Cheatography

Biology Cheat Sheet
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Introduction

Biology	study of life
Cell	Basic unit of life
	differentiates living and nonliving things

Characteristics of Life

characteristics that define living things

Organization	emergent properties-components group together to form new f(x)	
	atoms>molecules>organelles>cells>tissues>organs>organ system>organism>population>community>ecosystem>biosphere	
Energy Utilization	metabolism: absorbs energy + converts to bodily f(x)	
	energy transfer lost through heat	
	classified based on source of energy	
	1. Primary Producers (autotrophs	-obtain from non-living
	2. consumers	-from living
	3. decomposers	-from unliving
Homeostasis	cells keep conditions within certain range	
	responds to stimuli to counteract changes	
Reproduction	goal of life:	-keep genes alive
		-transmit DNA
		-pass traits to generations
	2 ways	
	1. Asexual	-1 parent. all offspring identical to parent
	2. Sexual	-2 parents. genetic diversity

Characteristics of Life (cont)

Growth Development	Growth	-increase in complexity of cells
	Development	-inc in complexity of f(x) of cells
	Species:	specific pattern for growth and dev
Response to Environment	Irritable:	can respond to stimuli (senses as receptor)
	stimulus--effector train:	stimulus->receptor->coordinator->effector/response
Evolutionary Adaptation	Adaptations:	inherited characteristics to suit environment
	Evolution:	change in genetic makeup of population over generations
		Charles Darwin & Alfred Russel Wallace (conceptualized)
	Natural Selection:	environmental pressure
	Exposure to prolonged stimuli induces natural selection	
Def of Life	NASA	-"self-sustaining organism with chemical systems that are capable of Darwinian Evolution"
	life is too complex, diverse, and dynamic to be given an exact definition	

Bioethics

study of ethical, social, and legal issues that arise in the biomedical field		
intends to 'guide', like a handbook		
Autonomy	determine wishes of the patient	
	ppl make choices based on own moral values and beliefs	
	Principle of self-rule and principle of respect for persons	
	informed consent: aware of every single option available to them	
	informed consent requirements	
	1. for patient	capable of understanding consequences of consent
		capable of making sound decision
	2. for healthcare provider	provide all necessary info for patient
		perform reflective convo with patient
Benefi-cience	promote good	
	obligation to do something that will most likely do good unless there is sufficient reason not to	
Non-Ma-leficience	not to inflict harm	
	obligation to not perform act that will most likely do harm	
	>fundamental duty of med service providers:	give quality health care to all patients

Bioethics (cont)

	>acknowledge that :	1. there are limits to ppl's abilities
		2. treatment options may be too complex
		3. always a chance for benefit or the risk of harm
Justice	treat patients equally regardless of any other factors	
	medical need criteria:	
	1. likely benefit to patient	
	2. urgency of need to patient	
	3. change of quality of life to patient	
	4. duration of benefit to patient	
	conditions for determ-ining priorities	
	1. on a national level	cost of med goods
		-fair and livable
		-economically stable
	2. on an institutional level	model of medical triage
		-to maximize number of survivors