**Teacher Notes for Mitosis and Meiosis Card Sort**

Ingrid Waldron and Erica Foley, Department of Biology, University of Pennsylvania, 2010[[1]](#footnote-1)

To help students review the processes of mitosis and meiosis and to ensure that they understand how chromosomes move during mitosis vs. meiosis, give each student or pair of students a shuffled deck of the stages of mitosis and meiosis and have them arrange the cards in a sequence showing the steps that occur during mitosis and a separate sequence showing the steps that occur during meiosis.

We provide files for two alternative decks for you to choose between. The simpler deck is in the Word file and has 4 figures for mitosis and 6 figures for meiosis, all available on a single page to be printed and cut into cards (adapted from G. M. Cooper, 2000, The Cell, A Molecular Approach). We recommend printing this page on heavy paper or card stock of multiple different colors; the colors will make it easier to keep the cards from different decks separated and the cards from each deck together. If you are printing on white paper, you may want to use different colored marker stripes down the outside edges of each deck.

The more challenging deck is in the PowerPoint file and has 7 figures for mitosis and 11 figures for meiosis (adapted from Sadava et al., 2009, Life: The Science of Biology). However, we recommend omitting the first figure for mitosis since it is redundant with the second figure for mitosis, and we recommend omitting the last figure for meiosis, since the condensed chromosomes shown in the haploid gametes are erroneous and confusing. Print the slides, using the option for a handout with six slides per page, resulting in three pages with a complete set of cards. To help you identify the cards that belong together within a deck, print different decks on different color heavy paper or card stock or use different colored marker stripes down the outside edges of each deck.

After your students have had time to complete their individual card sorts, we recommend a whole class discussion of the correct sequence and the ways that students can know which cards belong in mitosis vs. meiosis and what the sequence should be. After students finish this card sort activity, you will want to ask them to shuffle the decks thoroughly to provide a challenge for the students in the next class.

1. These teacher notes, the files to make the deck for the card sort activity, and multiple additional activities for teaching biology are available at http://serendipstudio.org/exchange/bioactivities. [↑](#footnote-ref-1)