Key for midterm

NAME [redacted]

HBS Midterm Study Guide

Endocrine System

Gland	hormones	target	Functions
Pituitary (head) • oxytocin - targets mammary glands + uterus → uterine contractions; "love", milk letdown	• FSH • TSH • HGH • LH • ADH • ACTH • prolactin	• testes/ovaries • thyroid • bones/muscles • testes/ovaries • kidneys • adrenal glands • mammary gland	• produce sperm/eggs • stimulate thyroid to make its hormones • bone & muscle growth • control testosterone level in males & ovulation in females • keeps H_2O in blood, tissues • stimulates adrenal gland to make its hormone • females: making milk after birth of baby
Adrenal (on top of kidney)	• adrenelin • cortisol • aldosterone	• muscle/heart • blood/heart • blood/kidneys	• move blood to muscle, increase O_2 to lungs, inc. heart rate • controls blood sugar, dec. blood pressure, respond to stress • controls blood volume
Pancreas (below tummy)	• insulin • glucagon	• cells/liver • cells/liver	• lower blood sugar level • raises blood sugar level
Thyroid (neck)	• thyroxin • calcitonin	• cells • blood/bones	• control metabolism • decrease calcium
Ovaries, Testes	• estrogen • progesterone • testosterone	• mammary gland + uterus • uterus • follicles, voice box, muscles	• female 2nd sex characteristics, menstrual cycle • menstrual cycle, maintain uterine lining • male 2nd sex characteristics
Hypothalamus	• CRH • TRH • GnRH • GHRH	• pituitary	• control ACTH level • control TSH level • control FSH-LH levels • control HGH level

Action Potential – impulse 4 stages

1) Resting – Na^+ outside cell, K^+ inside cell

2) depolarization – Na^+ rushes into cell

3) repolarization – K^+ rushes out of cell

4) return to resting – Na^+/K^+ pump bring 3 Na^+ out for every 2 K^+ in cell

Forensics

What bone is used for

Race? skull

Gender? pelvis

Height? femur, tibia, humerus

process of DNA Electrophoresis

restriction enzymes: break DNA

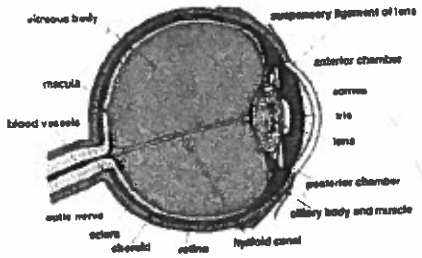
hot water bath: react enzyme (body temp)

buffer: add to DNA (make it really)

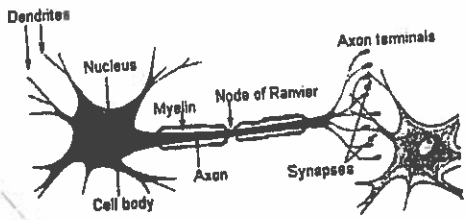
wells in gel: put DNA in

staining: to be able to see DNA

Eye diagram



neuron



Brain part	function
cerebrum	Consistsof 4 lobes
occipital	visual processes
temporal	perception & recognition of auditory stimuli, memory & speech
parietal	movement/orientation, perception of stimuli
frontal	speech, reasoning, planning, movement, personality
medulla	breathing, heart rate, vital body functions
cerebellum	regulation, coordination, posture, balance
Limbic system	motivations, emotions, learning, memory

Pathway through eye

cornea → aqueous humor → pupil → lens → vitreous humor → retina → optic nerve

Path from neuron to neuron

Terms to know:

Anterior: front

Ventral: front

Thoracic: between neck & diaphram

Patellar: knee

Orbital: eye

posterior: back

dorsal: back

axillary: armpit

brachial: arm (whole)

cephalic: head region

superficial: on the skin

proximal: closer to

popliteal: back of knee

olecranal: elbow

coxal: hip

deep: far in

distal: far from

antecubital: IV location

buccal: face cheeks

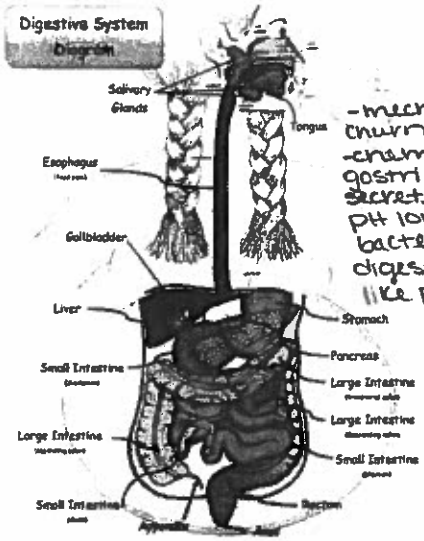
calcaneal heel

lateral – to the side medial – to the middle

·peristalsis-movement of food through digestive tract
·pancreas enzymes in beg. of small intestine

Bones to know:

Patella: knee cap
Metatarsals: bones in foot
Cervical vert: neck vert.
Radius: bone in lower arm closer to thumb
Clavicle: collar bone
carpals: wrist
phalanges: fingers & toes
thoracic vert: dorsal side of chest region
femur: bone in upper leg
scapula: shoulder blade
tarsals: ankle
sacral vert: vert above butt
humerus: bone in upper arm
tibia: larger bone in lower leg
cranium:
metacarpals: bones in hand
lumbar vert: arch in back
ulna: bone in lower arm close to pinky
fibula: smaller bone in lower leg



-mechanical digestion: churn food
-chemical digestion: gastric glands secrete HCl (keep pH low + kills bacteria) & digestive enzymes like pepsin

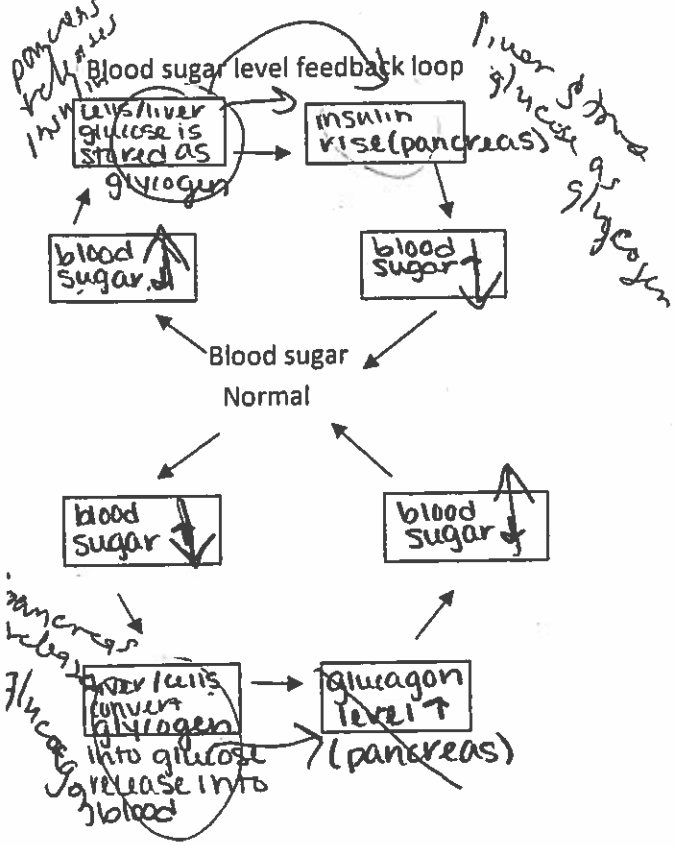
Digestive System organs and functions

Organ	enzyme	function
Mouth	salivary amylase	breaks down starch → disaccharides
Esophagus		bring food to the stomach
Stomach	pepsin	breaks down proteins into smaller molecules called peptones-proteoses
Gall bladder		stores & secretes bile through bile duct & into duodenum
Liver	bile NOT AN ENZYME	make bile that emulsifies fats & oils into tiny droplets
Small intestine	amylase, "pase", protease	final stage of chemical digestion-absorption of nutrients
Pancreas	trypsin, amylase, lipase	makes & secretes enzymes into the small intestine
Large intestine		water-bile salts are reabsorbed back into blood; temporary place for feces
Anus		release feces

small intestine:
amylase: digest carbs → simple sugars
protease: digest proteins → amino acids
"pase": digest lipids → 3 fatty acids & glycerol

pancreas:
trypsin: digest peptones into small amino acids groups called peptides

Difference between neg. feedback and pos. feedback:



3 types of neurons: sensory - sensory info from senses → brain
Interneurons - connections to other neurons between motor & sensory
motor - impulses from brain to muscle/gland

Disorders and how they affect multiple body systems:

1) Alzheimer's - memory loss
2) ALS - muscle issues but brain works fine
3) Epilepsy - seizures
4) Parkinson's - attacks neurons, can't emmit dopamine
5) Huntington's - genetic (chrom. 4), clumsy hands & feet
6) MS - motor neurons, comes & goes