

# Meiosis Flipbook

## **Materials Needed:**

40 Notecards

colored Pencils

Rubber Band

## **Objectives:**

To learn the progression of Meiosis and identify its phases

To understand the relationships between chromosomes, chromatids, and genes

## **Directions:**

1. Number your cards 1-40 so that they can be assembled in the right order again.
2. Begin by labeling 9 of the cards with the following labels: Parent cell (2n), Prophase I, Metaphase I, Anaphase I, Telophase I, Prophase II, Metaphase II, Anaphase II, and Telophase II/4 Daughter cells (2n)
3. Draw what each of those phases of meiosis look like on the card with the appropriate label. Include the following items:
  - a) 2 pairs of Large chromosomes, 1 red, one blue.
  - b) 2 pairs of medium chromosomes, 1 orange, 1 purple
  - c) 2 pairs of small chromosomes, 1 black, 1 green
  - d) Include centrioles, spindle fibers, nucleus, and centromeres where appropriate
4. Fill in the rest of your cards with the steps that connect the cards together, so that you will have a smooth animation when the cards are flipped. This is done best by filling in cards that are right between 2 phases, and working your way from there.

## **Special notes:**

-In Prophase I, please label the 3 tetrads that should form.

-In Prophase I, show crossing over in some way in the large chromosomes ONLY.

-Your final Telophase II/4 Daughter cells (2n) card should have 4 cells, each with 3 chromatids in them.

## **GRADING RUBRIC**

40 cards, colored \_\_\_\_\_/10 points (less for uncolored)

Correct Labels in all Places (phases and tetrads) \_\_\_\_\_ /10 points (for 10 labels)

All organelles and structures shown  
(chromosomes/chromatids, spindle fibers,  
nucleus, centromeres, centrioles) \_\_\_\_\_ /10 points (less if missing)

Flipbook shows smooth animation \_\_\_\_\_ /10 points

TOTAL \_\_\_\_\_/40 points

## **Mitosis/Meiosis Quiz Review**

- Be able to identify the phases of mitosis from pictures
- Be able to compare and contrast mitosis and meiosis (Venn diagram)
- Identify what is occurring in the cell during each stage of mitosis
- Identify what is occurring during interphase
- Know the difference between chromosomes and chromatids
- Identify the main occurrences during Prophase I and Metaphase I
- Know the significance of crossing over. Why is it important?
- Be able to identify and explain what a tetrad is.
- Identify the results of both meiosis and mitosis
- Identify why phase of meiosis is most similar to mitosis.
- Be able to order the phases of mitosis from pictures
- Be able to identify major (but not all) phases of meiosis from pictures