

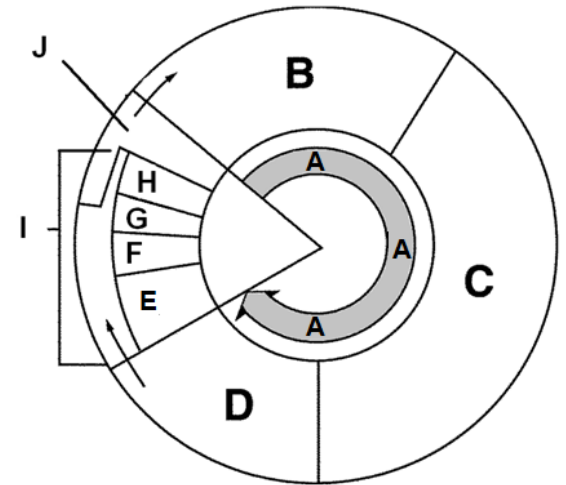
Name: _____

Cell Cycle and Mitosis

Using the labeled Cell Cycle diagram to the right do the following:

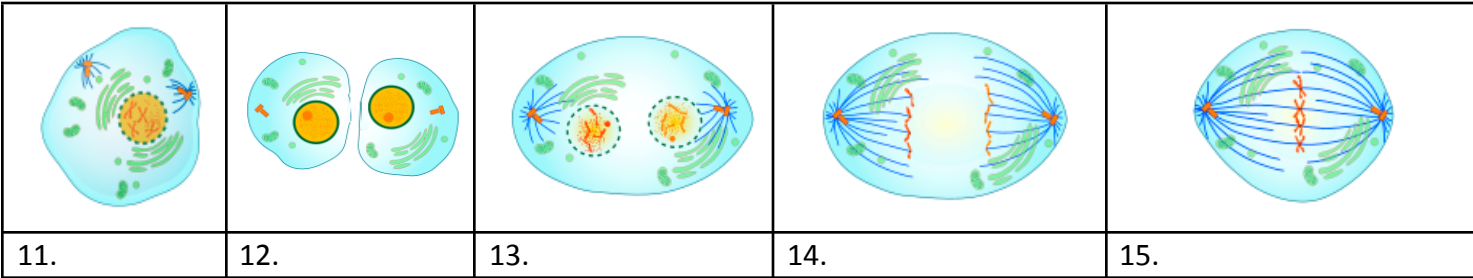
Left column: place the corresponding letter for the correct stage/phase

Right column: Complete the description of the stage/phase



1. A	_____ : Consists of G ₁ , S and G ₂ phases in the Cell Cycle.
2. ____	Cytokinesis – division of the cytoplasm resulting in two identical d _____ cells.
3. ____	G₁ – _____ phase: Makes organelles and proteins needed for replication of DNA. Also contains a G ₁ checkpoint . If everything is correct, cell will proceed to S phase.
4. ____	Prophase: chromatin condenses to become chromatids , nuclear envelopes break down, and c _____ migrate to opposite poles in animal cells. Nucleolus disappears.
5. D	G₂ - growth phase: Cell gets ready to undergo M _____. Also contains a G ₂ checkpoint. If DNA replication is correct, checkpoint allows cell to enter M phase.
6. ____	S phase: DNA is _____ or synthesized .
7. G	_____ : sister chromatids separate and move to opposite sides of the cell. The s _____ a _____ pulls them apart. This phase ends when the chromatids stop moving.
8. ____	_____ : sister chromatids line up along the equator in the middle. Spindle apparatus attaches at the centromere of the chromosomes.
9. ____	Telophase: two nuclear envelopes begin reforming. Chromatids relax, uncoil & are now chromatin. Cytokinesis is occurring during Telophase but it is NOT considered a part of mitosis because it does not involve the nucleus of the cell. In plant cells, a cell plate begins to form while a c _____ f _____ is visible in animal cells.
10. ____	Mitosis: division of a cell's nucleus. Occurs in this order: prophase, _____, _____, and telophase.

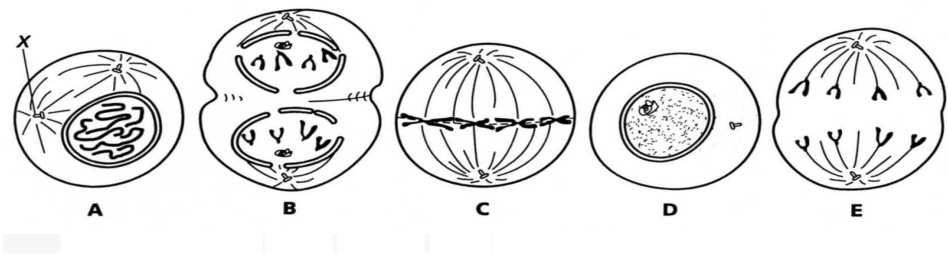
Label the pictures below:



Complete the table by checking the correct column for each statement.

Statement	Interphase	Mitosis
16. Cell growth occurs		
17. Nuclear division occurs		
18. Chromosomes are duplicated		
19. Where cells spend most of their life		

Use the following illustrations for questions 20-24



20. In cell A, what is the structure labeled X? _____
21. Sequence the five diagrams in chronological order from first to last. _____, _____, _____, _____, _____
22. Chromosomes move to the middle of the cell during which phase? _____
23. During which phase do chromosomes first become visible? _____
24. If a cell has 46 chromosomes, how many chromosomes will each daughter cell have after mitosis? _____

Identify the stage of mitosis each lettered plant cell is in:

25.	A	
26.	B	
27.	C	
28.	D	
29.	E	

