

<b>CHAPTER 16</b>	<b>The Levels of Organization of Genetic Material Worksheet Answer Key</b>	<b>BLM 16.1.4A</b>
<b>ANSWER KEY</b>		

1. The genetic material of a cell is referred to as DNA or deoxyribonucleic acid.
2. This material is found within the chromosome(s) of a cell, which are found in the nucleus of eukaryotic cells.
3. In order to fit within this small structure, the genetic material is condensed into a compact structure.
4. During the first stage of this process, the hereditary information is wound around proteins known as histones, forming bead-like structures.
5. These bead-like structures are tightly packed together to form strands of chromatin, which form loops that are attached to a protein scaffold.
6. This new structure folds even further during cell division or replication, condensing to form pairs of identical chromosomes that are joined at the centromere.
7. Within human somatic cells, genetic material is organized into 22 pairs of homologous chromosomes or autosomes and two sex chromosomes.