Individual Test Item Specifications

8708120- Human Body Systems

2015

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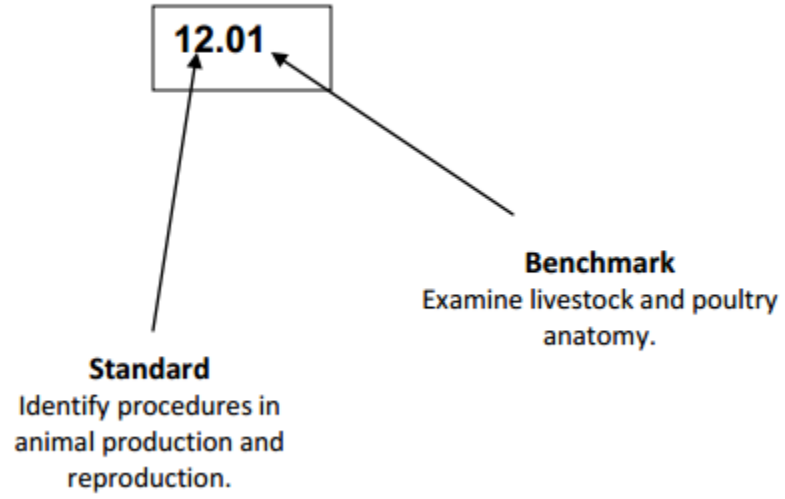
I. Guide to the Individual Benchmark Specifications

Content specific guidelines are given in the *Individual Benchmark Specifications* for each course. The *Specifications* contains specific information about the alignment of items with the Florida Standards. It identifies the manner in which each benchmark is assessed, provides content limits and stimulus attributes for each benchmark, and gives specific information about content, item types, and response attributes.

Benchmark Classification System

- Each Career and Technical Education course has its own set of course standards. The benchmarks are organized numerically, with two numbers separated by a decimal point. The first number is the standard number, and the second number is the benchmark number. You will see these numbers on the Item Specifications for each course.

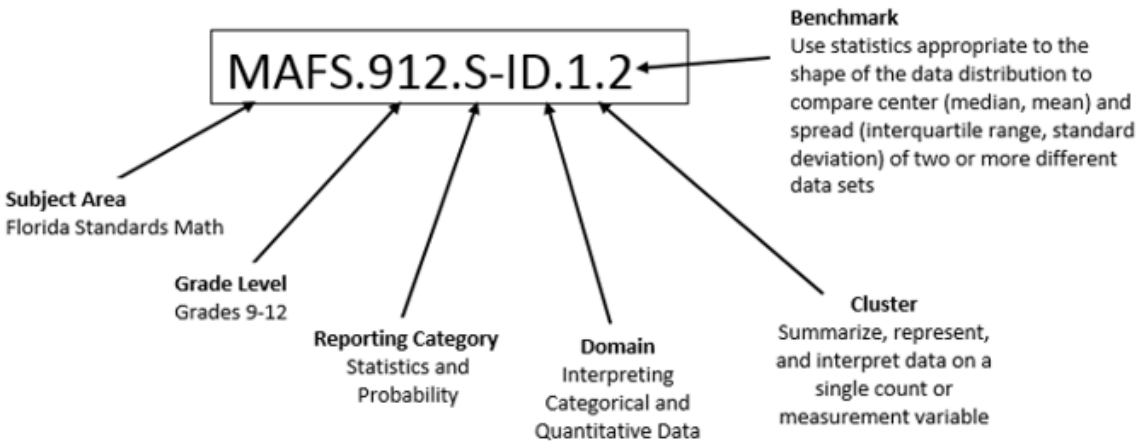
An example, from Agritechnology 1:



The image above describes the components of a Career and Technical Education Standard and Benchmark classification system.

Each MAFS benchmark is labeled with a system of letters and numbers.

- The four letters in the *first position* of the label identify the **Subject**.
- The number(s) in the *second position* represents the **Grade Level**.
- The letter(s) in the *third position* represents the **Category**.
- The number in the fourth position shows the **Domain**.
- The number in the *fifth position* identifies the **Cluster**.
- The number in the last position identifies the specific **Benchmark**.



The image above describes the components of a Florida Standard and Benchmark classification system.

Definitions of Benchmark Specifications

The *Individual Benchmark Specifications* provides standard-specific guidance for assessment item development for the Florida Department of Education Career and Technical Education item banks. For each benchmark assessed, the following information is provided.

Reporting Category	is a grouping of related benchmarks that can be used to summarize and report achievement.
Standard	refers to the standard statement presented in the Florida Standards.
Benchmark	refers to the benchmark statement presented in the Florida Standards. In some cases, two or more related benchmarks are grouped together because the assessment of one benchmark addresses another benchmark.
Item Types	are used to assess the benchmark or group of benchmark.
Cognitive Complexity	ideal level at which item should be assessed.
Benchmark Clarifications	explain how achievement of the benchmark will be demonstrated by students. In other words, the clarification statements explain what the student will do when responding to questions.
Content Limits	define the range of content knowledge and that should be assessed in the items for the benchmark.
Stimulus Attributes	define the types of stimulus materials that should be used in the items, including the appropriate use of graphic materials and item context or content.
Response Attributes	define the characteristics of the answers that a student must choose or provide.
Content Focus	addresses the broad key terms and concepts associated with the examples found in the standards, benchmarks, or benchmark clarifications.
Sample Items	are provided for each type of question assessed. The correct answer for all sample items is provided.

II. Individual Benchmark Specifications

Standard	21.0 Investigate the basic and complex commonalities between all humans. - The student will be able
Benchmark	21.03 Describe how the interconnections and interactions of multiple body systems are necessary for life.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=X
Cognitive Complexity Level	Moderate, High
Benchmark Clarification	The student will describe how body systems link together and the relationship they have to maintain life.
Content Focus	Homeostasis, negative feedback
Content Limits	Limited to cardiovascular, central nervous system, digestive, endocrine, muscular, peripheral nervous system, respiratory, skeletal, and urinary systems.
Stimulus Attributes	May include multiple choice or short response questions focusing on the connection and interactions of various body systems.
Response Attributes	Students will understand the interaction between body systems to maintain life.
Sample Item	Which body systems are responsible for homeostasis? A. endocrine system and nervous system B. nervous system and circulatory system C. circulatory system and respiratory system D. circulatory system and endocrine system Correct Answer: A

Standard	22.0 Explore the individual differences in tissues and cells between humans and its significance to individual identity. - The student will be able to:
Benchmark	22.02 Explain the basic structure and function of the skeletal system.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	Low, Moderate
Benchmark Clarification	The student will identify major bones of the axial skeleton and the appendicular skeleton. Students will understand the basic functions of the skeletal system.
Content Focus	Appendicular, skeleton, axial skeleton, diaphysis, endosteum, fontanel, medullary canal, periosteum, osteoblasts, osteoclasts, osteocytes
Content Limits	Limited to bone formation, structure of long bones, parts of the axial and appendicular skeleton. Limited to the major bones (i.e. skull, ribs, sternum, sacrum, vertebra, clavicle, scapula, humerus, radius, ulna, femur, patella, tibia, fibula, carpals, tarsals, phalanges) and will not include the minor bones.
Stimulus Attributes	May include a diagram/picture of the skeletal system for labeling with multiple choice or short response questions.
Response Attributes	Students will label major bones of the skeletal system. Students will differentiate osteoblasts, osteoclasts and osteocytes. Students will understand the function of the skeletal system.
Sample Item	Which of the following is NOT a function of the skeletal system? A. It allows movement. B. It provides shape to the body. C. It provides potassium storage D. It is a site for red blood cell formation Correct Answer: C

Standard	22.0 Explore the individual differences in tissues and cells between humans and its significance to individual identity. - The student will be able to:
Benchmark	22.04 Interpret bone markings, bone landmarks and bone measurements to provide information about gender, race ethnicity and height.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	Low, Moderate
Benchmark Clarification	The student will understand how bone markings, landmarks and measurements provide information about gender, race ethnicity and height.
Content Focus	Angel, body, condyle, crest diaphysis, epicondyle, epiphysis, facet, fissure, foramen, fossa, head, line margin, meatus, neck, notch, process, ramus, sinus, spinous process, sulcus, trochanter, tuberosity, tubercle
Content Limits	To include gender, race, ethnicity and height.
Stimulus Attributes	May include a diagram/picture of markings/features of the bone. May include multiple choice or short response questions with a descriptive scenario.
Response Attributes	Student will be able to interpret findings when given a descriptive scenario. Students may be required to identify and label bone markings.
Sample Item	Findings of a skull examination reveal the following: The lower orbit of the eye socket has a blunt surface and the shape of the nose hole is square. The findings would most likely represent which of the following? A. Asian female B. black male C. Chinese male D. white female Correct Answer: B

Standard	24.0 Investigate the role the brain plays in the communication system of the human body. - The student will be able to:
Benchmark	24.03 Determine the region of the brain responsible for specific actions, emotions, or functions of humans.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	Low, Moderate
Benchmark Clarification	The student will describe the structure and function of specific regions of the brain.
Content Focus	Auditory, brain stem, cerebellum, cerebrum, coordination, frontal lobe, hypothalamus, limbic system, occipital lobe, parietal lobe, temporal lobe, thalamus.
Content Limits	Limited to frontal, parietal, temporal, and occipital lobes, hypothalamus, limbic system, cerebellum and brain stem.
Stimulus Attributes	May include multiple choice or short response questions with a descriptive scenario.
Response Attributes	Students will identify the structure of the brain that is affected when given a scenario.
Sample Item	Upon examination the neurologist noted the following findings: The patient is not able to walk a straight line and his finger-to-nose movement was irregular. What part of the brain is affected? A. brain stem B. cerebellum C. frontal lobe D. occipital lobe Correct Answer: B

Standard	25.0 Determine how electrical communication works in the body and its effects. The student will be able to:
Benchmark	25.01 Explain the basics of how electrical signals are created and transmitted in the human body.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	Moderate, High
Benchmark Clarification	The student will understand the mechanisms of electrical signals in the body.
Content Focus	Action potential, afferent, axon, conductivity, dendrite, depolarization, efferent, excitability, extracellular, ion, intracellular, irritability, myelin sheath, neurotransmitter, neuron, nerve impulse, nucleus, repolarization, sodium-potassium pump, synapse, voltage-gated channels
Content Limits	May include sodium-potassium pump, intracellular and extracellular charges during the various stage of membrane excitability and a description of how an electrical signal is transmitted. May include the roles of ions in creating an electrical impulse.
Stimulus Attributes	May include multiple choice or short response.
Response Attributes	The student will explain how electrical impulses are created and transmitted in the human body. The student will describe how the sodium-potassium pump plays a role in the transmission of an impulse.
Sample Item	Which of the following is true when a neuron membrane is depolarized? A. The intracellular fluid contains less sodium and is positively charged. B. The intracellular fluid contains more sodium and is positively charged. C. The intracellular fluid contains less sodium ions and is negatively charged. D. The intracellular fluid contains more sodium ions and is negatively charged. Correct Answer: B

Standard	26.0 Determine how chemical communication works in the body and its effects. The student will be able to:
Benchmark	26.04 Explain in general how hormones contribute to maintain homeostasis.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	Low, Moderate
Benchmark Clarification	The student will explain the role hormones have in maintaining homeostasis.
Content Focus	Hormone, gland, negative feedback
Content Limits	May ask to explain the role hormones have in maintaining homeostasis and/or give an example of how hormones maintain homeostasis. (ie. blood sugar, calcium balance)
Stimulus Attributes	May include multiple choice and short response questions.
Response Attributes	Students will understand the role hormones have in maintaining homeostasis.
Sample Item	What two hormones help to maintain blood sugar homeostasis? A. insulin and glucagon B. insulin and glycogen C. insulin and glucocorticoid D. insulin and glucosamine Correct Answer: A

Standard	27.0 Investigate how the human body communicates with the outside world. - The student will be able to:
Benchmark	27.02 Describe how the eye and the brain work together to allow a person to see.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	Moderate, High
Benchmark Clarification	The student will describe the interaction between the eye and the brain that allows individuals to see.
Content Focus	Cones, occipital lobe, optic chiasm, optic nerve, retina, rods
Content Limits	May include pathway of vison, the retina, rods and cones, optic nerve, optic chiasm, occipital lobe of the brain.
Stimulus Attributes	May include multiple choice or short response questions. May include labeling the pathway of vision.
Response Attributes	The student will describe the pathway of vision. The student will understand the interaction of the eye and the brain that allows for vision.
Sample Item	Which part of the brain is important for interpreting visual stimuli? A. brain stem B. limbic system C. occipital lobe D. parietal lobe Correct Answer: C

Standard	27.0 Investigate how the human body communicates with the outside world. - The student will be able to:
Benchmark	27.03 Explain visual perception, including visual acuity, depth perception, peripheral vision, color vision, and the interpretation of optical illusions.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=X
Cognitive Complexity Level	Moderate, High
Benchmark Clarification	The student will describe visual perception as it pertains to visual acuity, depth perception, peripheral vision, color vision, and the interpretation of optic illusions.
Content Focus	Accommodation, color blindness, color vision, cones, depth perception, hyperopia, myopia, optic illusion, peripheral vision, presbyopia, rods, visual acuity, visual perception
Content Limits	May include visual acuity (myopia, hyperopia), color blindness, depth perception, peripheral vision, and optic illusions. May include the reasons for abnormal findings.
Stimulus Attributes	May include multiple choice or short response questions with a descriptive scenario.
Response Attributes	Students will understand what is meant by visual perception. Students will describe visual acuity, depth perception, peripheral vision, color vision and understand what causes abnormal findings.
Sample Item	An individual with peripheral deficit would demonstrate vision loss to which of the following? A. central vision B. close vision C. far vision D. lateral vision Correct Answer D

Standard	28.0 Describe the role food plays in the conversion and use of energy in the body. - The student will be able to:
Benchmark	28.01 Describe the human body systems that absorb process and distribute oxygen, water and food.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	Low, Moderate
Benchmark Clarification	The student will identify the organs of the digestive system and how explain how each organ functions.
Content Focus	Absorption, chyme, digestion, elimination, peristalsis, rugae, sphincter, villi
Content Limits	Organs of digestion will include salivary glands, esophagus, stomach, small intestines, large intestines, pancreas, liver and gallbladder. The chemical and mechanical process of digestion may also be included.
Stimulus Attributes	May include multiple choice or short response questions. May include a diagram/picture of the digestive system for labeling.
Response Attributes	Students may be asked to label the digestive system. Students should be able to explain the mechanical and chemical process of digestion. Students should understand how the liver, gallbladder, and pancreas aid in digestion.
Sample Item	What is the function of the cardiac sphincter? A. It allows the stomach contents to enter the duodenum. B. It allows fecal material in the ileum to enter into the cecum. C. It prevents the stomach contents from entering into the esophagus. D. It prevents fecal material in the duodenum from entering the stomach. Correct Answer: C

Standard	28.0 Describe the role food plays in the conversion and use of energy in the body. - The student will be able to:
Benchmark	28.05 Explain the structure and function of, enzymes and co enzymes and how they all work together.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	Moderate, High
Benchmark Clarification	The student will describe the the structure and function of enzymes and co enzymes and how they interact with each other.
Content Focus	Active site, catalyst, co enzyme, cofactors, enzyme, digestion, enzyme-substrate complex, molecule, organic reaction, substrate, synthesis
Content Limits	May include the function of enzymes and co enzymes, the role of enzymes on maintaining homeostasis and the how the lack of enzymes affect the human body. May include the interaction of enzymes and co enzymes.
Stimulus Attributes	May include multiple choice or short response questions with a descriptive scenario.
Response Attributes	The student will understand the structure and function of an enzymes and co enzymes, and the interaction between the two. The student will understand the role enzymes have in maintaining homeostasis. The student will understand the effects on the body if
Sample Item	How do enzymes speed up chemical reactions? A. They increase the energy of the reaction. B. They decrease the energy of the reaction. C. They increase the temperature of the reaction. D. They decrease the temperature of the reaction. Correct Answer: B

Standard	29.0 Describe the role that oxygen plays in the conversion and use of energy in the body. - The student will be able to:
Benchmark	29.03 Explain the transport of oxygen to all cells in the body through the close connection between the respiratory and cardiovascular systems.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=X
Cognitive Complexity Level	Moderate, High
Benchmark Clarification	The student will explain how the respiratory and cardiovascular work together to transport oxygen to all cells in the body.
Content Focus	Alveoli, cellular respiration, diffusion, exhalation, external respiration, inhalation, internal respiration, ventilation,
Content Limits	May include the exchange of oxygen and carbon dioxide. May include how the two systems interact with one another. May include external, internal and cellular respiration.
Stimulus Attributes	May include multiple choice or short response questions.
Response Attributes	Students will explain the interaction of the respiratory and cardiovascular system.
Sample Item	Which of the following is a false statement? A. The blood becomes deoxygenated during internal respiration. B. Carbon dioxide diffuses into the alveoli during external respiration. C. Bicarbonate is released into the arteries during internal respiration. D. Carbon dioxide is a waste product released during cellular respiration. Correct Answer: C

Standard	30.0 Describe the role that water plays in the conversion and use of energy in the body. - The student will be able to:
Benchmark	30.04 Understand that aldosterone and ADH (anti-diuretic hormone) effect the nephron and overall water balance.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	Moderate, High
Benchmark Clarification	The student will describe the effects of aldosterone and ADH on the nephron and overall water balance.
Content Focus	Antidiuretic, excretion, diuretic, osmoreceptors, osmotic pressure, permeability, secretion
Content Limits	Limited to the effects on the nephron and urinary secretion.
Stimulus Attributes	May include multiple choice or short response questions with a descriptive scenario.
Response Attributes	Students will understand how aldosterone and ADH affects urinary output and the effects on the nephron.
Sample Item	Which of the following will cause an increase in urine production? A. a decrease in ADH and a decrease in aldosterone B. a decrease in ADH and an increase in aldosterone C. an increase in ADH and a decrease in aldosterone D. an increase in ADH and an increase in aldosterone Correct Answer: A

Standard	31.0 demonstrate an understanding of how joints directly contribute to the movement of the human body. - The student will be able to:
Benchmark	31.01 Describe the structure and function of three types of human body joints.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	Low, Moderate
Benchmark Clarification	The student will identify the structure and function of human body joints.
Content Focus	Amphiarthroses, cartilagenous joint, diarthroses, fibrous joint, synarthroses
Content Limits	May include ball and socket, cartilagenous, condyloid, fibrous,saddle, hinged, gliding, and pivot joints. May include body location.
Stimulus Attributes	May include multiple choice or short response questions with a descriptive scenario.
Response Attributes	Students will differentiate the location and function of various body joint.
Sample Item	Where would you find a synarthroses joint? A. elbow B. pelvis C. skull D. vertebrae Correct Answer: C

Standard	31.0 demonstrate an understanding of how joints directly contribute to the movement of the human body. - The student will be able to:
Benchmark	31.02 Describe using appropriate vocabulary, the motion of bones in the different joint types.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	Low, Moderate
Benchmark Clarification	The student will utilize proper vocabulary to describe the motion of bones in various joint types.
Content Focus	Abduction, adduction, circumduction, depression, dorsiflexion, elevation, eversion, extension, flexion, hyperextension, inversion, pronation, rotation, supination
Content Limits	Limited to synovial joints.
Stimulus Attributes	May include multiple choice or short response questions with a descriptive scenario.
Response Attributes	The student will describe the motion of various synovial joints.
Sample Item	Of the joint movements listed below, which of at the hip joint? 1. abduction and adduction 2. flexion and extension 3. rotation 4. circumduction A. 1 and 2 B. 1, 2, and 3 C. 2, 3, and 4 D. 1, 2, 3, and 4 Correct Answer: D

Standard	32.0 Demonstrate an understanding of how muscles directly contribute to the movement of the human body. - The student will be able to:
Benchmark	32.03 Describe the requirements for muscle contraction.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	Moderate, High
Benchmark Clarification	The student will explain the process of a muscle contraction.
Content Focus	Acetylcholine, action potential, axon, contractibility, dendrite, depolarization, excitability, extensibility, extracellular, intracellular, irritability, myeoneural stimulation, myosin, neuromuscular junction, repolarization, sarcolema, synapse
Content Limits	May include myoneural stimulation and contraction of the muscle.
Stimulus Attributes	May include multiple choice or short response questions with a descriptive scenario.
Response Attributes	The student will explain the process of a muscle contraction including myoneural stimulation and contraction of muscle fibers.
Sample Item	Which of the following occurs during the process of a muscle contraction? A. Calcium attaches to myofilaments causing them to slide. B. Sodium rushes into the muscle cell causing repolarization. C. Acetylcholine causes the sarcolemma permeable to calcium D. d) Dendrites carry impulses to the muscle and releases acetylcholine. Correct Answer: A

Standard	32.0 Demonstrate an understanding of how muscles directly contribute to the movement of the human body. - The student will be able to:
Benchmark	32.08 By using the sliding filament theory, explain why rigor mortis occurs.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=X
Cognitive Complexity Level	Moderate, High
Benchmark Clarification	The student will explain why rigor mortis occurs using the sliding filament theory.
Content Focus	Acetylcholine, action potential, axon, contractibility, dendrite, depolarization, excitability, extensibility, extracellular, intracellular, irritability, myeoneural stimulation, myosin, neuromuscular junction, repolarization, rigor mortis, sarcolema, synapse
Content Limits	May include the process of rigor mortis, including time of onset and duration.
Stimulus Attributes	May include multiple choice and short response questions.
Response Attributes	The student will be able to explain how rigor mortis occurs using the sliding filament theory, including expectant onset and duration.
Sample Item	Which of the following is a false statement? A. Lack of ATP initiates the rigor mortis process. B. Rigor mortis remains even after myofilaments decay. C. Calcium is released causing muscle to contract during rigor mortis. D. Rigor mortis occurs because of a deteriorating sarcoplasmic reticulum. Correct Answer: B

Standard	33.0 Demonstrate an understanding of how blood flow aides in the movement of the substances through the human body. - The student will be able to:
Benchmark	33.01 Explain the relationship between the heart and lungs and the path of blood flow through these organs.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	Low, Moderate
Benchmark Clarification	The student will describe the interaction of the heart and lungs and the path of blood flow through the these organs.
Content Focus	Aorta, aortic valve, atria, bicuspid valve, deoxygenated blood, oxygenated blood, pulmonic valve, tricuspid valve, ventricles
Content Limits	Limited to the blood flow through the heart and lungs and the relationship between these organs.
Stimulus Attributes	Contents may include the blood flow through the heart, structures of the heart, and functions of the valves. May include a diagram/picture for labeling.
Response Attributes	The student will describe the relationship of the heart and lungs and the path of blood flow through these organs.
Sample Item	Which of the following is the correct order of blood flow through the heart? A. right atrium, bicuspid valve, right ventricle, pulmonary valve, pulmonary artery B. right atrium, tricuspid valve, right ventricle, pulmonary valve, pulmonary vein C. pulmonary vein, left atrium, bicuspid valve, left ventricle, aortic valve, aorta D. pulmonary artery, left atrium, tricuspid valve, left ventricle, aortic valve, aorta Correct Answer: C

Standard	33.0 Demonstrate an understanding of how blood flow aides in the movement of the substances through the human body. - The student will be able to:
Benchmark	33.06 Explore peripheral artery disease through the analysis of patient symptoms and diagnostic test results.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=X
Cognitive Complexity Level	Moderate, High
Benchmark Clarification	The student will describe the symptoms of peripheral artery disease along with diagnostic test result to confirm the disease.
Content Focus	Blockage, bruit, claudication, numbness
Content Limits	Diagnostic tests may include ankle brachial index, Doppler ultrasound, treadmill test, arteriogram, magnetic resonance angiogram and blood tests.
Stimulus Attributes	May include multiple choice or short response questions with a descriptive scenario. May include diagnostic tests results
Response Attributes	The student will recognize signs and symptoms of peripheral artery disease. The student will describe tests used to diagnose peripheral artery disease.
Sample Item	A 60-year-old male came to the doctor's office with complaints of pain in his toes and feet. He stated he could only walk a few feet before severe cramping developed in his legs. What is most likely causing his symptoms? A. gangrene B. peripheral vascular disease C. phlebitis D. varicose veins Correct Answer: B

Standard	33.0 Demonstrate an understanding of how blood flow aides in the movement of the substances through the human body. - The student will be able to:
Benchmark	33.07 Explain the structure and function of veins and explain how varicose veins form.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	Low, Moderate
Benchmark Clarification	The student will describe the structure and function of veins and explain the cause of varicose vein formation.
Content Focus	Distention, varicose vein, stagnant, valves, vein
Content Limits	May include the structure and function of veins, the cause of varicose veins.
Stimulus Attributes	May include multiple choice or short response questions.
Response Attributes	The student will describe the structure and function of veins and be able to explain the cause of them.
Sample Item	Which of the following is more prone to varicose veins? A. an athlete B. a carpenter C. a computer technician D. a surgeon Correct Answer: D

Standard	34.0 Using knowledge of power and movement in the human body, describe how the body fuels and responds to exercise. - The student will be able to;
Benchmark	34.04 Describe the major things that happen in the major body systems while running a race.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=X
Cognitive Complexity Level	Moderate, High
Benchmark Clarification	The student will explain the impact of running a race on the major body systems.
Content Focus	Blood volume, bone mass density, cardiovascular response, catabolism, dehydration, endurance, endorphins, lactic acid, leukocytosis,
Content Limits	May include the respiratory, cardiovascular, skeletal, muscular, nervous, endocrine and digestive systems. Should include major changes to these systems.
Stimulus Attributes	May include multiple choice or short response questions. May include descriptive scenarios.
Response Attributes	The student will describe the major effects that occur in the body systems while running a race.
Sample Item	Which of the following is not a short-term effect on the cardiovascular system while running a race? A. Blood shifts to your muscles. B. There is an increased stroke volume. C. Your blood vessels near your skin dilate. D. Your heart increases in size and strength. Correct Answer: D

Standard	35.0 Describe the composition of skin and how the integumentary system serves as a protection for the human body. - The student will be able to:
Benchmark	35.03 Explain how burn damage to the skin affects function and homeostasis in the body.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	Moderate, High
Benchmark Clarification	The student will describe how burn damage affects the function of the skin and homeostasis in the body.
Content Focus	Chemical burn, dehydration, dermis, electrical burn, electrolyte imbalance, epidermis, first-degree burn, infection, Rule of Nine, second-degree burn, scarring, sepsis, skin graft, subcutaneous, thermal burn, third-degree burn,
Content Limits	May include types of burns, burn degree in relation to layers of the skin, how burns affect the function of skin and how homeostasis is affected.
Stimulus Attributes	May include multiple choice or short response questions.
Response Attributes	The student will understand the types of burns and how they affect the skin function. The student will explain how burns affect homeostasis in the body.
Sample Item	Which of the following is **NOT** a systemic effect of burns? A. tissue destruction B. dehydration C. reduced circulation D. shock Correct Answer: A

Standard	36.0 Describe the composition of bones and how the skeletal system serves as a protection for the human body. - The student will be able to:
Benchmark	36.02 Describe types of bone fractures.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	Low, Moderate
Benchmark Clarification	The student will differentiate various types of bone fractures.
Content Focus	Closed (simple) fracture, comminuted fracture, compound (open) fracture, greenstick fracture, impacted fracture, spiral fracture
Content Limits	Limited to those fractures listed in the key terms.
Stimulus Attributes	May use a diagram of various fractures. May use multiple choice or short response with descriptive scenarios.
Response Attributes	The student will differentiate various fractures when given a scenario. The student can identify types of fractures in a diagram.
Sample Item	Melissa, a four-year-old, fell off the swing and injured her left leg. The mother took her to the emergency room. X-rays revealed a slight fracture in her fibula. What type of fracture would you expect this to be? A. comminuted B. greenstick C. impacted D. spiral Correct Answer: B

Standard	36.0 Describe the composition of bones and how the skeletal system serves as a protection for the human body. - The student will be able to:
Benchmark	36.06 Identify lifestyle choices that affect development and maintenance of healthy bones.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=
Cognitive Complexity Level	Moderate, High
Benchmark Clarification	The student will describe lifestyle choices that affect the development and maintenance of healthy bones.
Content Focus	Bone density, bone mass, fragile, isometric exercises, isotonic exercises, osteoporosis, weight-bearing exercises
Content Limits	May include the following help maintain healthy bones: healthy diet, physical activity, stop smoking, fall prevention, limit alcohol consumption and limit caffeine intake. May include how poor diet, lack of activity, smoking, alcohol consumption and caffeine affect the development and health of bones.
Stimulus Attributes	May include multiple choice and short response questions.
Response Attributes	The student will be able to explain healthy lifestyle choices that have a positive affect in the development and maintenance of healthy bones. The student will be able to explain how poor lifestyle choices affect the development and maintenance of healthy.
Sample Item	Which of the following is true of osteoporosis? A. It is treated with surgery . B. It is caused by lack of Vitamin D. C. The bones become soft & deformed. D. It makes bones fragile and breaks easily. Correct Answer: D

Standard	38.0 Examine the connection between all of the human body systems and how these systems work together to maintain health - The student will be able to:
Benchmark	38.01 Describe the effects of an extreme external environment on human body systems.
Item Types **(MC)-Multiple Choice** **(SA)-Short Answer** **(P)-Performance** **(ER)-Extended Response**	(MC)=X (SA)=X (P)= (ER)=X
Cognitive Complexity Level	Moderate, High
Benchmark Clarification	The student will explain the effects of an extreme external environment on human body systems.
Content Focus	Cardiac arrhythmias, heat cramps, heat exhaustion, heat stroke, hyperthermia, shock
Content Limits	Limited to heat cramps, heat exhaustion and heat stroke.
Stimulus Attributes	May include multiple choice or short response questions with a descriptive scenario.
Response Attributes	The student will recognize signs/symptoms of environmental emergencies and understand the proper care for them.
Sample Item	Which of the following is **NOT** a sign of heat stroke? A. altered metal status B. nausea and vomiting C. pale, moist skin D. rapid, weak pulse Correct Answer: C