



ACROSS

- 1 _____ over is the process by which two chromosomes, paired up during prophase 1 of meiosis, exchange some portion of their DNA.
- 7 The _____ strand is the DNA strand at the opposite side of the replication fork from the lagging strand.
- 9 _____ is the process by which one diploid eukaryotic cell divides to generate four haploid cells often called gametes.
- 10 The _____ of replication is a particular DNA sequence at which DNA replication is initiated.
- 11 During cell division, the _____ apparatus pulls apart the chromosomes into the two daughter cells.
- 13 A _____ fragment is a relatively short fragment of DNA, with an RNA primer at the five prime terminus, created on the lagging strand during DNA replication.
- 16 A _____ is a nucleic acid strand, or a related molecule, that serves as a starting strand of nucleotides for DNA polymerase to add to.
- 17 The _____ phase is a period in the cell cycle during interphase, after cytokinesis and before the S phase.
- 18 _____ is the stage of mitosis in the eukaryotic cell cycle in which

condensed chromosomes, carrying genetic information, align in the middle of the cell before being separated into each of the two daughter cells.

- 20 _____ is the process by which a cell duplicates its genetic information in order to generate two, identical, daughter cells.
- 24 A _____ is one of two identical strands of DNA making up a chromosome that are joined at their centromeres, for the process of nuclear division.
- 25 The _____ is made up of two DNA polymerase III core enzymes, which are each made up of three subunits: one with polymerization activity, one with proofreading ability and one that stimulates the proofreading.
- 30 _____, also called syndesis, is the pairing of two homologous chromosomes that occurs during meiosis.
- 31 _____ is the DNA sequence that signals for the origin of replication, sometimes referred to simply as origin.
- 32 DNA _____ III holoenzyme is the primary enzyme complex involved in prokaryotic DNA replication.
- 36 _____ is the phase of mitosis following prophase and preceding metaphase, in eukaryotic somatic cells.

37 _____ is a tightly packed form of DNA. Its major characteristic is that transcription is limited.

- 38 DNA _____ I is an enzyme that mediates the process of DNA replication in prokaryotes, an example of a processive enzyme - an enzyme which catalyzes a series of polymerisations.
- 39 _____ chromatids are identical copies of a chromosome.
- 40 DNA _____ is the process of copying a double-stranded DNA molecule.

DOWN

- 2 The _____ complex is a protein structure that forms between two homologous chromosomes during meiosis which is thought to mediate chromosome pairing, synapsis, and recombination.
- 3 The _____ phase is the third, final, and usually the shortest subphase during interphase within the cell cycle in which the cell undergoes a period of rapid growth to prepare for mitosis.
- 4 The cell _____ is the series of events that take place in a eukaryotic cell leading to its replication.
- 5 _____ is a stage in either meiosis or mitosis in which nuclei reform and chromatin loses its condensed state.

- 6 _____ chromosomes are non-identical chromosomes that contain information for the same biological features and contain the same genes at the same loci but possibly different genetic information at those genes.
- 7 The _____ strand is the DNA strand opposite the replication fork from the leading strand.
- 8 Binary _____ is the form of asexual reproduction in most prokaryotes by which one cell divides into two cells of the same size.
- 12 The replication _____ is a structure that forms during DNA replication having two branching prongs, each one made up of a single strand of DNA.
- 14 _____ is the stage of mitosis when chromosomes separate in a eukaryotic cell.
- 15 _____ ligase is a particular type of ligase that can link together strands that have double-strand breaks
- 16 A DNA _____ is an enzyme that assists in DNA replication, catalyzing the polymerization of deoxyribonucleotides alongside a DNA strand.
- 19 _____ replication describes the method by which DNA is replicated which produces two copies each containing one of the original strands and one entirely new strand.
- 21 _____ is a stage of mitosis in which chromatin condenses into a highly ordered structure called a chromosome.
- 22 _____ is the process whereby the cytoplasm of a single cell is divided to spawn two daughter cells.
- 23 Cell _____ is a process by which a cell, called the parent cell, divides into two cells, called daughter cells.
- 26 A _____ is the region in the middle of a chromosome where sister chromatids join in the double chromosomal structure during mitosis, prophase and metaphase.
- 27 _____ is a phase of the cell cycle, defined only by the absence of cell division.
- 28 The _____ is the protein structure in eukaryotes which assembles on the centromere and links the chromosome to microtubule polymers from the mitotic spindle during mitosis and meiosis.
- 29 A _____ is a single large macromolecule of DNA, and constitutes a physically organized form of DNA in a cell.
- 30 The S phase, short for _____ phase, is a period in the cell cycle during interphase, between G1 phase and the G2 phase.
- 33 A _____ is a region of highly repetitive DNA at the end of a linear chromosome that functions as a disposable buffer.
- 34 _____s are the chief protein components of chromatin. They act as spools around which DNA winds, and they play a role in gene regulation.
- 35 DNA _____ is activated by DNA helicase to synthesize a short RNA primer as a starting point for replication.