No Bones About It

Grades: 2, 3
Team Size: 1-3 competitors
Duration: 30 minutes
Supervisors: Anna Nicklas, Max Ryan, Peter Gergics, M.D.

Summary Description
Students will be tested on their knowledge and observational skills in the study of the human skeletal system, including identification of structures, functions, and common childhood disorders and injuries that may affect the human skeletal system.

Changes from Previous Year
Minor clarifications in Rules section and Tiebreaker section.

Concepts Covered
Objective: The goal of “No Bones About It” is to have students understand the relationship between the skeletal system and other body systems, to learn what comprises the skeletal system, to comprehend that the skeletal system is vital to the function of the human body, and to understand the importance of taking care of the skeletal system.

Concepts and Principles:
- Functions of Skeletal System
- Structure of the Skeleton/Names of Bones
- Types of Bones
- Types of Vertebrae
- Types of Synovial Joints
- Structure of Bone
- Proper Care of Skeletal System
- Types of Bone Fractures
- Commonly Broken Bones
- Other Skeletal Injuries
- Prevention and Treatment of Bone Trauma
- Some Common Childhood Skeletal Disorders
**Rules/Competition Format**

- A team of 1-3 participants will use their knowledge and skills to answer written test questions pertaining to the skeletal system and to identify anatomical structures at stations throughout the room containing lifelike models, pictures, and/or x-rays of bones.
- Following a 5-minute introduction by an event supervisor, student teams may begin either the written or the practical portion of the test.
- For the written portion, participants will have 10 minutes to correctly answer as many questions as possible on their test sheet. Written questions may be multiple-choice or fill in the blank.
- For the practical portion, students will spend 10 minutes rotating through 3-5 stations identifying bones or parts of bones either on a table or as part of a skeleton, or on a plain x-ray. Teams will have 2-3 minutes per station and will be told when to move to another station.
- For the remaining 5 minutes, students may work on their written test or return to the practical stations to complete their tests.
- Teams may quietly discuss the questions, but each team must come up with only one answer to each question.
- The question format may include, but not be limited to, multiple-choice, fill in the blank, true or false, and/or matching questions. All questions at stations will be printed on cards at each station as well as on the answer sheet provided in the test.
- Only the SCIENTIFIC NAMES of the bones, broken or not broken, will be accepted as correct. (For example, “upper arm bone” is incorrect – the correct answer is “Humerus”).
- Bones from the right or the left side of the body may be used, but identification of the side is not required unless specifically requested in the test question. Students should be prepared to identify bones from a small 3ft. skeleton, a full sized skeleton, separate full sized bones. Bones that are separated from a skeleton would not be a single bone, but would instead be a group of anatomically connected bones.
- Correct spelling is not required as long as words are phonetically recognizable, but correct spelling may be used as a tie-breaker.
- Some books capitalize all the bone names, and some do not. For this test, capitalization is not required.
- Students may be shown an x-ray that contains an obvious fracture and asked to identify the bone that is fractured as well as the type of fracture. Students will only be required to identify radiographs of bone fractures. (NO other bony diseases would have to be identified on x-rays).

**Scoring**

Each test question will be assigned a point value to be earned by teams answering correctly. The highest number of points will determine the winner.

**Tie Break Criteria**

Test questions pre-selected by the supervisors will be used as tiebreakers. In the event that all tiebreaker questions are answered correctly, correct spelling in a pre-selected tiebreaker question will be used as a final tiebreaker.
Materials Distributed by WESO
One (1) Axis Scientific Miniature Human Skeleton

Materials to be brought to competition
None.

Supervisors will provide pencils and erasers for the test. No calculators are needed.

A reference sheet will not be allowed.