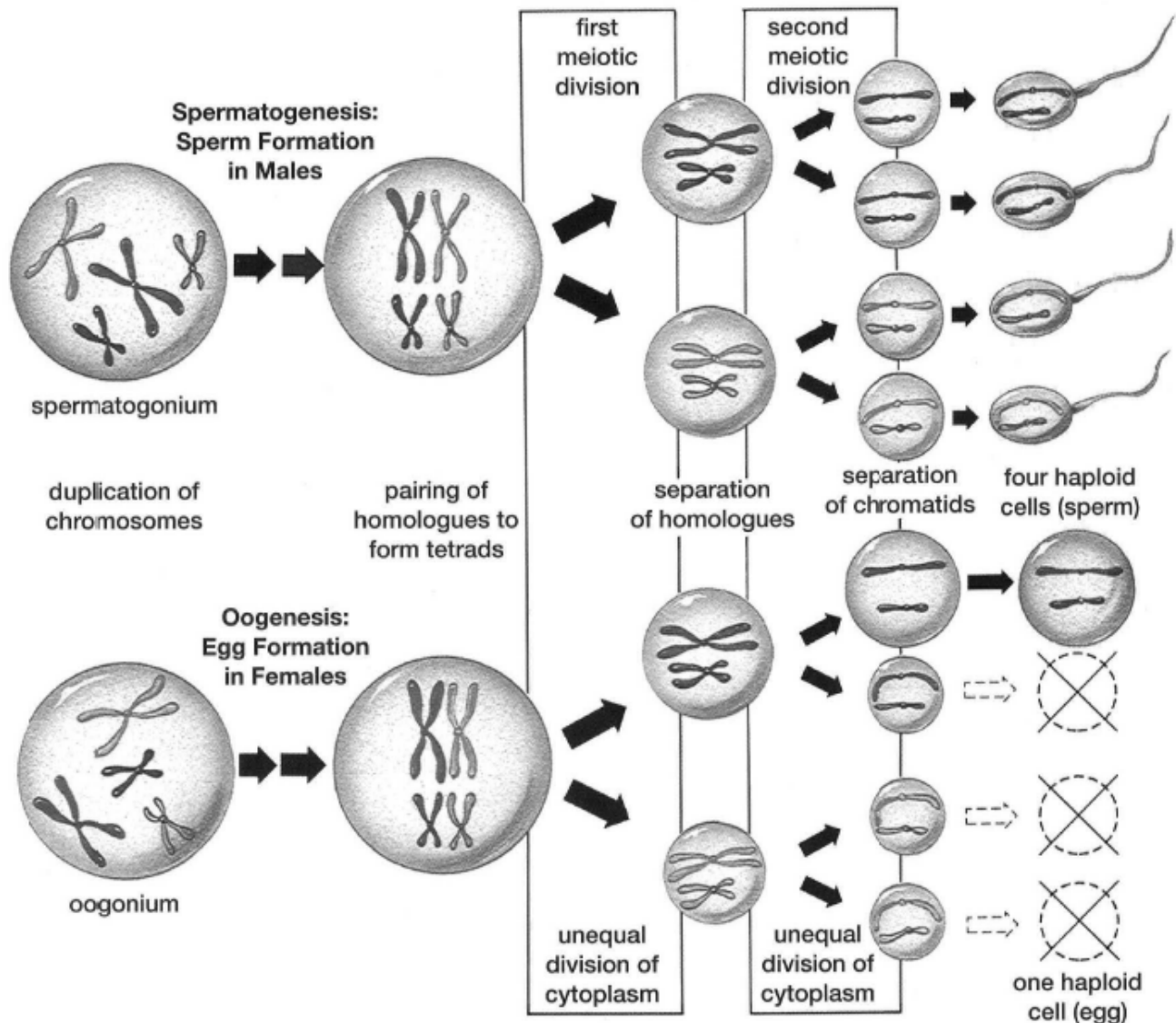


**CHAPTER 16****ANSWER KEY**

# **Comparison of Oogenesis and Spermatogenesis Exercise Answer Key**

**BLM 16.3.11A****Activity****Questions**

- 23 (each made up of two sister chromatids); haploid
  - 46 (23 pairs); diploid
  - 46 (23 pairs); diploid
  - 23; haploid
- Four functional gametes are produced by spermatogenesis; one functional gamete is produced by oogenesis (the polar bodies produced in oogenesis are non-functional).

<b>CHAPTER 16</b>	<b>Comparison of Oogenesis and Spermatogenesis Exercise Answer Key</b>	<b>BLM 16.3.11A</b>
<b>ANSWER KEY</b>		

3. The unequal division of cytoplasm means that the ovum contains a large quantity of nutrients that is available to the developing zygote prior to implantation. Thus the zygote receives nourishment from the cytoplasm from the time it is fertilized in the Fallopian tube until it is implanted in the lining of the uterus.
4. Three months after conception, the two million primary oocytes are all arrested in prophase I of meiosis. After puberty, one (or sometimes more) primary oocyte completes meiosis I each month and becomes a secondary oocyte. The secondary oocyte then undergoes meiosis II, which is arrested in metaphase II. Meiosis II is only completed after the secondary oocyte is fertilized.