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Cell Division - Ch. 10 Biology

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| **Across**  **3.** The splitting of one cell into two; occurs after the phases of mitosis are complete; the process of cytokinesis is different in plant and animal cells  **8.** Tiny paired structures where spindles come from to attach to the centromere to  **9.** A series of events where a cell grows, prepares for division and divides to form two daughter cells  **12.** Third event of mitosis; the chromosomes separate and move along spindle fibers to opposite ends of the cell  **15.** Proteins that regulate the timing of the cell cycle; these proteins are inside and outside the cell  **16.** First described phase of mitosis, takes the longest, the genetic material inside the nucleus condenses and the duplicated chromosomes become visible. Outside the nucleus, a spindle starts to form  **18.** The second phase of mitosis; the centromere of the duplicated chromosomes line up across the center of the cell. Spindle fibers connect the centromere of each chromosome to the the two poles of the spindle  **19.** Proteins that stimulate the growth and division of cells; especially important proteins during embryonic development and wound healing  **20.** Part of cell cycle where the cell grows, DNA replicates, and the organelles and molecules produced for cell division  **21.** The process by which a cell divides into two daughter cells | **Down**  **1.** Offspring produced by sexual reproduction inherit some of their genetic information from each parent  **2.** The production of genetically identical offspring from a single parent is known as asexual reproduction  **4.**  A mass of cells; can be benign which means the mass doesn't spread; or malignant which means the mass will spread and start new tumors in other areas of the body  **5.** DNA, genetic information, that is bundled and packaged in the cell in preparation for cell division (rather than being in long strands of chromatin)  **6.** The fourth and final phase of mitosis; the chromosomes, which were distinct and condensed, begin to spread out into a tangle of chromatin; the nuclear envelope re-forms around each cluster of chromosomes . the spindle breaks apart and a nucleolus becomes visible in each daughter nucleus. Mitosis is complete.  **7.** Where the duplicated strands of DNA attach  **10.** One of the duplicated strands of DNA, sometimes the two strands are referred to sister chromatids  **11.** A mass of body cells that do not respond to the signals that regulate the growth of most cells  **13.** A process of programmed cell death; cells end their life cycle in one of two ways: damage or programmed  **14.** Duplication of the cell's genetic information which is described by four phases  **17.** DNA exists in the nucleolus in chromatin form; "beads on a string" the beads are histone proteins and the the string is the DNA |