

Mitosis Flip-Book

This activity gives students a great opportunity to use their artistic skills to learn about mitosis. It would be most useful after students have had an introduction to mitosis.

Purpose: For students to create a visual aid to help them understand the process of mitosis

Materials: card cut outs (below)
markers, colored pencils, etc
stapler
textbook, or good diagram of stages of mitosis, for reference

Preparation: Give each student a copy of the mitosis cards below. it is easier if they wait to cut them out until after they have made their drawings.

Method:

1. You can make your books as detailed as you want, as long as you realize you'll be drawing a lot of very similar pictures.
2. To make a good flip-book, each successive picture should vary a tiny bit from the preceding picture. When you flip the book, the animation should be fairly smooth. You can print extra copies of the book pages if you want to add more intermediate frames in the flip book.
3. Imagine mitosis as a smooth process. Mitosis doesn't happen in 4 or 5 static frames, the way it's depicted in textbooks. Emphasize the movement of chromosomes.
4. Use the textbook diagrams to help draw the cell in mitosis. Remember the changes to chromosomes, the nuclear membrane, spindle fibers, cell membrane, etc.

Assessment:

- Flip books analyzed for the correct depiction of the five phases (i.e., chromosome placement, presence of nuclear membrane)
- All the phases must be labeled along with the correct structures in the phases.

Lab Report:

- Write an outline that describes each step of mitosis. This outline should describe the steps that you have done in your flip book.

Mitosis Flip Book Peer Grading Rubric

The flip book must include all of the following. Your grading scale will be out of 4 total points for each area and 12 total points for the assignment.

- 4 – exceeds the standard, 3 – meets the standard
2 – meets some of the standard, 1 – meets none of the standard

Name:

1. _____ Do they have all 6 phases of mitosis in their flip book? Can you see the centrioles, chromosomes, & spindle fibers throughout the flip book?
2. _____ Does their flip book show a smooth transition to each phases (make sure it looks similar to the animations that we saw in class on the computer)? Did they include all 15 pages? If they added more pages check here for extra credit.
3. _____ Did they include a lab report that outlined the 6 phases? Does their description match the details they have in their flip book?

Comments:

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Comments

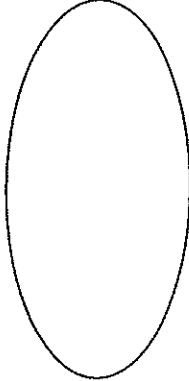
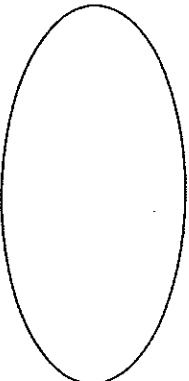
Mitosis Flip Books

Diagram Masters

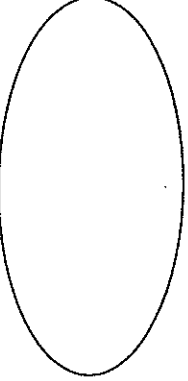
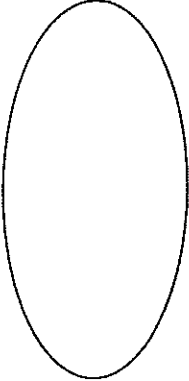
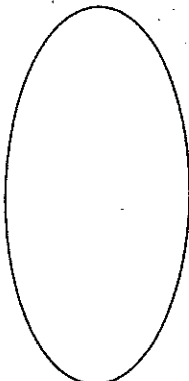
You will complete each page to illustrate the changes that take place in a cell during cell division. The first oval (or ovals) in EACH phase should show the location of the organelles at that stage. Use the extra ovals to show the movement of organelles between stages. Once you have completed all the diagrams, carefully cut out each page, organize from first to last, and staple! Flip through your book to view cell division!

Mitosis Flip Book
by _____

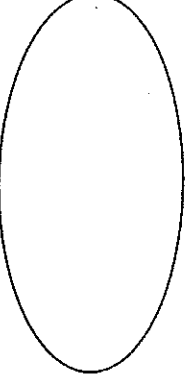
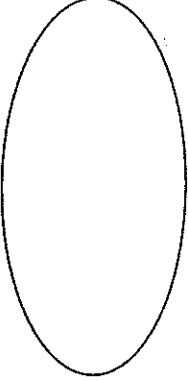
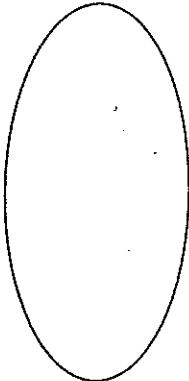
Interphase

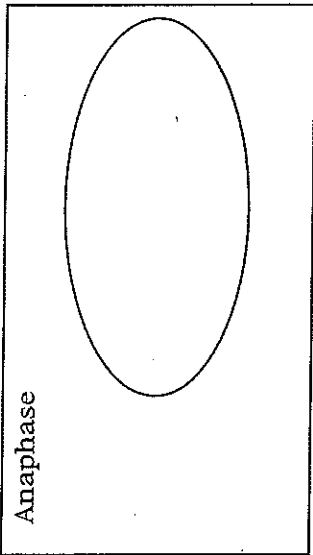
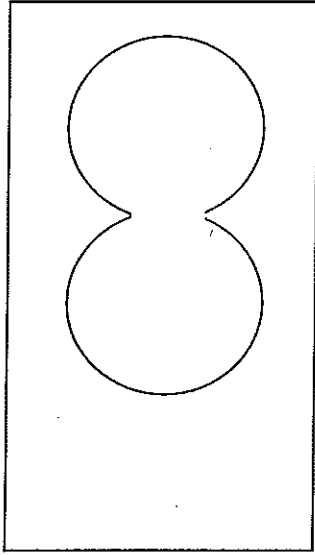
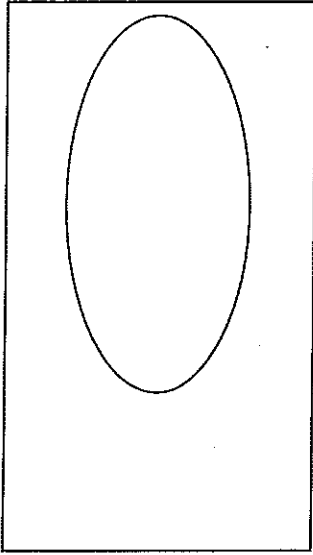
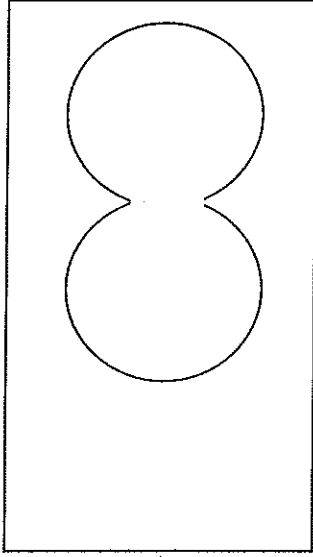
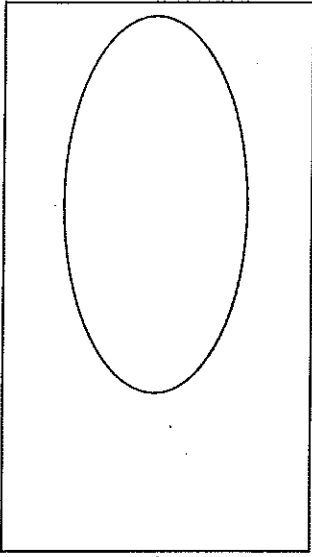


Prophase

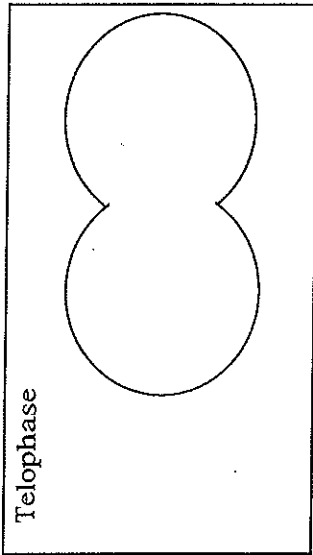


Metaphase

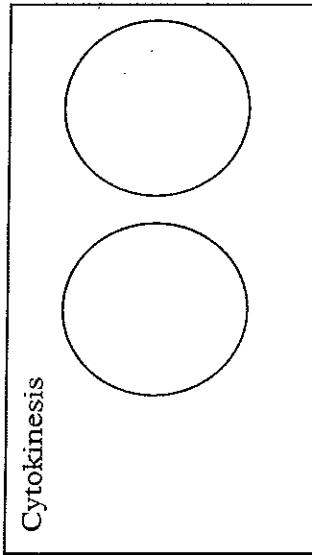




Anaphase



Telophase



Cytokinesis