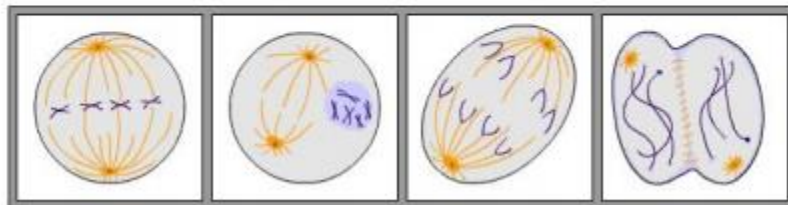


Unit 5 (Cell Division) Practice SOL Questions

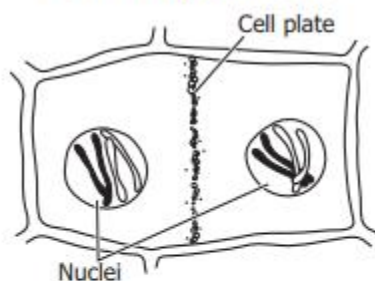
Place the phases of mitosis in the correct sequence.



Which is an activity that increases the genetic variation within a population of earthworms?

- A Binary fission
- B Sexual reproduction
- C Budding
- D Fragmentation

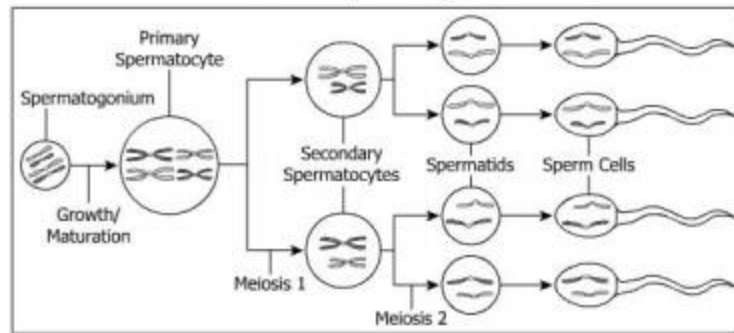
Cell in Cytokinesis



A student looking through a light microscope saw this cell in cytokinesis. This cell is *most* likely from —

- A a plant
- B a virus
- C an animal
- D a bacterium

Model of Spermatogenesis



According to this diagram, the result of spermatogenesis is four sperm cells, each with —

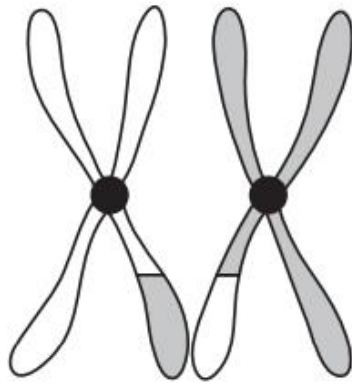
- A strands of DNA that resulted from crossing over
- B half of the original number of chromosomes
- C genetically identical strands of DNA
- D complete copies of all the original chromosomes

Gametes must be haploid because —

- A gametes are small and can hold only the haploid number of chromosomes
- B the gametes' chromosomes will be replicated prior to cell division
- C two gametes will unite during fertilization to create a diploid cell
- D fertilization results with a haploid zygote

Why does sexual reproduction result in greater diversity among offspring than does asexual reproduction?

- A Only mitosis must occur in sexual reproduction.
- B New combinations of genes result from sexual reproduction.
- C Sexual reproduction may occur at a faster rate.
- D Mutations are more likely to occur in asexual reproduction.



During meiosis, homologous chromosomes can exchange DNA in a process known as —

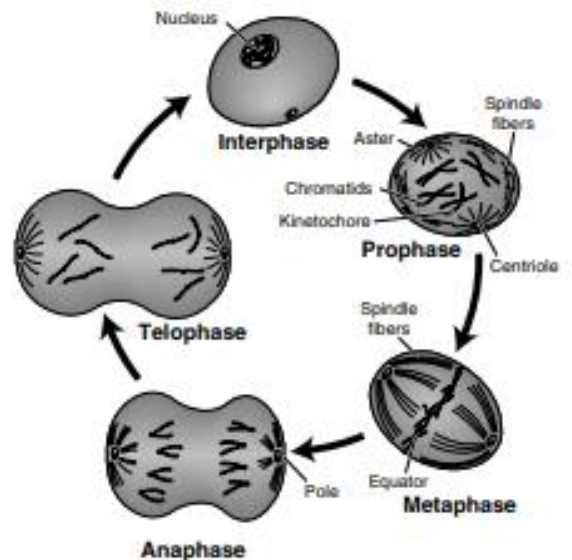
- F replication
- G internal fertilization
- H cytokinesis
- J crossing over

Meiosis is the process by which gametes are produced. In which of the following human organs does meiosis occur?

- F Testis
- G Liver
- H Skin
- J Pancreas

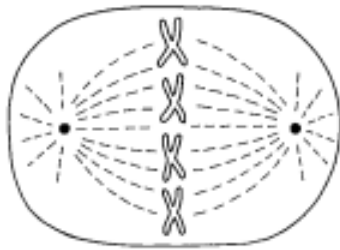
The processes of meiosis and fertilization help ensure the survival of the species by providing each generation with the same number of —

- A body cells
- B chromosomes
- C offspring
- D gametes

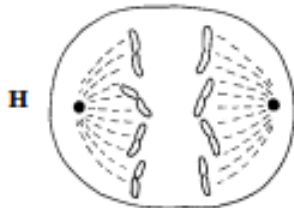
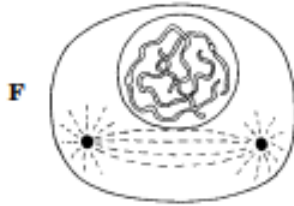


Which of the following phases is the first step in mitosis?

- F Anaphase
- G Metaphase
- H Prophase
- J Telophase



Which phase of mitosis would be seen next?



In plants, gymnosperms have cones and angiosperms have flowers. Both of these plant structures are specialized for —

- A sexual reproduction
- B food production
- C water absorption
- D photosynthesis

Tissue samples taken from the heart and stomach of a grasshopper would be expected to have the same —

- A cell shape
- B cell size
- C metabolic rates
- D DNA