Cheatography

AP bio Unit 4 Cheat Sheet by NoelleEvelyn via cheatography.com/168075/cs/35155/

Cell cycle phases		
G1	The cell grows and does it's job	
G0	Cell nondividing, could resume division	
S	DNA replicated	
G2	Prepares for division by making organelles	
M-phase	Division	
Cytokinesis	Cell membrane divides	

Cell cycle



Mitosis	
Prophase	Chromatin starts to condense, nuclear envelope dissolves, mitotic spindle forms, centrioles divide in animal cells
Promet- aphase	Cells start to move to middle, 2 complete spindles at poles
Metaphase (2n)	Chromosomes line up on metaphase plate, spindle attaches to kinetochore at centromere
Anaphase (2n)	Chromatid pulled apart at centromere, migrate to cell poles by kinetochore
Telophase	Chromosomes decondense, nuclear envelope reforms, cells start seperating

Mitosis



Hormone	6		
Testester	0.00	Male datarmining hormone	
Testoster	one		
Estrogen		Peaks before LH and FSH, leads other to peak	
LH		Stimulates follicular growth and ovulation	
FSH		Stimulates follicular growth and ovulation	
Progester	rone	Promote thickening in endometrium	
Stages of	Humai	n development	
Zygote	When sperm meets egg, Fertilized egg		
Embryo	Cells that will develop into baby, Beginning stages, cells differentiate		
Fetus	Devel	oping baby in Uterus	
Formation	of 7vc		
Tornation			
1	Ovulat	Ovulation	
2	Conception		
3	Cleavage		
4	Cleavage continues		
5	5 Implantation in uterus		
3 germ la	yers		
Endodern	n Inn	er laver, lines digestive tract	
Mesoderr	n Spa	ace between endo and exoderm, ex: muscular and	
F ()	SKE		
Ectoderm	Ou	ter layer, ex: skin and nerves	
Stages of	birth		
1 Dilation of cervix			
2 E	2 Expulsion/delivery of baby		
3 Delivery of placenta			
Labor Ho	rmones	i	
Oxytocin	In	creases during labor	
Positive feedback	si	mulates uterus to contract	

By NoelleEvelyn

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Positive

feedback

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simulates placenta to make prostaglandins which

simulate more contractions

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Basics of cell signaling

- 1 Reception-Oxytocin received
- 2 Transduction-Oxytocin passed through molecules of signal transduction pathway
- 3 Response-Contraction of Uterus

Male reproductive system

Scrotum	Holds testes, regulates temperature for sperm
Testis	Produce sperm and testosterone, sperm manufa- ctured in testis
Epididymis	Sperm stored to mature
Vas deference	Passageway for sperm and place for sperm storeage
Bulbourethral gland	Secrets fluid that protects sperm from acid in urethra
Rectum	
Seminal vesicle	Secretes fluid that nourishes and enables sperm to move
Bladder	
Prostate gland	Secretes alkaline found in male urethra
.Urethra	Semen and urine pass through to leave the body
Penis	Male organ for sexual intercourse, reproduction and urination

Female reproductive system

Ovary	Store and release eggs and produce estrogen and progesterone
Fillopain tubes	Site of fertilization
Bladder	
Urethra	opening of blatter
Vagina	Empty passage way, leads from vaginal opening to uterus
Cervix	Opening of uterus, usually plugged by mucus
Rectum	

Cell regulation	n		
Cyclin C		CDK on switch made in increasing amounts in interphase	
No cyclin=	I	No mitosis	
CDK	(cyclin dependent kinase	
Proto-oncoge	enes	Simulate cell division, accelerator, mutated versions always on	
Tumor suppr genes	essor	Inhibit cell division, break, mutated versions always off	
Checkpoints			
G1 Most i	mportant	- determines if cell should replicated DNA	
Cancer-Unco	ontrolled	cell division	
Apoptosis		Programmed cell death	
Stages of car	ncer		
1 Tumor gi	rows fron	n single cell	
2 Cancer of	ells inva	de neighboring tissue	
3 Cancer cells spread through lymph and blood vessels to other parts of body			
4 Cancer of	ells may	survive and establish new tumor	
Forme of DN	٨		
Forms of DN	A		
Chromosome	Э	Fightly coiled DNA, made of 2 sister chromatid	
Chromatid		1/2 chromosome	
Tetrads		2 pairs homologous chromosomes next to each other	
Centromere		Spindle fibers attach via kinetochore	
Daughter chromo- somes		Separated sister chromatid	
Meiosis 1			
Prophase 1	Chromo each ot	somes condense, homologous pair connect to her (synapsis) -> tetrads	
Metaphase 1	Tetrads align at metaphase plate		
Anaphase	Homologous pairs separate, sister chromatid still		

С

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1

attached

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Meiosis 1 (cor	it)
Telophase 1	Cell divides into 2 cells
Meiosis 2	
Prophase 2	Chromosomes of 2 sister chromatid begin to condense
Metaphase 2	Chromosomes line up on metaphase plate
Anaphase 2	Sister chromatid separate
Telophase 2	Starts dividing into 4 haploid cells
Meiosis	
Sperm Proc	luces 4 sperm, prioritizes quantity

Egg Creates 1 egg, quality over quantity, discarded eggs become polar bodies

Cytokinesis

Animals	Contractile ring of microfilaments pinches the cell in 2,	
	creates a cleavage furrow	
Plant	Vesicles from each cell bring materials over to create cell	
	wall of plant, creates cell plate between 2 cells	

Increase genetic diversity Crossing DNA exchange between homologous pairs at chiasma

over	
Indepe-	During metaphase 1, one set of traits doesn't depend
ndent	on another, each gamete has one of many combin-
assortment	ations

Asexual vs Sexual reproduction

Asexual	Quick, doesn't take care of young, no diversity
Sexual	Long process, non self-sufficient, diversity

Sperm breaks down to enter egg

Egg releases calcium ions to prevent

Meiosis



Male reproductive system



Female reproductive system



	polyspermy
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Fertilization Acrosomal

reaction

Cortical reaction

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