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| **Bones, Bones, Bones – WebQuest**   |  |  |  |  | | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | Modified from:  Yvette K. Stuewe, NBCT   Lutheran, LCMS- Pacific Southwest  This Page URL  http://www.can-do.com/uci/ssi2002/bones.html | http://www.can-do.com/uci/ssi2002/Bones.jpg |  | | |  | |
| |  |  | | --- | --- | |  |  |   **Background**  The human skeleton has many of the same functions as the skeletons of other animals you have studied. The skeleton supports the body and gives it shape. It protects body organs such as the  heart and lungs. The skeleton also allows movement. Muscles are attached to the bones and pull them allowing the bones to move. The bones act as a warehouse for the body storing minerals such as  calcium and phosphorus. These minerals make the bones hard. The bones also act as a factory producing blood cells to transport oxygen, fight disease-causing bacteria, stop bleeding, and replace worn out cells. The human body contains **206 bones!**  Dissecting an owl pellet is a great way to reinforce your knowledge of our skeletal system. When an owl catches its prey, it swallows the animal whole. The owl cannot digest the fur and bones  so its body separates the bones and fur from the fleshy meat parts. The meaty parts proceed further into the digestive system and the bones and the fur are compacted together and cast  (spit) out.   There are an average of 2-3 animals per pellet. This owl pellet investigation is much more meaningful if you know the names of the major bones in the human skeletal system.  In this webQuest, you will take a virtual tour of our skeletal system, practice labeling some of the major bones, compare our bones to those of a rodent and bird, and explore an owl pellet in your classroom.  **Purpose:**  1. Students will describe the functions of the skeletal system.  2. Students will list and describe the structure of bones.  3. Students will be able to identify and label the major bones of the human body.  4. Students will compare the bones of the human skeleton to the bones of a vole and a bird.   5. Students will further their understanding of bone structure by dissecting an owl pellet and labeling the rodent and bird bones found.  6. Students will create a bar graph representing the number of each bone found in the pellet  Resources Needed:   * Owl pellet dissection supplies * Owl pellets * Pie plate * Latex gloves * Lab coat * Notebook paper * Pencil / Writing Utensil. * If you have allergies to pet dander an alternative Virtual Owl Pellet Dissection is available at this website: <http://www.kidwings.com/owlpellets/html5/v1/fullscreen.htm> |
| **Your Tasks**http://www.can-do.com/uci/ssi2002/desktop.gif   * **Task #1:**  Enter [The Bone Zone](http://www.astephensscience.com) Record notes as you learn about the skeletal system.   Describe the functions of the skeletal system. * Describe and illustrate the structure of bones. * Describe at least 10 of the major bones of the body. * Take a quiz and then enjoy some jokes.   http://www.can-do.com/uci/ssi2002/hand-pointer.gif**Task #2**: Test your knowledge of the human skeleton.  Click [here](http://www.enchantedlearning.com/subjects/anatomy/skeleton/Labelskeleton.shtml) to see what you know!  See how many bones you can label.   (Pages from this web site may be printed for further practice, or to use as the students stay on the  web site from task #1)  http://www.can-do.com/uci/ssi2002/hand-pointer.gif**Task #3:** Compare the bones of the human skeleton to the bones of rodent (vole) and a bird.  Review your knowledge of human bones. Predict the similarities and differences between human bones and rodent bones.   Based on your prior knowledge, do you think that the human bones will be similar or different from the rodent bones?  Why?  Compare your human skeleton with the labels, to the vole skeleton (below).   Record your observations    |  | | --- | | Rodent Skeleton |   Share your observations of the human/vole skeleton comparison with a partner.  Based on your observations, predict the similarities and differences between human/ vole bones and the bones of a bird.  Will the bird's bones be similar or different? Write your hypothesis with an explanation.  Compare the human and vole skeleton to the bird's skeleton.  Record your observations.  Click to see the [skeleton of the bird](http://www.can-do.com/uci/ssi2002/birdskeleton.html).  http://www.can-do.com/uci/ssi2002/hand-pointer.gif**Task #4:**   Dig in to your owl pellet!!!! http://www.can-do.com/uci/ssi2002/mouseani.gif  Most of the bones that you see will be rodent bones. If you are lucky, you may find some bird bones.  You will need a pie plate, dissection kit, a bone ID chart, an owl pellet and a baggie to store the bones overnight.    |  |  | | --- | --- | |  | **Procedure:** | | http://www.can-do.com/uci/ssi2002/rd_pin.gif | Carefully pull the pellet apart with your hands. | | http://www.can-do.com/uci/ssi2002/rd_pin.gif | Separate the bones from the fur with the teasing needle. Set the bones on one plate and fur on the other plate. femur, humerus, scapula, ribs, vertebrae and more... | | http://www.can-do.com/uci/ssi2002/rd_pin.gif | Use the diagram of the rodent and bird skeleton to identify the bones. Look carefully for the tibia, fibula, | | http://www.can-do.com/uci/ssi2002/rd_pin.gif | Sketch each type of bone found and label it. Tally the number of each bone that you have. | | http://www.can-do.com/uci/ssi2002/rd_pin.gif | Create a [bar graph](http://www.can-do.com/uci/ssi2002/owlpellettable.html) representing the number of each bone found in the owl pellet. Click on the words "bar graph." Print the graph and shade up to the correct number representing the amount of each bone found. | |