

Comparison of Oogenesis and Spermatogenesis Exercise

Complete the activity and questions below.

Activity

With a partner, use poster board to illustrate the processes of spermatogenesis and oogenesis. Indicate the distribution of genetic material (use four chromosome pairs rather than 23) during spermatogenesis and oogenesis and highlight the differences and similarities between these processes. Divide your poster board in two, as shown in the diagram below, illustrating spermatogenesis on one side and oogenesis on the other side.

Spermatogenesis	Oogenesis

Questions

Answer the following questions in the space provided.

1. Give the number of chromosomes that would be found in each of the following human cells. Would these cells be haploid or diploid?

a) a secondary oocyte _____

b) a zygote _____

c) a somatic cell _____

d) a spermatid _____

2. How many functional gametes are produced by spermatogenesis? By oogenesis?

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3. The cytoplasm of the primary oocyte and the secondary oocyte divides to create a large cell and a tiny cell. How does this unequal division benefit the fertilized ovum or zygote?

4. Three months after conception, human female ovaries contain two million primary oocytes. Explain the timing of meiosis from conception (prior to birth) to the formation of a new zygote.
