCLE CARDS TO STUDY MEIOSIS**

NAME \_\_\_\_\_

**Introduction:** Meiosis is the process that reduces the chromosome number of the parent cell to half in two successive cell divisions. In this investigation, each group will line up cards showing various stages of meiosis in the proper order and investigate the differences in each stage.

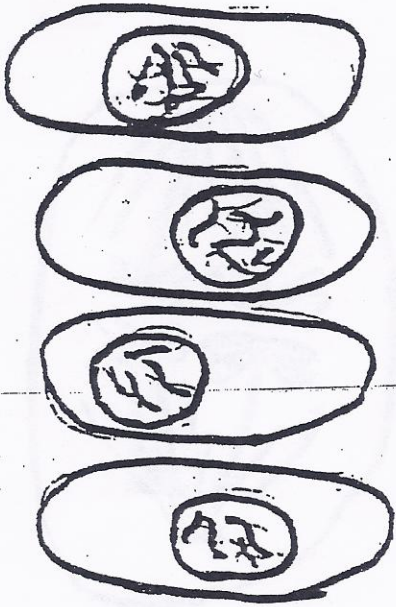
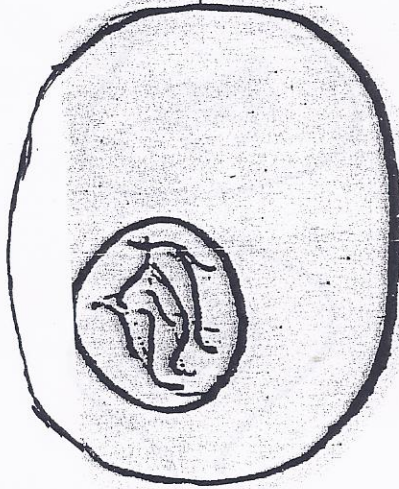
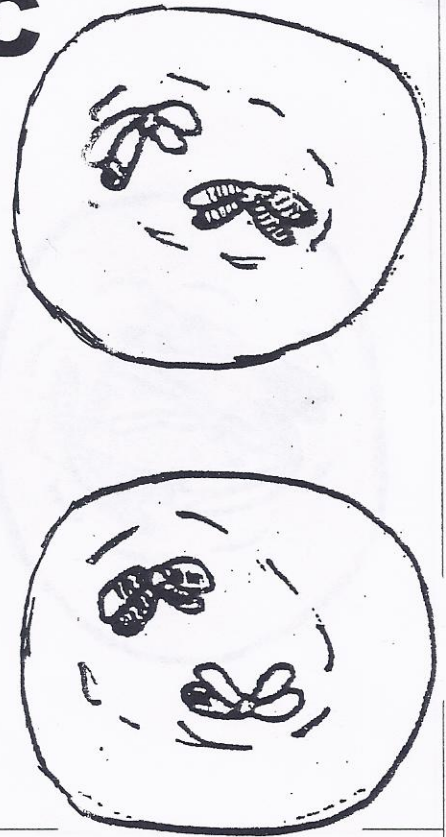
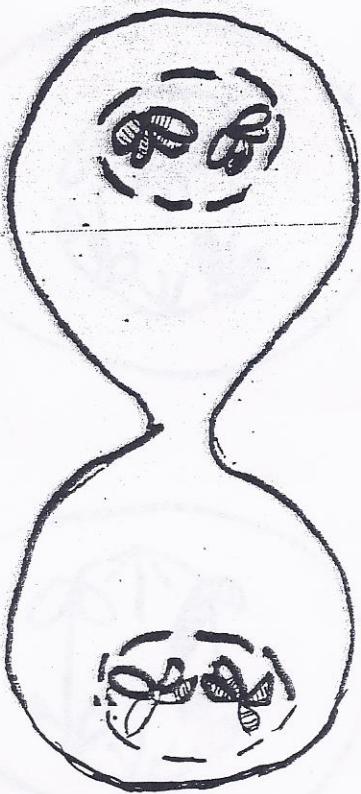
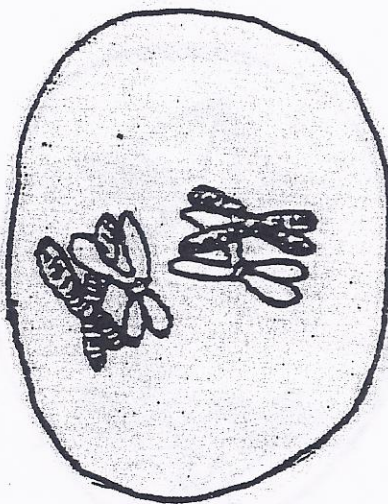
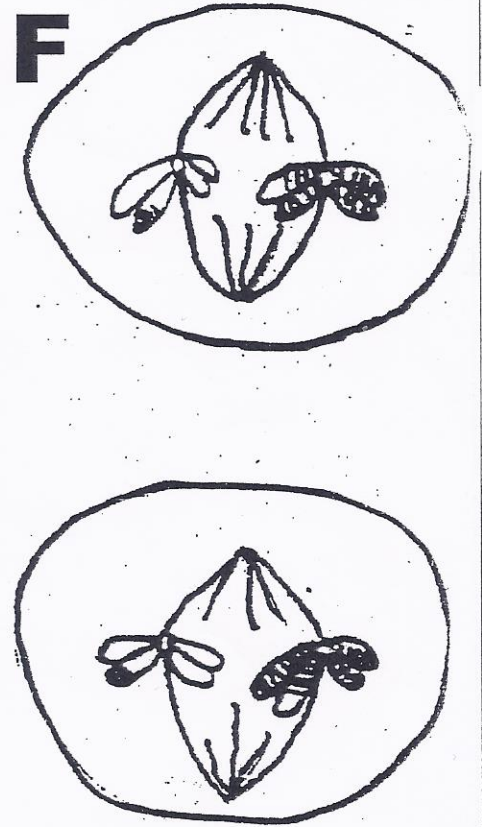
**Materials:** Meiosis Learning Cycle Cards

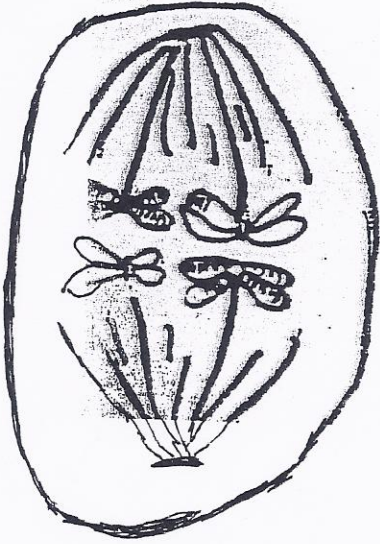
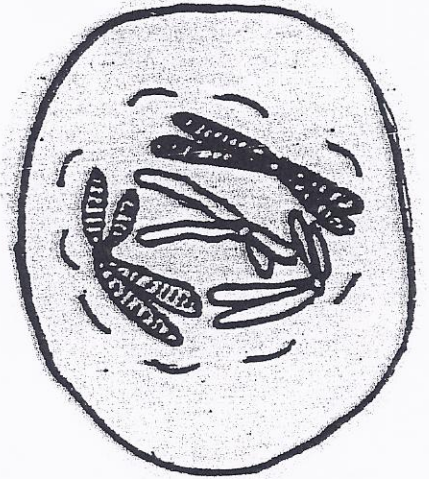
**Procedure:**

1. Examine the bundle of cards given to you by your teacher. Pick out the cards that you feel represent meiosis I and separate these from the cards that represent meiosis II.
2. Line up the cards in order that you feel represent meiosis I.
3. Examine the other cards. Compare them with each other and line them up in the proper order for meiosis II.
4. Answer the questions below.

**ANALYSIS QUESTIONS:**

1. What is the correct sequence of letters on your cards?
2. What happens to the chromosome number during meiosis?
3. How many cells are formed during meiosis?
4. Define the terms diploid and haploid. Use these terms to describe the process of meiosis.
5. What is crossing over? Which stage does it occur?
6. What is the importance of crossing over in human genetics?
7. Look in your textbook or an old handout for a diagram of mitosis. Answer the following question:
  - (a) How does prophase I in meiosis differ from prophase in mitosis?
  - (b) How does metaphase I in meiosis differ from metaphase in mitosis?
  - (c) What is different about anaphase I in meiosis with mitosis?
  - (d) How does telophase I in meiosis differ from telophase in mitosis?
  - (e) What statement could you make about Meiosis II as compared to mitosis?
  - (f) The original cell had 4 chromosomes. How many chromosomes are in each of the new cells?

**A****B****C****D****E****F**

**G****H****I****J****K**