

Reproduction and Growth

3.4 Study Guide

1. (sexual) reproduction – when new organisms are produced from two parents
2. asexual reproduction – when new organisms are produced from one parent
3. mitosis – the division of a nucleus into two while a cell is dividing into two identical cells; mitosis ends when the cytoplasm divides and two new cells are formed
 - a. interphase – the stage where a cell spends most of its cycle; chromosomes make copies of themselves
 - b. prophase – membrane around the nucleus disappears
 - c. metaphase – chromosome pairs line up along the middle of the cell
 - d. anaphase – chromosomes split apart and travel to opposite sides
 - e. telophase – the cytoplasm divides and two new cells are formed
4. egg – the female sex cell; human egg cell has 23 chromosomes
5. sperm – the male sex cell; human sperm cell has 23 chromosomes
6. meiosis – the process in which the nucleus of a sex cell divides twice
7. fertilization – the process of an egg and a sperm joining
8. zygote – a fertilized egg cell
9. cell cycle – time of growth and time of dividing of a cell
10. life cycle – the stages all organisms go through
11. human body cell – contains 46 chromosomes
12. German scientist, Walther Fleming, used dye to observe the phases of mitosis. He placed the phases in sequence.

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