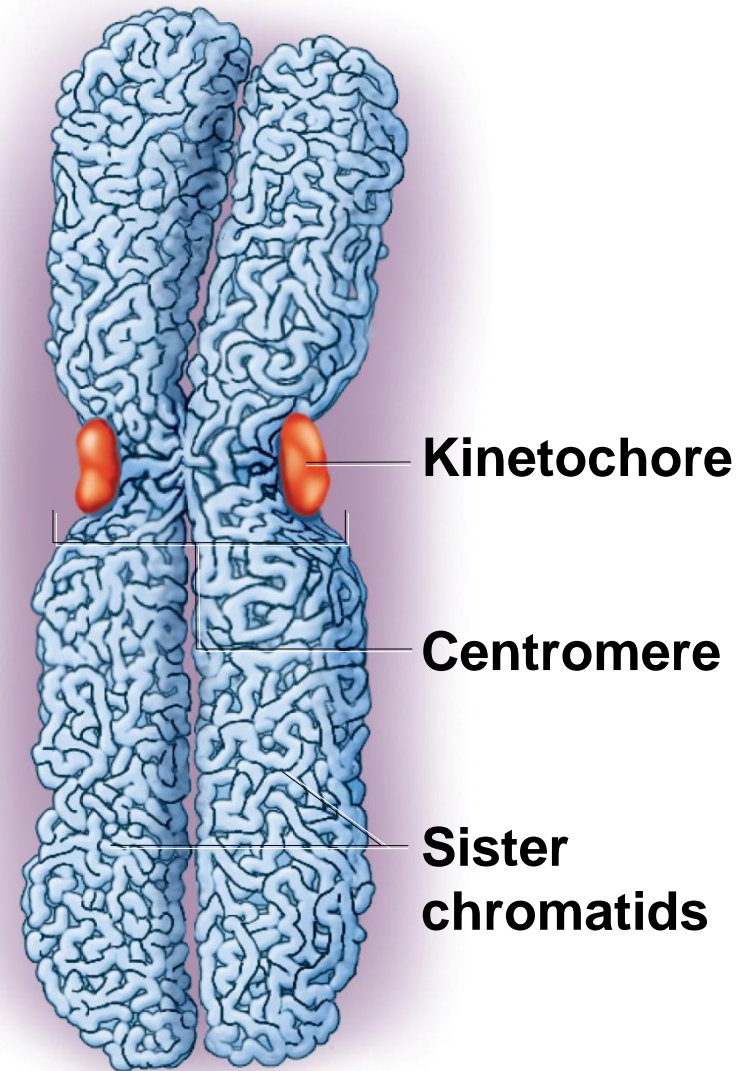


Chromatin and Chromosomes

Copyright © The McGraw-Hill Companies, Inc. Permission required for reproduction or display.

- Exact copies are made of all the nuclear DNA
- Each chromosome consists of two parallel filaments of identical DNA— **sister chromatids**
- In prophase, final coiling and condensing
 - Now visible with light microscope
- Final compaction enables the two sister chromatids to be pulled apart and carried to separate daughter cells without damage to the DNA
 - Joined at **centromere**
 - **Kinetochores**—protein plaques on either side of the centromere



(a)

Figure 4.5a