

Trial/Pilot Event

Contact the organizers of your tournament to find out what trial/pilot events will be held.

BAG OF BONES (B/C) – Trial Event (rev. 6/6/02)

(ANATOMY)

DESCRIPTION: Students will identify bones from the supplied list and answer questions pertaining to these bones.

A TEAM OF UP TO: 2

APPROXIMATE TIME: 50 MINUTES

EVENT PARAMETERS: Students may bring any printed reference materials; no calculators or computers of any kind will be allowed.

THE COMPETITION:

Questions may include location within the body, articulation, function, distinguishing between compact and spongy bone, identifying the sex based on the pelvis, understanding the functional differences among cartilage, tendons, and ligaments, addressing how the bone allows for adaptation to an environment, and the qualitative relationship between bone diameter and size of the animal. Students will **not** be asked to identify specific tendons, ligaments, or muscles. Students will be expected to identify different kinds of teeth and to relate these teeth to the diet of the animal. Students should be able to identify bones in other vertebrates besides human. At the C division, students will also be expected to be familiar with the microscopic anatomy of ground bone.

- 1 This event will be run as stations. Students will move from station to station, spending the same amount of time at each station.
2. Students will be asked to identify bones and to answer related questions. No more than 50% of the questions shall be strict identification.
3. Bones may be loose, part of a skeleton, in a photograph/diagram, or from an X-ray. Bones may be synthetic, as in a teaching skeleton, or real, as in the case of chicken bone or fossil.
4. Students will be expected to identify the following number of bones by touch:
 - at regional 1
 - at state 2-3
 - at national 3-4

All bones to be identified by touch must be intact; no fragments of bones may be used. These bones will be contained in a bag or box. Students will be disqualified for looking at these bones.

5. At the B division, all bones must be intact. At the C division, no more than 3 bones may be presented as bone fragments.

SAMPLE QUESTIONS:

1. Student encounters the ulna. Identify the bone, provide the location of the body in which it is found, provide the name of a bone that articulates with the indicated bone.
2. Student encounters the three bones of the ear. Provide the location in which these bones are found. What is their function? Order the bones from most exterior to most interior.
3. You discover the body of a decomposed body. Based on the skeleton, what is the sex of this individual? How can you tell?
4. The student is shown a frog skeleton and three bones are labeled A, B, C. Identify the indicated bones. Provide one difference between leg anatomy of the frog and the human.

Trial/Pilot Event

Contact the organizers of your tournament to find out what trial/pilot events will be held.

5. Students are shown the jaw of animal. What was probably the diet of this animal/ (carnivore, omnivore, etc)? How can you tell?

6. Students are shown a picture of a femur that is 10 cm in diameter and 50 cm long. They are first asked to identify the bone, and then are asked to estimate the relative size of the animal from which it came (cat, cow, hippo, giraffe, elephant, etc.)

SCORING:

Answers to all questions will be weighted equally. Bones that are misspelled will be counted wrong. Other misspellings will not be marked wrong but may be used to break ties. Tie breaker questions must be included among the questions, and these questions must be clearly indicated. Students will be ranked based on the number of correct answers.

B DIVISION BONE LIST

clavicle	phalanges	fibula	pelvic girdle
scapula	ribs (true and false)	mandible	stapes
humerus	sternum	maxilla	cranium, <i>intact, not individual bones</i>
radius	tarsals	malleus	vertebrae
ulna	metatarsals	patella	teeth
carpals	femur	incus	
metacarpals	tibia		

C DIVISION LIST - all of the above bones plus

sacrum	frontal bone	temporal bone	sphenoid bone
ilium	parietal bone	occipital bone	coccyx
ischium			