

Chapter 8 - Water and the Minerals

- 1) The percentage of body weight made up of water is greater in adults than in infants. F
- 2) The majority of bodily fluid is located outside of cells. F
- 3) Complications of dehydration such as mental confusion and seizures are more concerning in children than the elderly. F
- 4) Aldosterone and antidiuretic hormone help to regulate fluid balance through identical mechanisms. F
- 5) Calcium is an important mineral for the sole reason that it is incorporated into bones and teeth. F
- 6) Only women are susceptible to age-related bone loss. F
- 7) Iron deficiency is the most common micronutrient deficiency in the world. T
- 8) Mild iron deficiency during pregnancy poses no risk for the mother or the infant. F
- 9) Goiter results from iodine deficiency. T
- 10) Iodine is essential for proper growth and development, but zinc is not. F
- 11) What percentage of total body weight is comprised of water?
 - a) 10-20%
 - b) 25-40%
 - c) 50-70%
- 12) Fluid located between cells is specifically called
 - a) intravascular fluid.
 - b) intracellular fluid.
 - c) intercellular fluid.
- 13) The majority of fluid in the body is located
 - a) in the blood.
 - b) inside cells.
 - c) outside cells.
- 14) Condensation reactions are those
 - a) that require water in order to break a chemical bond.
 - b) that produce water when chemical bonds are formed.
 - c) that release water from inside cells into the intercellular fluid.
- 15) Low blood pressure stimulates the release of ____ from the adrenal glands.
 - a) antidiuretic hormone
 - b) vasopressin
 - c) aldosterone
- 16) Antidiuretic hormone is released from the ____ in response to low blood volume.
 - a) pituitary gland
 - b) adrenal gland
 - c) kidney
- 17) Osteoblasts are cells that
 - a) release calcium from bone into the blood.
 - b) form new bone.
 - c) produce parathyroid hormone.

- 18) Calcium homeostasis is maintained by all of the following hormones except:
- vitamin D.
 - calcitonin.
 - thyroid hormone.**
- 19) Together, parathyroid hormone and vitamin D interact with the ____, ____, and ____ to raise blood calcium levels.
- bones, kidneys, parathyroid glands
 - kidneys, intestine, bones**
 - kidneys, pancreas, bones
- 20) Osteopenia refers to
- achievement of peak bone mass.
 - improved bone density.
 - moderate loss of bone density.**
- 21) Renin is released by the ____ in response to ____ blood pressure.
- adrenal glands, low
 - kidneys, low**
 - kidneys, high
- 22) In response to renin,
- angiotensin II is converted to angiotensin I.
 - aldosterone cleaves angiotensinogen to form angiotensin I.
 - angiotensin II stimulates the adrenal glands to secrete aldosterone.**
- 23) Aldosterone helps to increase blood volume by
- reducing potassium retention by the kidneys.
 - increasing sodium retention by the kidneys.**
 - reducing sodium retention by the kidneys.
- 24) Low blood potassium concentrations can result in the condition called
- hypokalemia.**
 - hypoglycemia.
 - hyponatremia.
- 25) Foods that are low in sodium and rich in potassium include
- processed meats.
 - fresh fruits.**
 - potato chips.
- 26) Phosphorus is enormously important in supporting all of the following functions except:
- bone health.
 - osmosis.**
 - lipid transport.
- 27) The majority of magnesium in the body is found in
- the brain.
 - the blood.
 - the bones.**
- 28) A primary role for iron in the human body is to
- regulate cell membrane permeability.
 - transport oxygen in the blood.**
 - become incorporated into connective tissue.

- 29) Under normal circumstances, a person's iron status is regulated by
- changing how much iron is absorbed.**
 - changing how much iron is excreted.
 - changing how much iron is consumed.
- 30) The iron transport protein in the blood that delivers iron to cells is
- transferrin.**
 - hemoglobin.
 - myoglobin.
- 31) Severe iron deficiency results in anemia. The red blood cells produced in iron-deficiency anemia are described as
- microcytic and hyperchromic.
 - microcytic and hypochromic.**
 - macrocytic and hypochromic.
- 32) Hereditary hemochromatosis is caused by a genetic defect that results in
- insufficient iron excretion.
 - insufficient storage of iron.
 - excessive iron absorption.**
- 33) A mineral that is thought to improve insulin function is
- selenium.**
 - magnesium.
 - chromium.
- 34) Metallothionein is a protein produced in intestinal cells that plays an important role in regulating ____ absorption.
- iron
 - zinc**
 - magnesium
- 35) In osmosis,
- water moves across a membrane in response to different solute concentrations.**
 - solutes moves across a membrane in response to different water concentrations.
 - electrolytes move across a membrane in response to different water concentrations.
- 36) An example of a hydrolysis reaction is
- the synthesis of proteins from amino acids.
 - the removal of fatty acids from the glycerol backbone of a triglyceride molecule.**
 - the movement of water across a membrane in response to solute concentration differences.
- 37) Evaporative cooling is a mechanism
- that is effective only in humid environments.
 - for maintaining appropriate body temperature.**
 - that increases during dehydration.
- 38) Dehydration results in
- higher blood volume and lower blood pressure.
 - lower blood volume and higher blood pressure.
 - lower blood volume and lower blood pressure.**
- 39) The combined activities of antidiuretic hormone and aldosterone result in
- reduced blood volume.
 - no change in blood volume.
 - increased blood volume.**