

Part 2 Cell Division

Name:

Due:

Part 2 Lesson 1 Cell Division Intro

Mitosis: Cellular Division

-When one cell **divides** into two

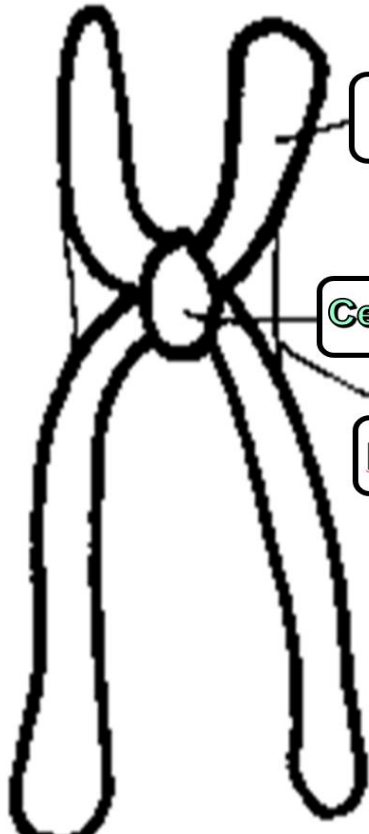
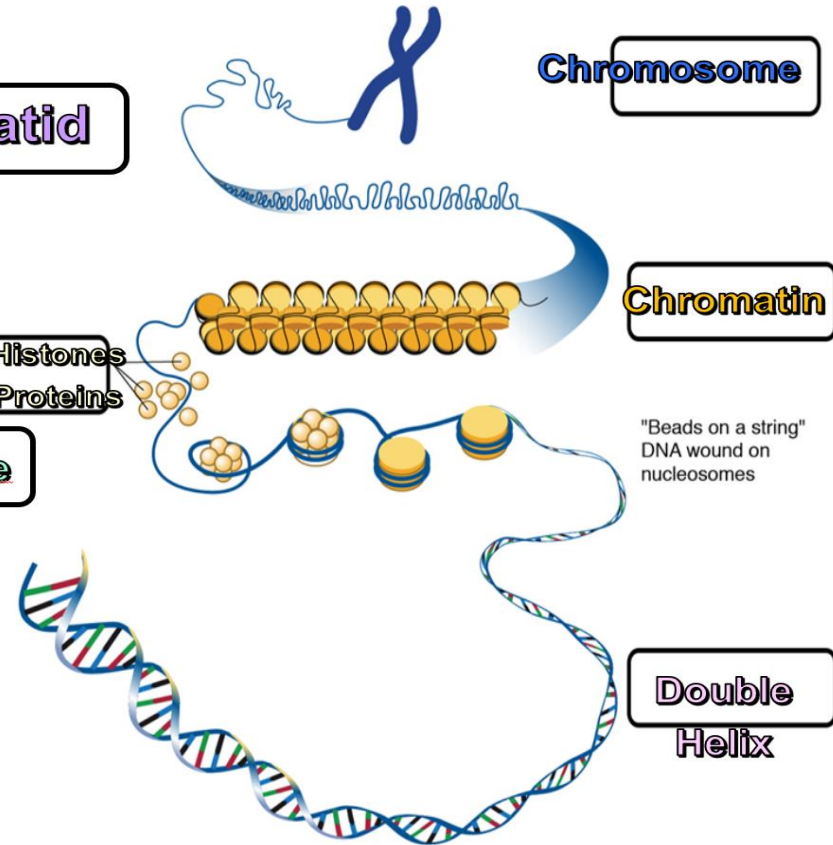
An exact copy of the cells **genetic** material is made.

True or False? Humans are multi-cellular organisms? **True**

True or False? Bacteria are multi-cellular organisms? **False**

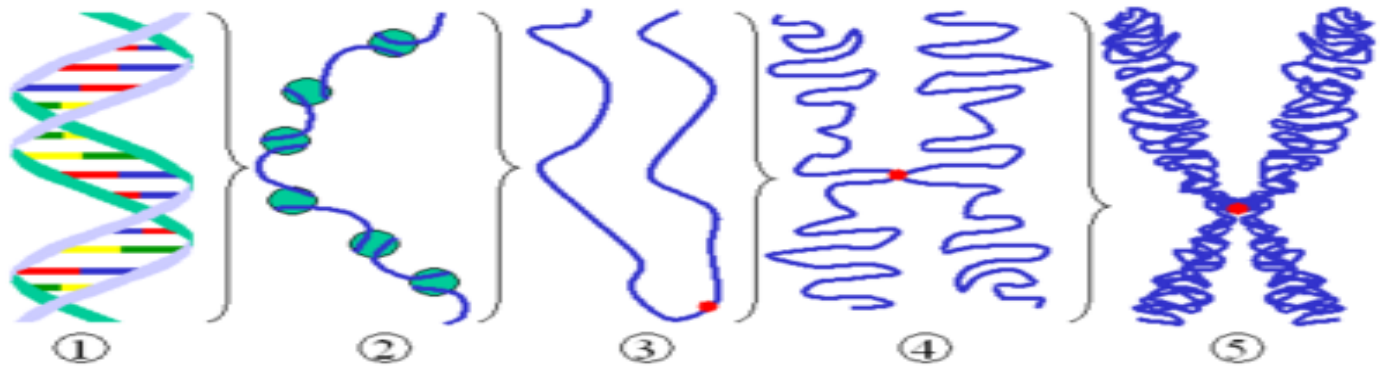
Chromosome: An organized structure of **DNA** and **protein** that is found in cells.

A chromatid is one copy of a **duplicate** chromosome, which generally is joined to the other copy by a **centromere**, for the process of cellular division (mitosis).

Please label the chromosome below.	Please label the picture below. Word Bank: Double Helix, Histones, Chromosome, Chromatin
	

Please name 1 -5. Sentence Bank: Chromosomes becoming denser in prophase, DNA in a double helix, Chromatin wrapped around histones proteins called a nucleosome,

1) DNA in a double helix	2) Chromatin wrapped around histones proteins called a nucleosome	3) Chromatin in Interphase with a Centromere
4) Chromosomes at Metaphase	5) Chromosomes becoming denser in prophase	



Part 2 Lesson 2 Phases of Mitosis

Cell Division: **PPMAT**

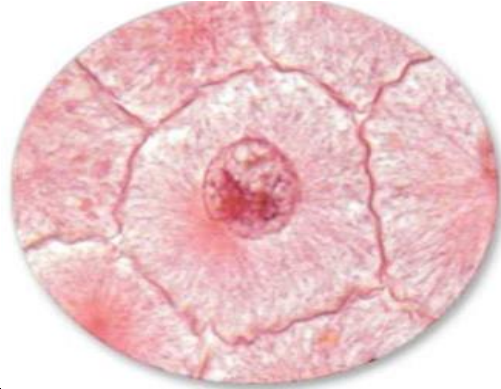
Interphase

- Most of cell cycle (90%)
- Cell grows and develops
- Chromosomes not visible
- Nucleus intact
- DNA is copied



Prophase

- Chromatin draws together to create chromosomes.
- Spindle fibers form.



Prometaphase

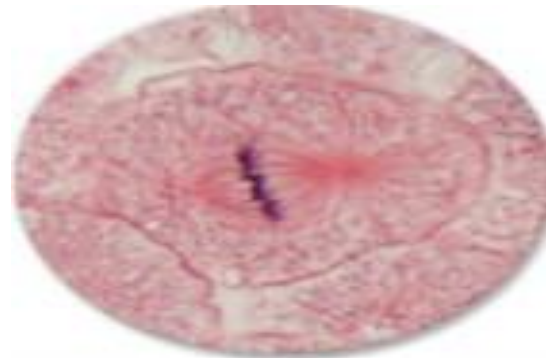
- Nuclear envelope breaks down.
- Centrosomes are positioned at opposite poles of the cell.
- Spindle fibers attach to chromosome at the kinetichore.

Centriole: A minute cylindrical organelle near the nucleus in animal cells, occurring in pairs and involved in the development of spindle fibers in cell division



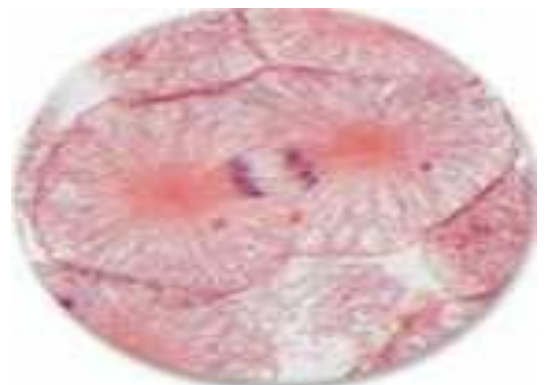
Metaphase:

- Chromosomes line up on the equator of the cell.



Anaphase

- Chromosomes get pulled at centromere
- The two identical copies get pulled apart
- Sister _____ get pulled apart



Telophase

- Chromosomes reach **poles**.
- Nuclear **membrane** begins to form.
- Cleavage furrow forms pinching cell into **two**.
- Chromosomes begin to **unwrap**.



Cytokinesis:

Cell breaks into **two**.



Part 2 Lesson 3 Phases Review

Please label the phase of mitosis.

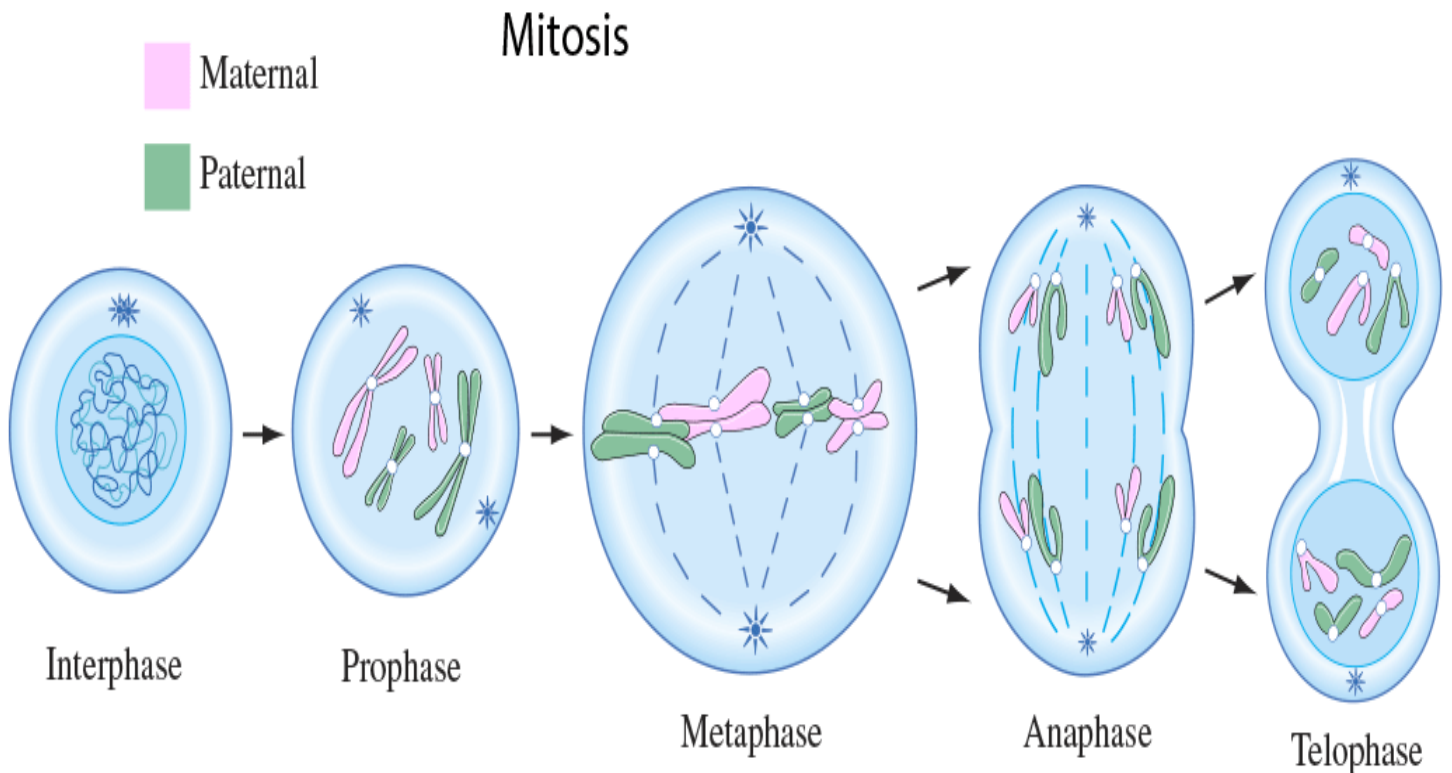
<p>Prophase</p> <p>(a) 0:09</p>	<p>Prometaphase</p> <p>Early</p> <p>Late</p> <p>(b) 0:23</p>	<p>Prometaphase</p>
<p>Metaphase</p> <p>(d) 4:53</p>	<p>Anaphase</p> <p>(e) 5:32</p>	<p>Telophase</p> <p>Cytokinesis</p> <p>25 μm</p> <p>(f) 21:57</p>

Quiz Wiz 1-10 Name the Phase of Mitosis

Interphase, Prophase, Prometaphase, Metaphase, Anaphase, Telophase, Cytokinesis

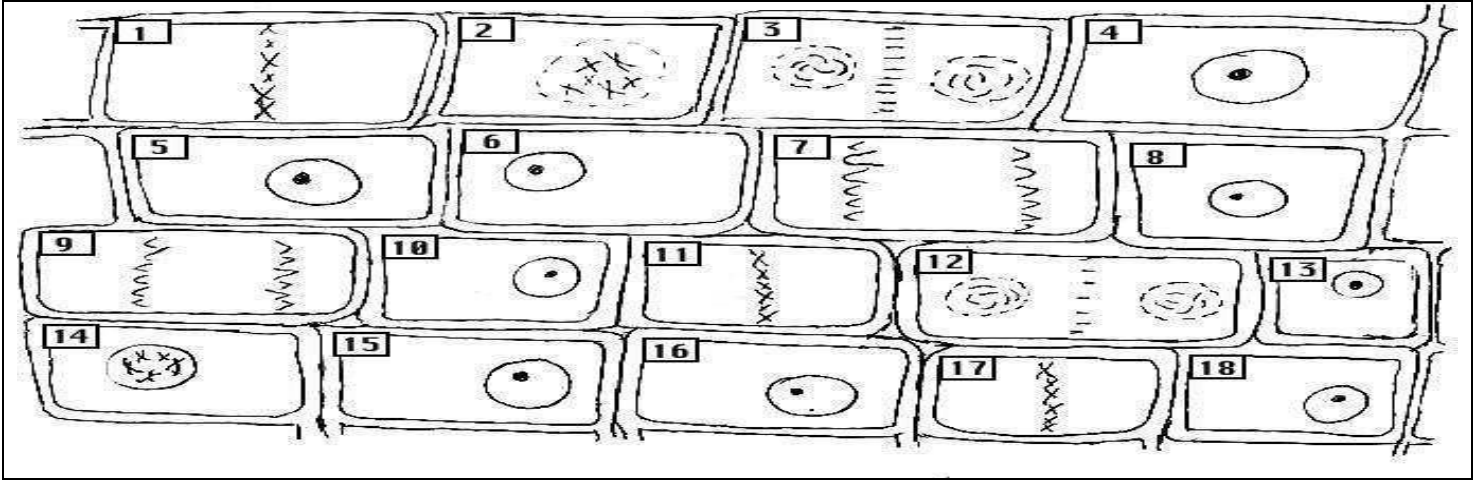
1.) Metaphase	6.) Metaphase
2.) Anaphase	7.) Interphase
3.) Prometaphase	8.) Telophase
4.) Metaphase	9.) Interphase
5.) Late Anaphase / Early Telophase	10.) Cytonkinesis
*11.) Alcatraz	Score:

Please label the stages of mitosis and provide at least a few events that are happening in the writing space below. Note-prometaphase is missing and cytokinesis



<p>Interphase</p> <ul style="list-style-type: none"> -Most of cell cycle (90%) -Cell grows and develops -Chromosomes not visible -Nucleus intact -DNA is copied 	<p>Prophase</p> <ul style="list-style-type: none"> -Chromatin draws together to create chromosomes. -Spindle fibers form. 	<p>Metaphase:</p> <ul style="list-style-type: none"> -Chromosomes line up on the equator of the cell. 	<p>Anaphase</p> <ul style="list-style-type: none"> -Chromosomes get pulled at centromere -The two identical copies get pulled apart 	<p>Telophase</p> <ul style="list-style-type: none"> -Chromosomes reach poles. -Nuclear membrane begins to form. -Cleavage furrow forms pinching cell into two. -Chromosomes begin to unwrap.
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Please describe the phase of mitosis for 1-18 in boxes below.



1 Metaphase	2 Prometaphase	3 Telophase	4 Interphase	5 Interphase	6 Interphase
7 Anaphase	8 Interphase	9 Anaphase	10 Interphase	11 Metaphase	12 Telophase
13 Interphase	14 Prophase	15 Interphase	16 Interphase	17 Metaphase	18 Interphase

Please label three different phases of mitosis for at least five cells in this image.

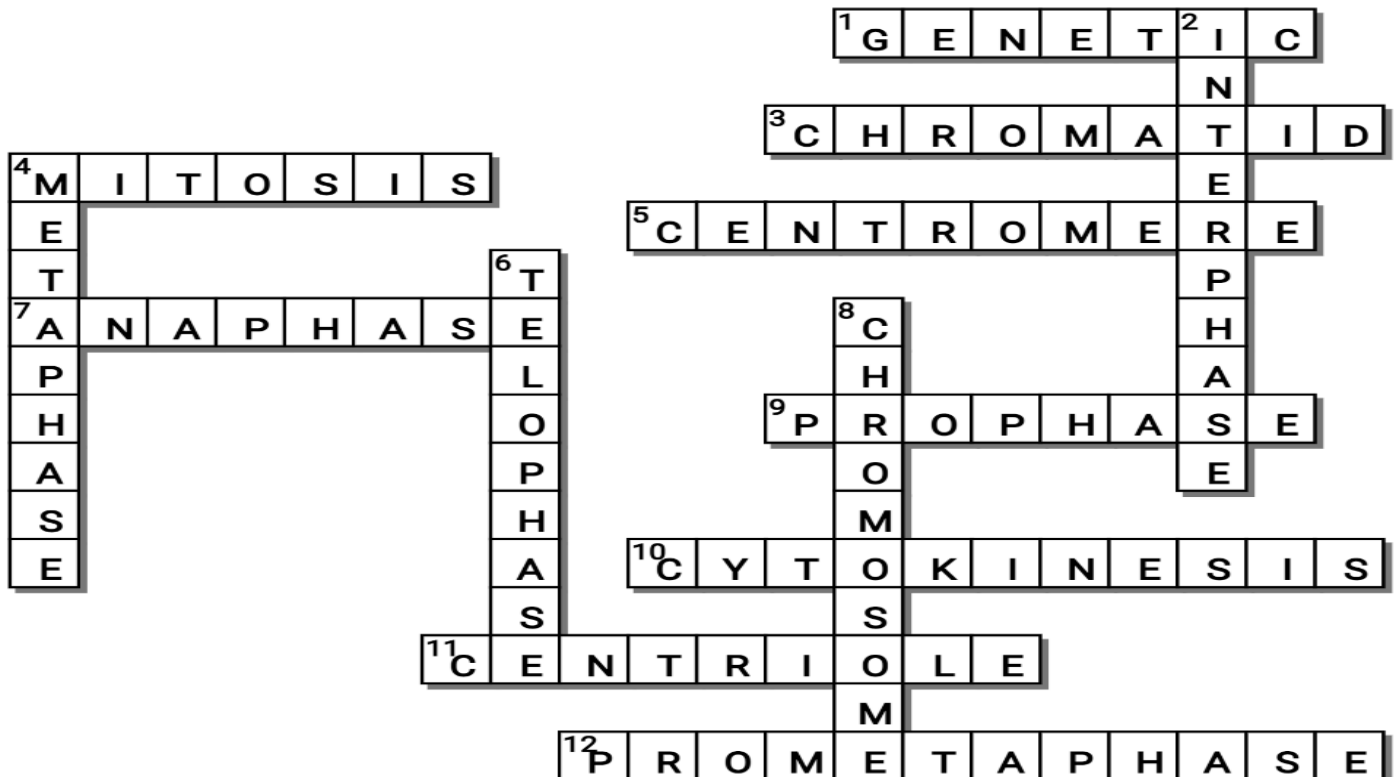


Across

1. In mitosis, An exact copy of the cells _____ material is made.
3. A _____ is one copy of a duplicate chromosome, which generally is joined to the other copy by a centromere, for the process of cellular division (mitosis).
4. Name for when one cell divides into two?
5. The region of a chromosome to which the microtubules of the spindle attach, via the kinetochore, during cell division.
7. -Chromosomes get pulled at centromere
-The two identical copies get pulled apart
-Sister chromatids get pulled apart
9. -Chromatin draws together to create chromosomes. -Spindle fibers form.
10. Cell breaks into two.
11. A minute cylindrical organelle near the nucleus in animal cells, occurring in pairs and involved in the development of spindle fibers in cell division
12. -Nuclear envelope breaks down.
-Centrosomes are positioned at opposite poles of the cell. -Spindle fibers attach to chromosome at the kinetichore.

Down

2. -Most of cell cycle (90%) -Cell grows and develops -Chromosomes not visible -Nucleus intact -DNA is copied
4. -Chromosomes line up on the equator of the cell.
6. -Chromosomes reach poles. -Nuclear membrane begins to form. -Cleavage furrow forms pinching cell into two. -Chromosomes begin to unwrap.
8. An organized structure of DNA and protein that is found in cells.



Mitosis Review Game

1-10 = 5 pts **Part 2 Lesson 4 Review Game**

*10-*15 * = Bonus + 1 pt,

Final Question = 5 pt wager

Name: _____

Due: Today

Score ____ / 100

THE GREAT DIVIDE	IT'S JUST A PHASE	Bonus round 1 pt each	FAMILY QUEST
1) Mitosis	6) C.) Spindle Fibers / Microtubules	*11)	THE BRADY BUNCH
2) Chromosome	7) Prometaphase	*12)	COMING TO AMERICA
3) Prophase +Owl	8) Telophase	*13)	MEET THE ROBINSONS
4) Interphase	9) Early and Late Anaphase	*14)	THE ADVENTURE OF MILO AND OTIS
5) Metaphase	10) Cytokinesis	*15)	THE GRISWOLDS

Final Question Wager ____/5 Answer: **ANAPHASE**

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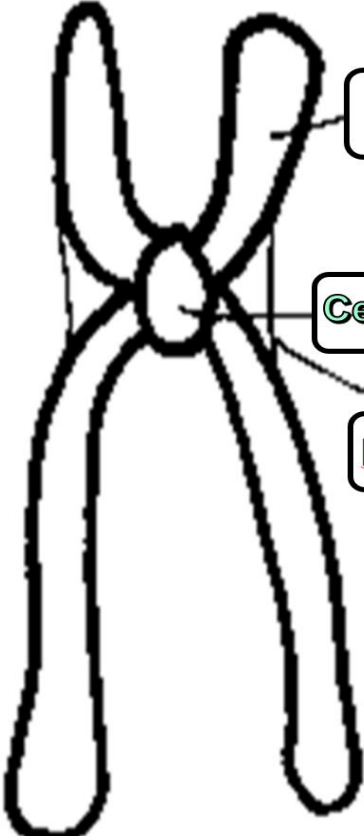
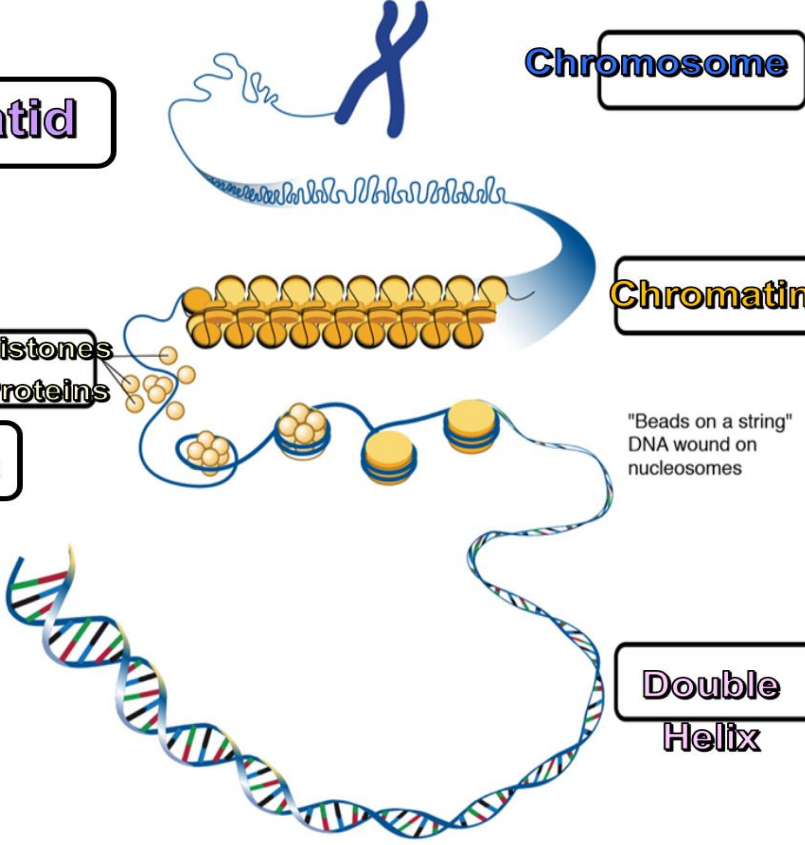
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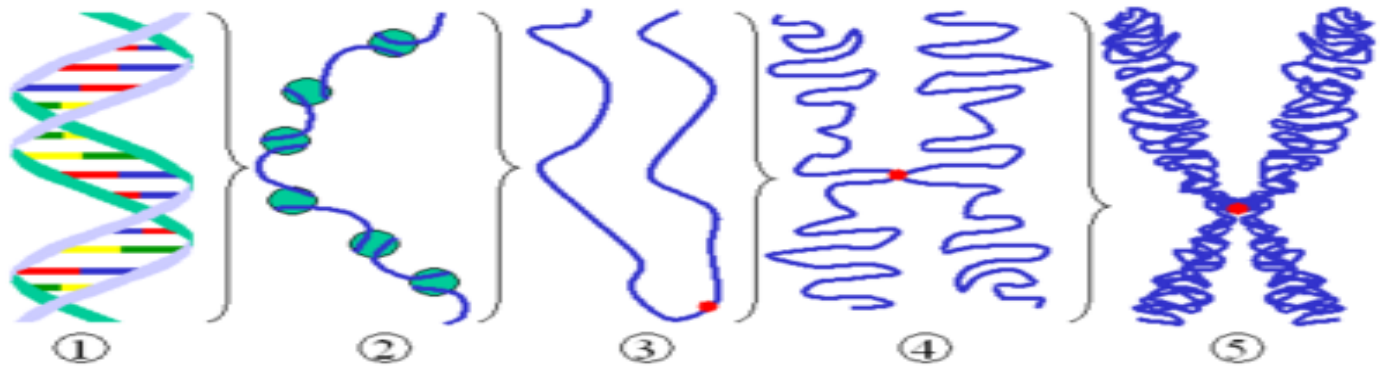
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Prophase

- Chromatin draws together to create chromosomes.
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Prometaphase

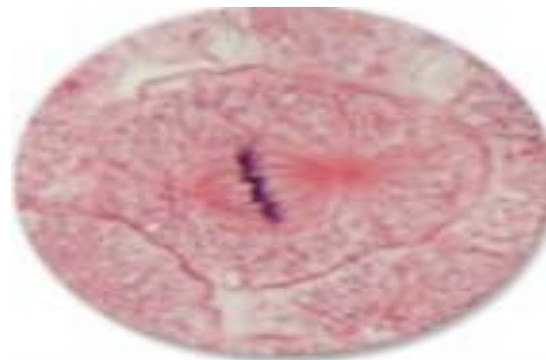
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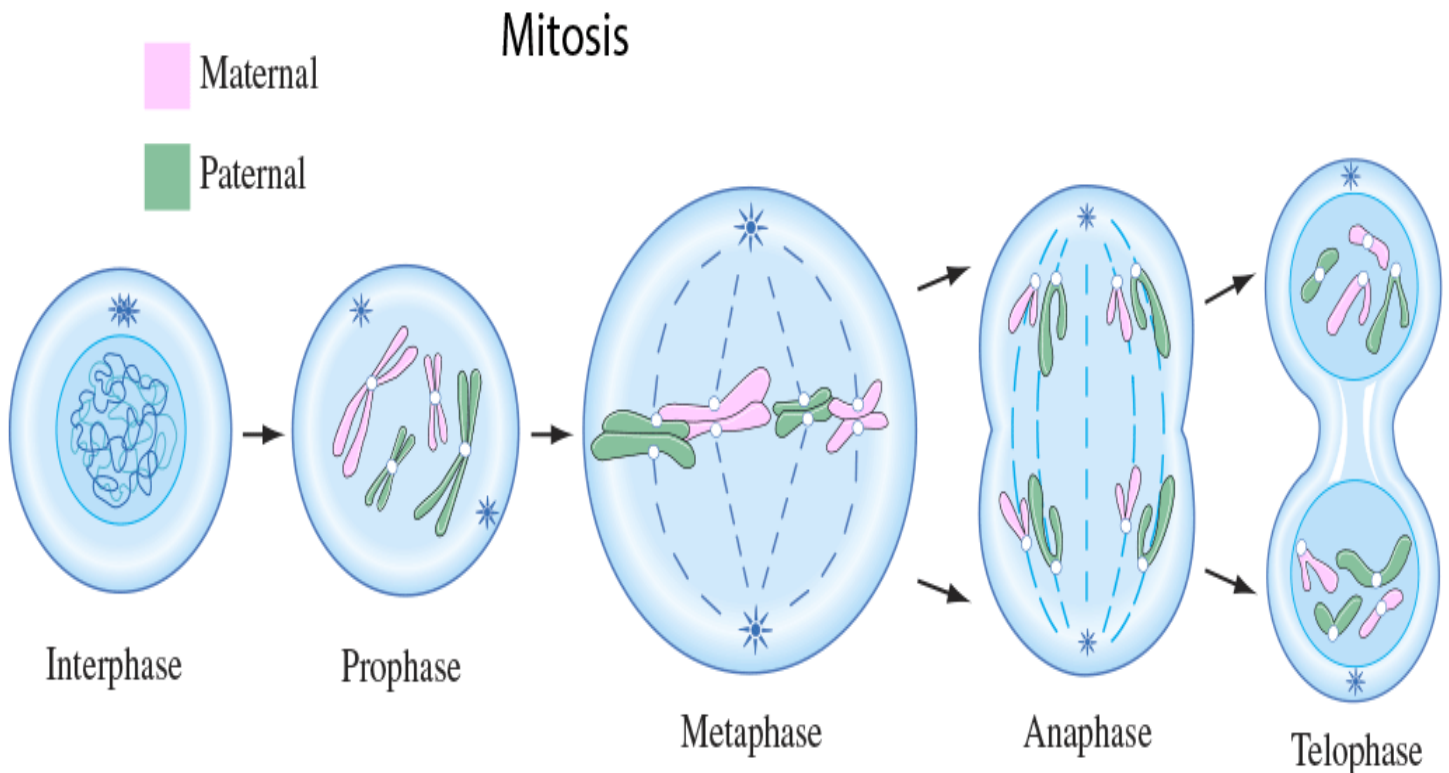
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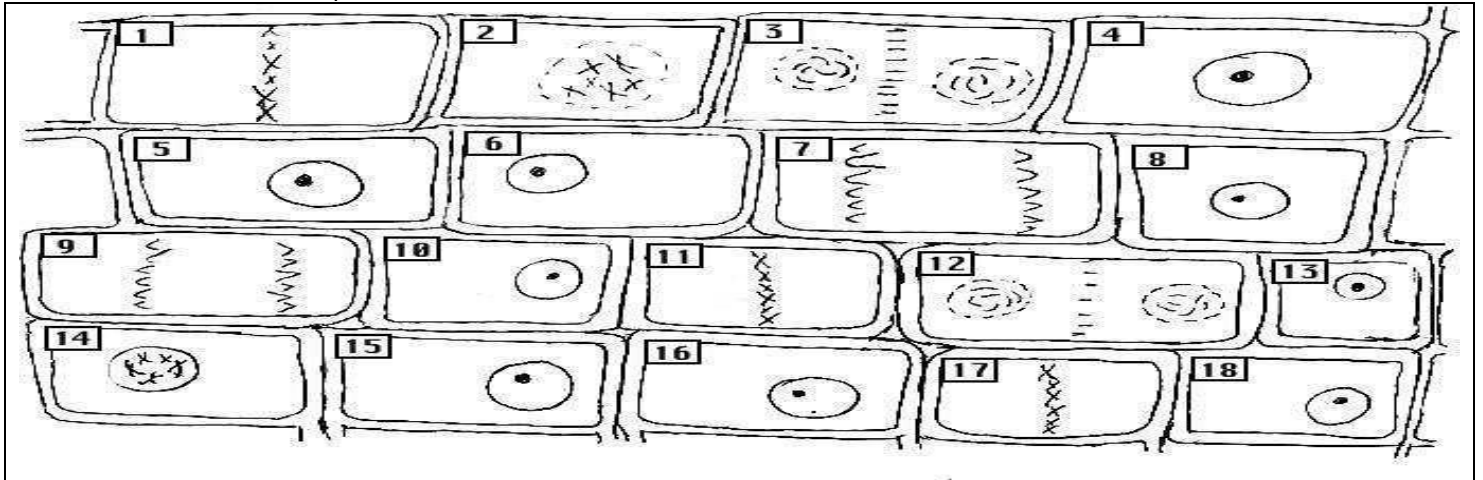
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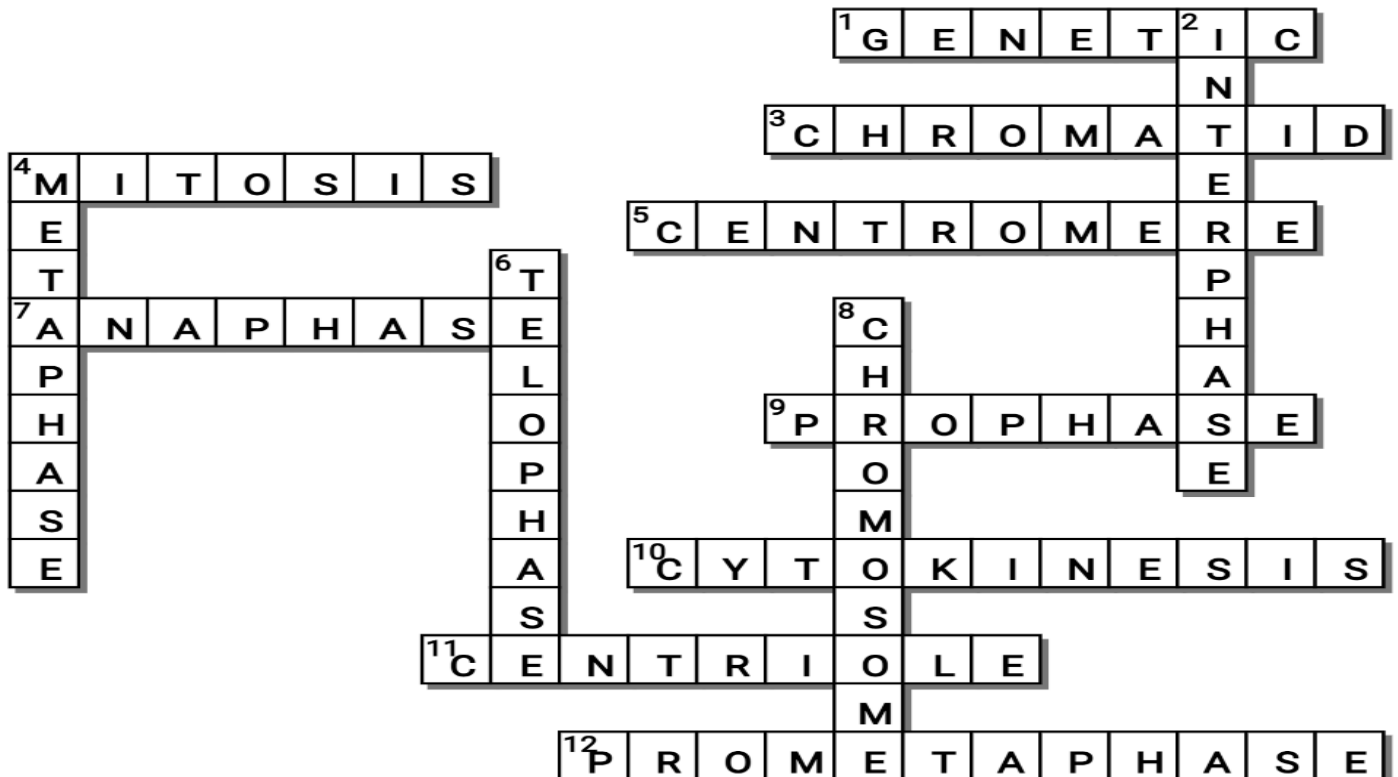


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Final Question Wager ____/5 Answer: **ANAPHASE**

