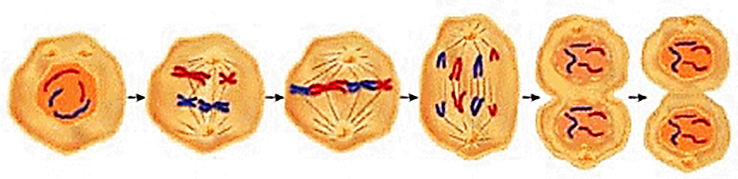
Biology Review

|  |  |  |
| --- | --- | --- |
| 1. gene 2. chromosome 3. DNA 4. enzyme 5. photosynthesis 6. nucleus 7. mitochondria 8. ribosome 9. cytoplasm 10. selectively permeable 11. bacteria 12. virus 13. sexual reproduction 14. asexual reproduction 15. meiosis 16. gamete 17. zygote 18. mitosis 19. fertilization 20. cancer 21. diploid 22. haploid 23. cytokinesis 24. hereditary 25. genetics 26. trait | \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ | Smallest and simplest form of life (single cell without nucleus)  The “powerhouse” of cell  Allows some molecules to pass through but not others  Control center of the cell  Lack most of the characteristics of living things  Protein that speeds up a chemical reaction  Material in which nucleus and organelles are suspended  Section of DNA molecule that codes for a specific enzyme  Takes place in chloroplasts  Protein factory of the cell  Molecule that contains genetic instructions for the cell  A structure in the nucleus that contains genes  Combining of a male and female reproductive cell  New cell that results from the fertilization of an egg  Having pairs of homologous chromosomes  Special cell for reproduction  Separation of paired chromatids into two identical sets  Process producing specialized reproductive cells  A group of cells that don’t reproduce properly  Having only one chromosome of each type  Process in which cytoplasm divides into 2 roughly equal halves  Production of offspring from a single parent  Reproduction that requires two parents  The study of heredity  Having different alleles for a particular gene  Passing on of characteristics from parents to offspring |

1. The three main functions of cell division are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_
2. For each of the following parts, describe location and function:

|  |  |  |
| --- | --- | --- |
| **Structure** | **Location** | **Function** |
| Nuclear membrane |  |  |
| Chromosomes |  |  |
| Nucleolus |  |  |
| ribosomes |  |  |
| Endoplasmic Reticulum (ER) |  |  |
| Centrioles |  |  |

1. What are the 4 bases that make up DNA: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. What are the 3 parts of DNA: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. List the 6 parts of the cell cycle in order: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What 2 things happen during interphase: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Label the stages of Mitosis below.



\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

1. How is cytokinesis different in plants and animals? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What is the main difference between asexual and sexual reproduction? \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. For each method of asexual reproduction, define and give an example.

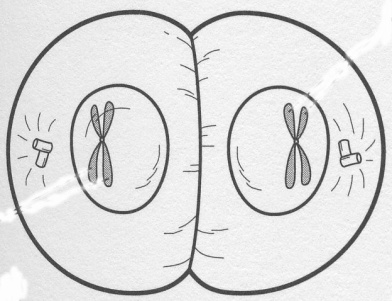
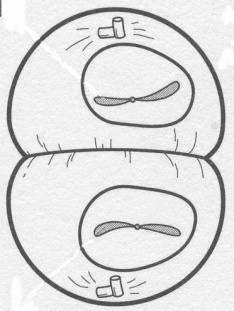
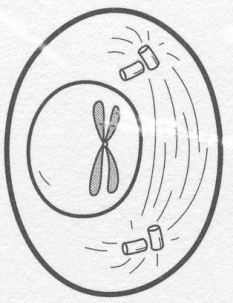
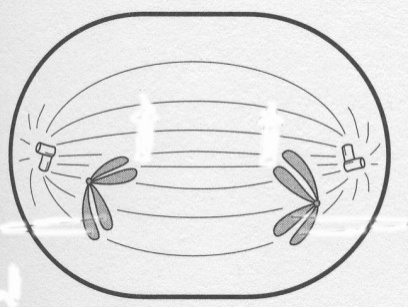
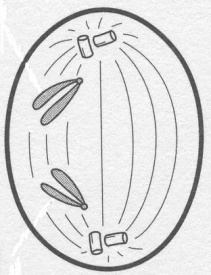
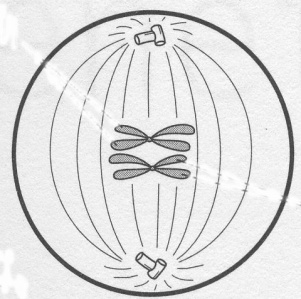
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| --- | --- | --- |
| **Method** | **Definition** | **Example** |
| Binary  Fission |  |  |
| Budding |  |  |
| Vegetative  Reproduction |  |  |
| Fragmentation |  |  |
| Spore  Formation |  |  |

1. A cell that is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ contains the normal number of chromosomes. These cells are sometimes referred to as \_\_\_\_\_\_\_\_\_\_\_\_ or body cells. In humans there are \_\_\_\_\_ chromosomes in one of these cells. A cell that is \_\_\_\_\_\_\_\_\_\_\_\_\_ contains \_\_\_\_\_\_\_\_\_\_\_\_\_ the normal number of chromosomes. These cells are sometimes referred to as \_\_\_\_\_\_\_\_\_\_\_\_\_\_ or sex cells. In humans, there are \_\_\_\_ chromosomes in one of these cells.
2. Meiosis consists of \_\_\_\_\_ phases: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. At the end of the 1st phase, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ have been separated. At the end of the 2nd phase, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ have been separated. The result of meiosis is \_\_\_\_ cells with \_\_\_\_\_\_ the normal number of chromosomes.
4. The advantage of sexual reproduction is that it increases the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ among organisms.
5. Copy Table 1 (p. 81)

|  |  |  |
| --- | --- | --- |
| **Feature** | **Asexual Reproduction** | **Sexual Reproduction** |
| # of parents |  |  |
| # of offspring |  |  |
| Variety of offspring |  |  |
| Speed of reproduction |  |  |
| Timing |  |  |

1. For each method of sexual reproduction, define and give an example.

|  |  |  |
| --- | --- | --- |
| **Method** | **Definition** | **Example** |
| Conjugation |  |  |
| Hermaphrodites |  |  |
| Flowering Plants |  |  |

1. Label the stage of Meiosis that is occurring. Be specific. **NOTE**: diagrams are **not** in order. (6)  
     
     
     
     
     
     
     
     
   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
     
     
     
     
     
     
     
     
   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Number the steps in the correct order of Meiosis. (5)  
   \_\_\_\_ homologous chromosomes pair up and line up in the middle of the cell  
   \_\_\_\_ chromosomes thicken and coil up  
   \_\_\_\_ cell divides into 2 cells  
   \_\_\_\_ 4 haploid cells are formed  
   \_\_\_\_ chromatids separate and move to ends of cell
3. Meiosis or Mitosis? Fill in the blank. (5)  
   \_\_\_\_\_\_\_\_\_\_\_\_\_ Produces 4 daughter cells.  
   \_\_\_\_\_\_\_\_\_\_\_\_\_ Division that produces egg and sperm cells  
   \_\_\_\_\_\_\_\_\_\_\_\_\_ Produces cells with the same number of chromosomes as the original cell

\_\_\_\_\_\_\_\_\_\_\_\_\_ Produces cells that are clones of the original cell  
\_\_\_\_\_\_\_\_\_\_\_\_\_ Produces cells with half the number of chromosomes as the original cell