Mitosis Square Dance

A fun and lasting way to help students learn the steps of mitosis is to have them participate in the MITOSIS SQUARE DANCE. This dance is fairly simple, yet it allows the students to act out the major DNA events during the cell cycle. The only materials required are students, perhaps some music (I use Mannheim Steamroller's "Wolfgang Amadeus Penguin" from the Endangered Animals tape), and an EQUATOR (I use the band of lights in the center of my classroom.

Set the Scene: One half of your student population stands in the center of the room, with the remaining students on the periphery.

INTERPHASE: The students in the center are relaxed and in the chromatin form. The DNA replicates when the center students find a partner chromatid from the periphery students. They join elbows, representing the centromere.

PROPHASE: The students "promenade" around the room (as they tense up to form chromosomes) to the beat of the music. Toward the end of this phase (teacher determines the time needed), the student pairs migrate toward the "equator."

METAPHASE: The students line up under the equator. This may take a while as students forget what a straight line looks like. The centromeres split (drop elbows) at the end of metaphase, but partners remain beside each other.

ANAPHASE: Each student pair separate with one student of each pair moving toward opposite poles. This should be a smooth simultaneous movement.

> Occasionally a student may fail to move in the correct direction, and moves with his/her partner - a great time to discuss nondisjunctions.

TELOPHASE: The students relax to regain their chromatin form on opposite sides of the room.

It is rare that the students perform this dance perfectly the first time, so you may wish to have them repeat the dance. It is not a bad idea to move outdoors to do this dance, especially if your classroom is directly above that of another class.