

Science Olympiad
2010 Division B
Anatomy
Test Blueprint

Submitted by:

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Test Format: 1 question per station. More difficult questions, those objectives marked with an asterisk, will be used as tie-breakers.

Skeletal System:

The participant will be able to:

1. Describe the function of the skeletal system.
2. Classify a bone as: long, short, flat, or irregular bones.
3. Know the macroscopic anatomy of a typical bone.
4. Identify prominent bones of the axial and appendicular skeleton.
5. Define terms related to the bone markings. Possibly including but not limited to: head, foramen, trochanter, spinous process, and condyle.*
6. Know the functions of the vertebra, and intervertebral disks.
7. Classify a vertebra as: cervical, thoracic, lumbar, or sacral.
8. Identify the movement of synovial joints within the functional classifications of: gliding, hinge, pivot, ellipsoidal, saddle, or ball-and-socket joints.
9. Identify common injuries such as: sprains, subluxation, dislocation, and epiphyseal, open (compound,) closed, greenstick, comminuted, or transverse fractures.
10. Know the basics of managing a person with a suspected skeletal injury.

Muscular System:

The participant will be able to:

1. Classify a muscle as: skeletal (striated,) smooth, or cardiac.
2. Outline, in general terms, the molecular events of the contraction process of skeletal muscle.
3. Know the fuels used, and waste products produced in aerobic and anaerobic metabolism of the muscle tissue. *
4. Know the benefits of physical conditioning as it pertains to cardiac and skeletal muscles.
5. Classify movements as extension, adduction, abduction, flexion, or circumduction.
6. Identify the function of a tendon, epimysium, fascicle, and endomysium.
7. Differentiate the properties between skeletal muscles and cardiac muscle. *
8. Label the major muscles of the neck, trunk, pelvis, and buttocks.
9. Label the major muscles of the arms and the legs
10. Know the basics of managing a person with a sprain or strain type of injury.