



This gene map shows the locations of genes on chromosome 2 of the fruit fly *Drosophila melanogaster*.

- Write in the following genes at their listed location on the gene map.  
 Arc (bent wings): 99.2      Dumpy wing: 13.0  
 Dachs (short legs): 31.0      Star eye: 1.3
- Which pair of genes are closer together on the chromosome—*dachs* and *dumpy wing*, or *arc* and *star eye*? \_\_\_\_\_
- Which pair of genes are more likely to assort independently—*dachs* and *dumpy wing*, or *arc* and *star eye*? \_\_\_\_\_
- What process can lead to genes on the same chromosome assorting independently?  
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- When does the process from question 4 occur during meiosis? \_\_\_\_\_