Running Record

Student name: Ziyi Grade level: 10

Book title: 10th grade Biology textbook - Chromosomes

Author: Miller & Levine

Self-

Errors corrections

What do you think would happen if a cell were simply split in two, without any advanced preparation? The results might be disastrous, especially if some of the cell's essential genetic information wound up in one of the daughter cells, and not in the other. In order to make sure this doesn't happen, cells first make a complete copy of their genetic information before cell division happens.

Even a small cell like the bacterium E. coli has a tremendous amount of genetic information in the form of DNA. In fact, the total length of this bacterium's DNA molecule is 1.6 mm, roughly 1000 times longer than the cell itself. In terms of scale, imagine a 300-meter rope stuffed into a school backpack. Cells can handle such large molecules only by careful packaging. Genetic information is bundled into packages of DNA known as chromosomes.