





The stages of mitosis spell IPMAT-C: interphase, prophase, metaphase, anaphase, telophase, and cytokinesis. The stages of mitosis spell IPMAT-C: interphase, prophase, metaphase, anaphase, telophase, and cytokinesis. The stages of mitosis spell IPMAT-C: interphase, prophase, metaphase, anaphase, telophase, and cytokinesis.



TELOPHASE AND CYTOKINESIS The stages of mitosis spell IPMAT-C: interphase, prophase, metaphase, anaphase, telophase, and cytokinesis.



This is a picture of an African blood lily cell during late interphase or early prophase.



This is a picture of onion root tip cells performing mitosis. Can you find all of the stages?



Plant cells perform cytokinesis by making a cell plate. Vesicles that contain cellulose (made in the smooth ER and Golgi apparatus) line up in the center of the cell and fuse together.



Animal cells perform cytokinesis by making a cleavage furrow. This occurs because animal cells do not have a cell wall.



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This is a karyotype of a female with trisomy 21.

3 copies of chromosome #21.

TABLE 8.22 ABNORMALITIES OF SEX CHROMOSOME NUMBER   IN HUMANS		
Syndrome	Origin of Nondisjunction	Frequency in Population
Klinefelter syndrome (male)	Meiosis in egg or sperm formation	1 2,000
None (normal male)	Meiosis in sperm formation	1 2,000
None (normal female)	Meiosis in egg or sperm formation	1 1,000
Turner syndrome (female)	Meiosis in egg or sperm formation	1 5,000
	ABNORMALITIES OF IN HUMANS Syndrome Klinefelter syndrome (male) None (normal male) None (normal female) Turner syndrome (female)	ABNORMALITIES OF SEX CHROMOSOM IN HUMANS   Origin of Syndrome Origin of Nondisjunction   Klinefelter syndrome (male) Meiosis in egg or sperm formation   None (normal male) Meiosis in sperm formation   None (normal female) Meiosis in egg or sperm formation   Turner syndrome (female) Meiosis in egg or sperm formation

Nondisjunction can cause a variety of different chromosomal abnormalities.



Three types of chromosomal mutations are deletion, duplication, and inversion.



MITOTIC PHASE (M)

This chart reviews the four stages of the cell cycle.

Genetically identical

"daughter

cells'





This chart reviews the haploid and diploid nature of the human life cycle.



This is a karyotype for a normal human male. Notice the X and Y chromosomes.