

Lesson 65: Cell Reproduction Terms

Biology with Lab

1. **Cell division** – the organized process of creating two new cells; consists of both mitosis and meiosis followed by cytokinesis.
2. **Cell cycle** – timeline of events that occurs during the lifetime of a cell; involves both interphase and cell division.
3. **Mitosis** – when the nucleus of a cell divides into two identical nuclei.
4. **Cytokinesis** – when the rest of the cell divides to form two daughter cells.
5. **Chromatin** – form of DNA inside the nucleus that appears as disorganized, long strands.
6. **Chromosomes** – form of tightly coiled, shortened and thickened DNA; appears prior to DNA replication and therefore mitosis; can refer to a duplicated chromosome or a sister chromatid that has been separated from its partner sister chromatid.
7. **Sister chromatids** – the two sides of the “X” formed by replicated chromosomes; connected by centromere; together they can be called a duplicated chromosome.
8. **Centromere** – a central protein bundle that connects sister chromatids.
9. **Karyotype** – a picture of the chromosomes within an organism’s body cells, arranged by homologous pairs; used as a way to determine sex and diagnose some disorders.
10. **Autosomes** – all chromosomes except for the sex chromosomes.
11. **Sex chromosomes** – in many species such as humans, the chromosomes received from parents determine the sex of a child; the human’s 23rd chromosome pair determines whether the child is a male (XY) or female (XX).
12. **Homologous pairs** – matching chromosomes that each came from one parent (father, mother); homologs code for different versions of the same genes.
13. **Gene** – a length of DNA that codes for a protein/trait.
14. **Alleles** – two alternate forms of each gene present on a specific chromosome in an organism (such as blue or brown eyes); with two copies of each chromosome, you have two alleles for each gene.
15. **Tumor** – an abnormal mass of tissue caused by excessive cell growth.
16. **Mutation** – a change in the DNA code of an organism.

Lesson 65: Cell Reproduction Terms (cont.)

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17. **Spindle fibers** – thin protein filaments that are constructed by the centrioles in prophase; during cell division (mitosis or meiosis) they assist in guiding the chromosomes to separate properly.
18. **Cell plate** – a structure which eventually forms a cell wall between daughter cells during cytokinesis; occurs in plants or other organisms with a cell wall.
19. **Cleavage furrow** – the indentation or pinched area of the cell surface that begins cytokinesis; not seen in organisms with a cell wall.
20. **Meiosis** – the division of a nucleus that results in four nuclei with one half the original number of chromosomes; used to produce gametes.
21. **Diploid number** – the total number of chromosomes in normal body cells; two matching homologs of each kind.
22. **Haploid number** – one half the total number of chromosomes in a normal body cell; one of each kind of homolog.
23. **Tetrad** – homologous chromosomes from each parent pair up to form two attached sets of chromatids (“tetra” = four for the four chromatids).
24. **Crossing over** – each chromatid may exchange a part of itself with its homolog as it crosses over the other during late prophase 1 or early metaphase 1 of meiosis.
25. **Genetic recombinations** – different ways chromosomes can provide variation in the species depending on which chromosomes are inherited and whether or not crossing over occurs.
26. **Gametogenesis** – production of gametes by meiosis; oogenesis and spermatogenesis are the two types.
27. **Oogenesis** – meiosis that produces eggs (ova).
28. **Ovum** – haploid, female reproductive cell; also called an egg.
29. **Spermatogenesis** – meiosis that produces sperm.
30. **Sperm** – haploid, male reproductive sex cell.
31. **Somatic cell** – body cell (liver, skin, stomach, etc.).
32. **Gametes** – sex cells; sperm and egg cells.