

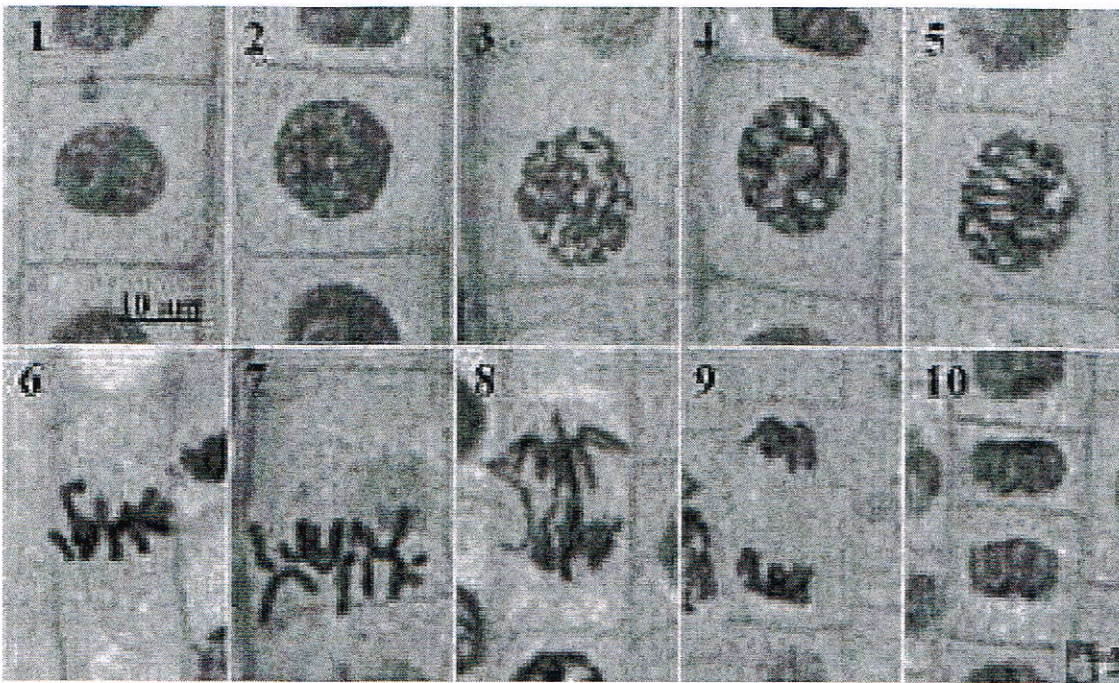
## Cell Cycle and Mitosis

1. Copying DNA is known as \_\_\_\_\_.
2. The original cell that divides is called the \_\_\_\_\_ cell, while the two, new identical cells are called \_\_\_\_\_ cells
3. How many chromosomes are in a typical human cell?
4. DNA tightly coils by wrapping around what kind of proteins?
5. What are duplicated (doubled) chromosomes called?
6. What holds chromatids together?
7. Sketch & label all parts of sister chromatids.
8. What is a karyotype?
9. Where are sex chromosomes found on a karyotype?
10. What is the genotype for males?                      For females?
11. The presence of which chromosome determines the sex of the child?
12. Name the 5 phases of the cell cycle.
13. What is the longest phase of the cell cycle?                      the shortest phase?
14. Which phase has 3 stages & name them?
15. Which phase has 4 stages & name them?
16. Describe what occurs in the  $G_1$  stage of interphase.
17. When is DNA copied?

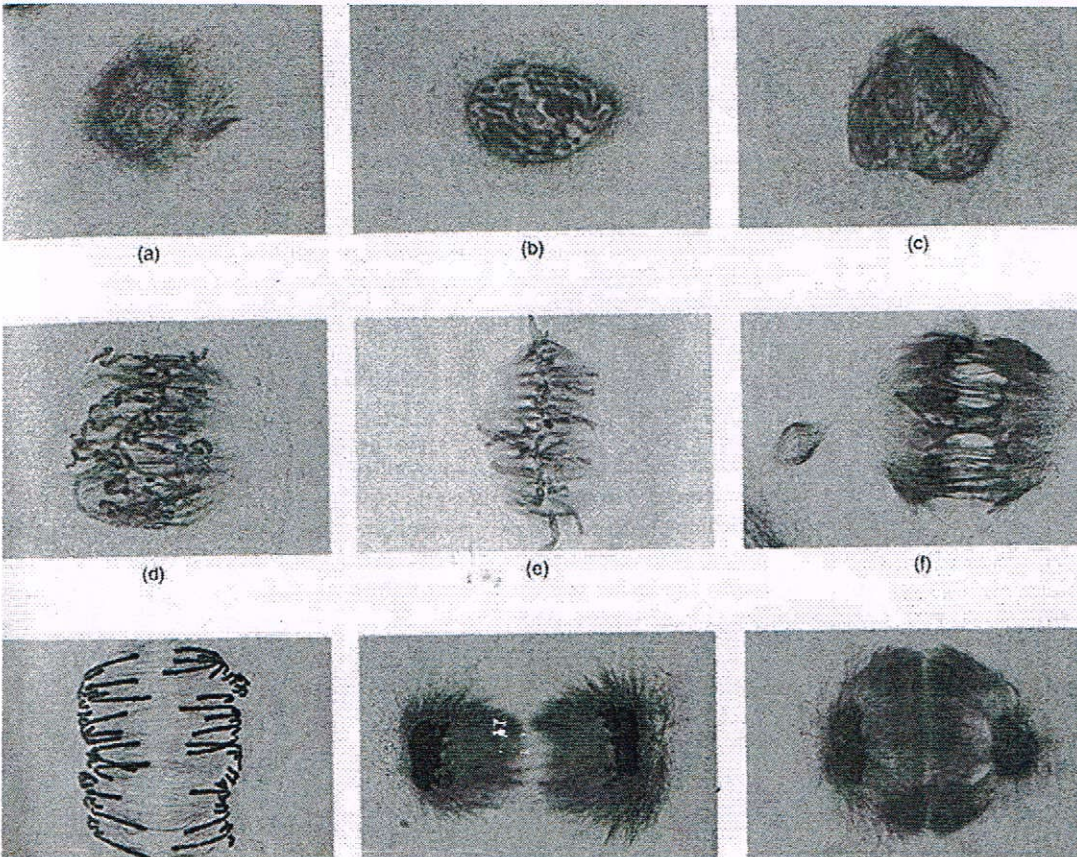
18. What does a cell make during the  $G_2$  stage right before mitosis?
19. Can the nucleus and nucleolus be seen during interphase?
20. Sketch & label all parts of the cell cycle.
21. Name, in order, the four stages of mitosis.
22. What happens to the nucleus & nucleolus during prophase?
23. Why do chromosomes become visible during prophase?
24. What are kinetochores?
25. Where do kinetochore fibers attach to a chromosome?
26. What finishes forming by the end of Late Prophase?
27. Where are the poles of a cell? the equator of a cell?
28. What happens to chromosomes during metaphase?
29. During metaphase, where do chromosomes line up & what moves them there?
30. What happens to sister chromatids during anaphase?
31. What pulls sister chromatids apart during anaphase?
32. Where are chromatids located during telophase?
33. What disassembles in telophase?
34. What reforms around each set of sister chromatids during telophase?
35. What process or phase follows telophase?
36. What divides during cytokinesis?



38. Name these actual stages of cell division.

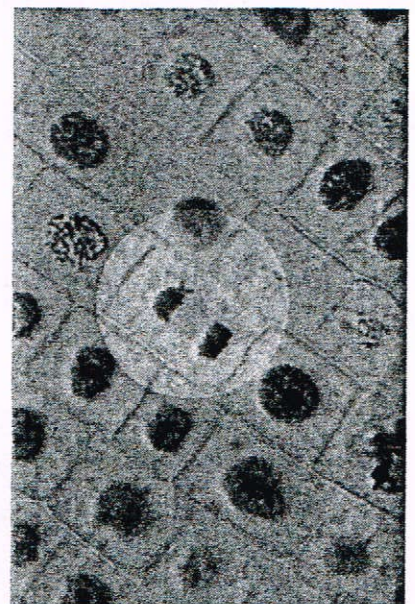
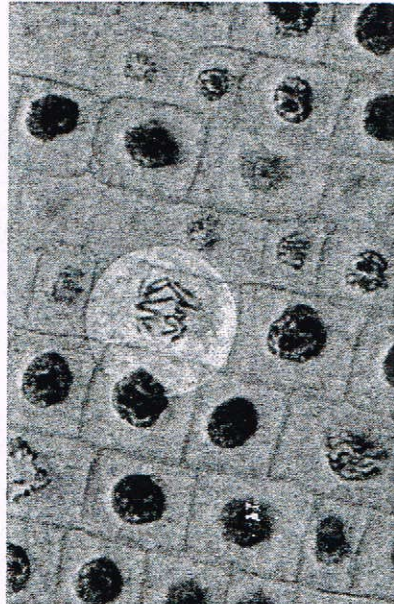
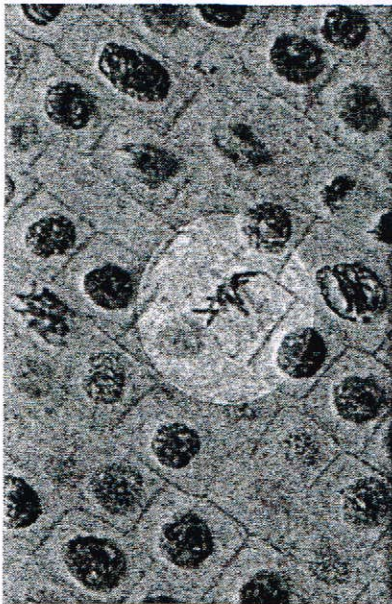
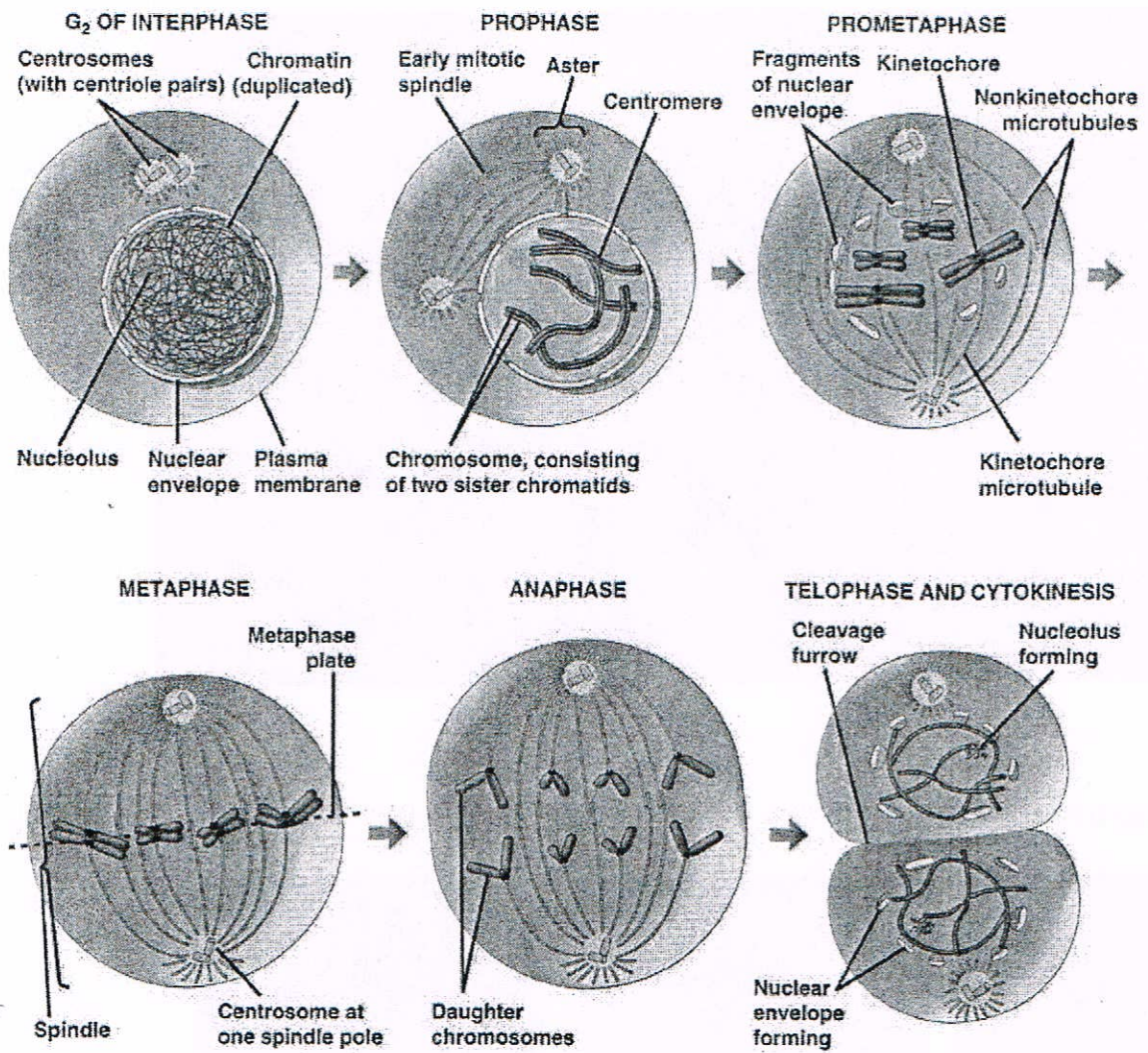


39. Identify these stages.



40. What are the four mitotic stages?





41) What is this mitotic stage? (42) What is this mitotic stage? (43) What is this mitotic stage?