

Optional Ice Spider Worksheet

A fictional female and male ice spider ($2n = 4$) were crossed (mated).

The genotypes of the parents were:

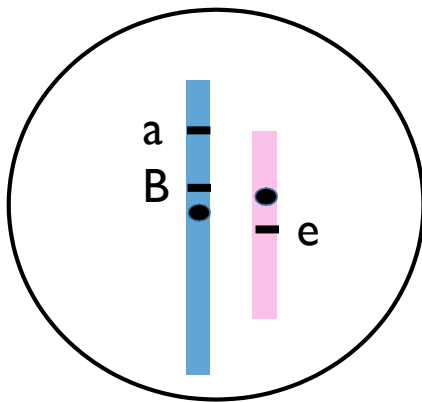
AABBee (mother) x aabbEE (father)

The A and B genes are linked on chromosome 1, with the B chromosome located closest to the centromere. The e gene is located on chromosome 2.

a) What would be the genotype of their offspring (F1)?

b) Draw an F1 cell when it is at G1 of the cell cycle.

c) An F1 germ line cell undergoes meiosis, producing 4 haploid daughter cells. One daughter cell (F2) is shown below.



In the space below, draw the F1 cell at Metaphase 1 that would result in the daughter cell shown above.