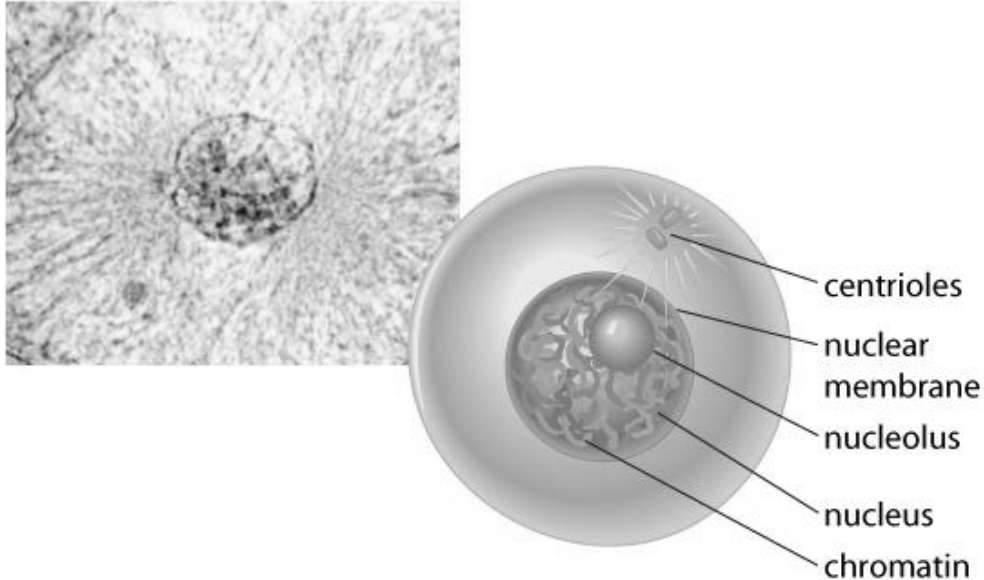
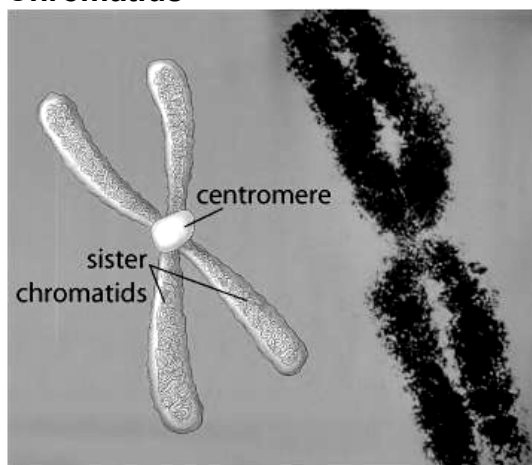


CHAPTER 16**OVERHEAD****Distinguishing Between Various Forms of Genetic Material****BLM 16.2.5**

During the different phases of mitosis, genetic material occurs in different forms.

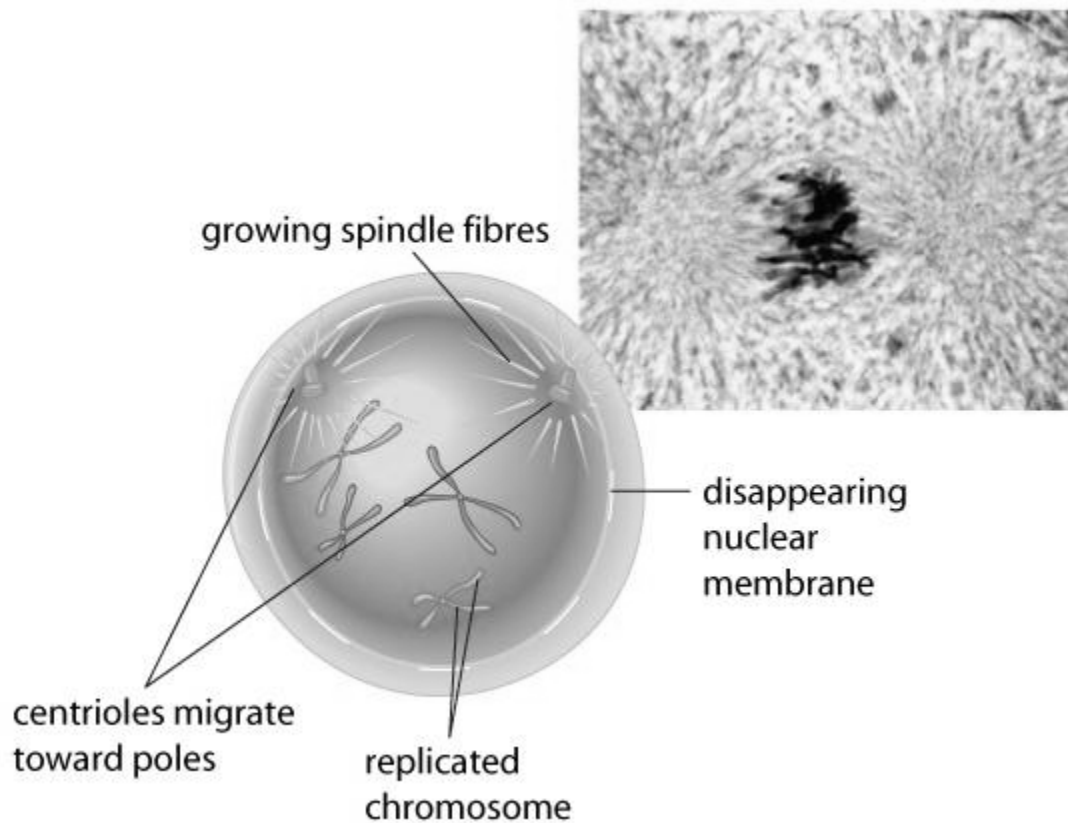
Chromatin

During interphase of the cell cycle, the genetic material of a cell appears as a mass of long, intertwined strands called chromatin.

Chromatids

Magnification: 67 534 x

During S phase of the cell cycle, the DNA in the chromatin replicates to create a second identical set of DNA. The chromatin is now referred to as sister chromatids (two chromatids held together by a centromere).

**Distinguishing Between Various
Forms of Genetic Material****Chromosomes**

During prophase of mitosis, the chromatin (already joined as sister chromatids at the centromere) condenses into tightly packed chromosomes to facilitate cell division.