Which of the following is NOT a type of bone cell involved in bone development

- A. Osteoblasts
- B. Osteoclasts
- C. Osteocytes
- D. Chondrocytes

A. Osteoblast

- A. Muscle cell
- B. Bone-forming cell
- C. Skin cell
- D. Nerve cell

B. Osteoclast

- A. A type of muscle cell
- B. Bone cells that break down bone tissue
- C. Cells found in the blood
- D. Cells that produce new bone tissue

C. Osteocyte

- A. Brain cell
- B. Bone cell
- C. Muscle cell
- D. Skin cell

D. Myocyte

- A. Bone cell

- B. Brain cell
- C. Muscle cell
- D. Skin cell

- A. No
- B. I don't know
- C. Yes
- D. Maybe

At what age does peak bone mass typically occur in humans

- A. 40s
- B. 30s
- C. 20s
- D. 50s

A. 20-25

- A. How many items are in category A?
- B. What is the age range of A?
- C. What is the color of A?
- D. What is the sum of A?

B. 30-35

- A. What is the product of 30 and 35?
- B. What is the range of 30-35?
- C. What is the difference between 30 and 35?
- D. What is the sum of 30 and 35?

C. 40-45

- A. What is the square root of 1600?
- B. What is the atomic number of zirconium?
- C. What is the range of numbers?
- D. How many degrees are in a circle?

D. 50-55

- A. What is the population of D. 50-55?
- B. What is the average temperature in D. 50-55?
- C. How many items are in D. 50-55?
- D. What is the age range of D. 50-55?

Which hormone is responsible for stimulating bone growth and development

- A. Growth hormone
- B. Insulin
- C. Testosterone
- D. Estrogen

A. Estrogen

- A. Progesterone
- B. Testosterone
- C. Male sex hormone
- D. Female sex hormone

B. Testosterone

- A. Male sex hormone

• B. Estrogen

• C. Female sex hormone

• D. Progesterone

C. Growth hormone

• A. Regulates growth and metabolism

• B. Stimulates hair growth

• C. Affects brain development

• D. Controls blood sugar levels

D. Cortisol

• A. Hormone released in response to stress

• B. Type of vitamin

• C. A type of plant

• D. A type of exercise

What is the primary component of the extracellular matrix in bone tissue

• A. Hyaluronic acid

• B. Collagen

• C. Calcium

• D. Keratin

A. Collagen

• A. Mineral

• B. Vitamin

• C. Carbohydrate

• D. Protein

B. Elastin

- A. Synthetic material used in clothing
- B. Protein that provides elasticity to tissues
- C. Mineral found in rocks
- D. Type of sugar found in fruits

C. Keratin

- A. Protein in hair and nails
- B. Chemical element
- C. Type of fabric
- D. Type of fruit

D. Fibrin

- A. Type of joint in the body
- B. Type of muscle tissue
- C. Protein in blood clotting
- D. Chemical found in plant cells

What role do osteoclasts play in bone development

- A. Osteoclasts break down bone tissue.
- B. Osteoclasts protect bone tissue.
- C. Osteoclasts have no role in bone development.
- D. Osteoclasts build new bone tissue.

A. Building new bone

- A. Osteogenesis

• B. Bone resorption

• C. Bone remodeling

• D. Bone destruction

B. Maintaining bone mass

• A. Exercise

• B. Eating junk food

• C. Watching TV all day

• D. Not getting enough sleep

C. Breaking down bone

• A. Osteoblasts

• B. Bone marrow

• C. Osteoclasts

• D. Calcium

D. Regulating mineral balance

• A. Toxicity

• B. Excretion

• C. Homeostasis

• D. Dehydration

Which vitamin is essential for proper bone development and growth

• A. Vitamin D

• B. Vitamin A

• C. Vitamin C

• D. Vitamin B

A. Vitamin A

- A. Boosts immune system
- B. Causes blindness
- C. Helps with vision
- D. Found in bananas

B. Vitamin C

- A. Vitamin D
- B. Ascorbic acid
- C. Vitamin E
- D. Vitamin B

C. Vitamin D

- A. Helps with calcium absorption
- B. Increases cholesterol levels
- C. Causes skin cancer
- D. Is a type of vitamin C

D. Vitamin E

- A. Antioxidant
- B. Calcium
- C. Vitamin C
- D. Vitamin D

What is the process by which bone tissue is formed called

- A. Bone creation

• B. Bone growth

• C. Ossification

• D. Calcification

A. Ossification

• A. Bone formation

• B. Muscle development

• C. Blood circulation

• D. Fat storage

B. Calcification

• A. The process of converting calcium salts into a liquid form

• B. The process of deposition of calcium salts in body tissues

• C. The process of breaking down calcium salts in body tissues

• D. The process of removing calcium from body tissues

C. Mineralization

• A. Breaking down of rocks

• B. Creation of rocks

• C. Formation of fossils

• D. Process of organic matter converting into minerals

D. Reabsorption

• A. Process of absorbing substances back into the blood from the kidney tubules.

• B. The movement of substances from the blood into the kidney tubules.

• C. The process of filtering blood in the kidneys.

• D. Process of removing waste products from the blood.

Which of the following factors can negatively impact bone development

- A. Regular exercise
- B. Lack of calcium intake
- C. Adequate protein consumption
- D. Excessive vitamin D

A. Physical activity

- A. Sleeping
- B. Exercise
- C. Eating
- D. Watching TV

B. Smoking

- A. Drinking tobacco
- B. Eating tobacco
- C. Sniffing tobacco
- D. Inhaling tobacco smoke

C. Calcium intake

- A. Not necessary for the body
- B. Can lead to muscle cramps
- C. Causes tooth decay
- D. Important for bone health

D. Vitamin D supplementation

- A. Causes hair loss

• B. Should be taken on an empty stomach

• C. Increases risk of sunburn

• D. Recommended for bone health

What is the primary function of osteocytes in bone tissue

• A. Produce red blood cells

• B. Maintain bone structure

• C. Produce hormones

• D. Conduct nerve impulses

A. Bone formation

• A. Ossification

• B. Bone growth

• C. Joint development

• D. Cartilage formation

B. Bone resorption

• A. Inflammation of the bone

• B. Formation of new bone tissue

• C. Absorption of calcium in the kidneys

• D. Process of breaking down bone tissue

C. Bone maintenance

• A. Maintaining muscle strength

• B. Keeping bones healthy

• C. Preventing heart disease

• D. Taking care of teeth

D. Bone mineralization

- A. Process of removing minerals from bone
- B. Process of depositing minerals into bone tissue
- C. Process of converting bone into muscle
- D. Process of breaking down bone tissue

What is the term for the process by which bone tissue is broken down and reabsorb

- A. Bone reconstruction
- B. Bone resorption
- C. Bone remodeling
- D. Bone regeneration

B. Remodeling

- A. Landscaping
- B. Renovating
- C. Demolishing
- D. Building

C. Resorption

- A. Absorption of nutrients
- B. Expansion of material
- C. Process of removing or absorbing material
- D. Creation of new material

D. Mineralization

- A. Process of organic matter converting into minerals.

• B. Process of organic matter decomposing into gases.

• C. Process of minerals breaking down into smaller particles.

• D. Process of minerals converting into organic matter.

Which of the following is NOT a risk factor for osteoporosis

• A. Smoking

• B. Regular exercise

• C. Family history of osteoporosis

• D. Low calcium intake

A. Age

• A. Shoe size

• B. Favorite color

• C. Height in centimeters

• D. Number of years lived

B. Gender

• A. Age

• B. Favorite color

• C. Male or Female

• D. Height

C. Smoking

• A. Good for health

• B. Bad for health

• C. Helps with stress

• D. Not addictive

D. High bone density

- A. Low bone density
- B. Brittle bones
- C. Weak bones
- D. Strong bones

What is the role of growth plates in bone development

- A. Growth plates regulate bone density.
- B. Growth plates control joint flexibility.
- C. Growth plates help with bone repair.
- D. Growth plates are responsible for longitudinal bone growth.

A. Regulating bone density

- A. Calcium supplements
- B. Osteoblasts and osteoclasts
- C. Vitamin D
- D. Weight lifting

B. Stimulating bone growth

- A. Vitamin C supplements
- B. Magnesium supplements
- C. Calcium supplements
- D. Iron supplements

C. Repairing bone fractures

- A. Orthopedic surgery

• B. Medication

• C. Physical therapy

• D. Massage therapy

D. Stopping bone growth

• A. Slowed bone development

• B. Decreased bone density

• C. Epiphysial plate closure

• D. Increased bone growth

Which of the following hormones is responsible for regulating calcium levels in the b

• A. Parathyroid hormone

• B. Insulin

• C. Testosterone

• D. Estrogen

A. Parathyroid hormone

• A. Controls insulin production

• B. Affects heart rate

• C. Regulates body temperature

• D. Regulates calcium levels

B. Thyroid hormone

• A. Regulates metabolism

• B. Controls blood pressure

• C. Affects bone growth

• D. Stimulates insulin production

C. Insulin

- A. Antibiotic medication
- B. Hormone that regulates blood sugar
- C. Type of protein
- D. Treatment for high blood pressure

D. Estrogen

- A. Female sex hormone
- B. Muscle-building hormone
- C. Digestive enzyme
- D. Male sex hormone

What is the term for the process by which bone tissue is replaced with new bone tiss

- A. Replacement
- B. Regeneration
- C. Replication
- D. Remodeling

A. Resorption

- A. The process of absorbing or assimilating substances into the body.
- B. The process of converting food into energy.
- C. The process of expelling waste from the body.
- D. The process of breaking down bone tissue.

C. Ossification

- A. Digestion

• B. Blood clotting

• C. Muscle contraction

• D. Bone formation

Which of the following is NOT a symptom of poor bone health

• A. Decreased bone density

• B. Strong teeth

• C. Brittle bones

• D. Frequent fractures

A. Fractures

• A. Bruises

• B. Cuts

• C. Broken bones

• D. Sprains

B. Osteoporosis

• A. Muscle pain

• B. Joint inflammation

• C. High blood pressure

• D. Weak bones

C. Scoliosis

• A. A type of insect

• B. A medical condition causing sideways curvature of the spine

• C. A type of rock

• D. A musical instrument

D. Arthritis

- A. A skin condition
- B. Inflammation of the joints
- C. A type of cancer
- D. A mental disorder

What is the term for the soft tissue that connects bones to other bones in a joint

- A. cartilage
- B. ligament
- C. muscle
- D. tendon

A. Tendon

- A. Located in the brain
- B. Responsible for vision
- C. Connects muscle to bone
- D. Connects bone to bone

B. Ligament

- A. Stores energy
- B. Supports muscles
- C. Connects bones together
- D. Produces blood cells

C. Cartilage

- A. A type of bone

• B. A type of muscle

• C. A type of skin

• D. A type of connective tissue

D. Synovium

• A. Tissue lining the joint capsule

• B. Muscle tissue

• C. Skin tissue

• D. Bone tissue

Which mineral is essential for proper bone mineralization

• A. Iron

• B. Calcium

• C. Vitamin C

• D. Magnesium

A. Iron

• A. Paper

• B. Wood

• C. Plastic

• D. Metal

B. Zinc

• A. Vitamin

• B. Protein

• C. Mineral

• D. Carbohydrate

C. Calcium

- A. Vitamin
- B. Carbohydrate
- C. Protein
- D. Mineral

D. Magnesium

- A. Vitamin
- B. Protein
- C. Mineral
- D. Element

What is the term for the process by which bone tissue is repaired after a fracture

- A. Bone regeneration
- B. Bone healing
- C. Bone growth
- D. Bone restoration

A. Regeneration

- A. A type of dance move
- B. A type of tropical fruit
- C. A type of weather phenomenon
- D. The regrowth or repair of a body part or tissue

D. Ossification

- A. Blood circulation

• B. Digestion

• C. Bone formation

• D. Muscle contraction

Which of the following is NOT a function of bone tissue

• A. Producing red blood cells

• B. Protecting internal organs

• C. Supporting the body

• D. Storing minerals

A. Support

• A. Ignore

• B. Oppose

• C. Assistance or help

• D. Reject

B. Protection

• A. Exposure

• B. Safety

• C. Attack

• D. Vulnerability

C. Storage of nutrients

• A. Brain

• B. Stomach

• C. Liver

• D. Lungs

D. Production of antibodies

- A. Regulation of blood sugar
- B. Immune response to foreign substances
- C. Transport of oxygen
- D. Digestion of food

What is the term for the process by which bone tissue is broken down and reabsorb

- A. Bone deterioration
- B. Bone regeneration
- C. Bone resorption
- D. Bone absorption

B. Resorption

- A. The process of photosynthesis in plants.
- B. The process of absorption or assimilation of substances into an organism.
- C. The process of excreting waste materials from an organism.
- D. The process of cell division in a multicellular organism.

C. Remodeling

- A. Tearing down a structure
- B. Moving a structure
- C. Improving or updating a structure
- D. Painting a structure