

Bones Revealed!

• Keep 'em Reading •

by | Carol Surges

Grades
3-6

What could be a better month to introduce a unit on bones than October, the time of year when skeletons are both celebrated as a reminder of our past and abhorred as a foreboding glimpse of our future? Steve Jenkins's highly entertaining and graphic *Bones: Skeletons and How They Work* provides the perfect starting point for a look below the skin's surface. The book is done in Jenkins's inimitable style, incorporating provocative questions, humor, and numerous opportunities for further exploration. From the grinning skull on the cover to the waving skeleton on the final gatefold, readers will be hooked as they are treated to one fascinating fact after another.

While content of *Bones* isn't terribly different from other books on the topic, the presentation makes this new title a standout. Careful reading and viewing will yield rewards. In 32 pages (including three gatefolds), Jenkins introduces not only our anatomy, but also reveals our evolutionary links through comparisons of the human hand with a variety of animal "hands." His scaled illustrations also provide opportunities for mathematical challenges.

Because Jenkins keeps the overall treatment light, readers won't be deterred by the "Head Case" spread of the human skull featured on the cover, which smiles out from a black background opposite a mouse lemur's skull set against an orange background. The lemur page is a gatefold, which opens to a collection of skulls, all life-sized.

Young readers will delight in the rhinoceros chasing a human in the "Moving On" spread. They will pore over the assemblage of human bones, all 206 of them, spread out and ready for identification. No labels are provided, but the bones are grouped by body part or location, like a puzzle challenging readers to identify each one. The final double-gatefold opens to an intact, grinning skeleton, with one arm raised in an apparent farewell. But the

book isn't over yet. The last spread offers additional information on bones that covers what they are made of, what happens when a bone breaks, general trivia, exoskeletons, the Eiffel Tower, and more.

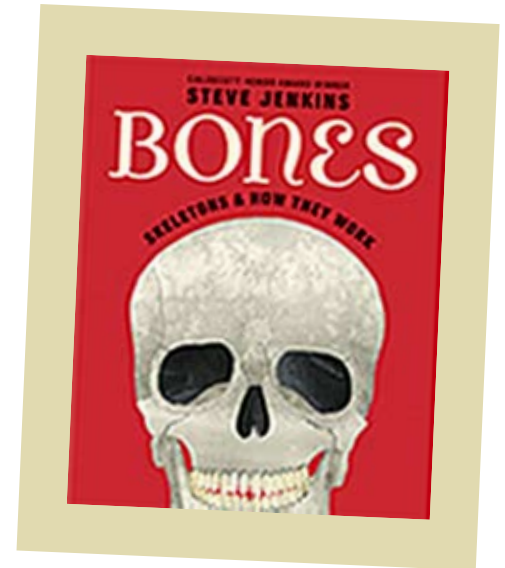
Building on the numerous available connections to *Bones: Skeletons and How They Work* offers, use the following resources for additional ideas and materials to assemble a "Bones" unit that meets your needs and curriculum.

RESOURCES

Bones: Skeletons and How They Work is the perfect introduction to deeper study on a number of bones-related topics. Here are some resources that will get you started.

Human Anatomy

- <http://www.littlegiraffes.com/skeletons.html>. This skeleton-themed teaching plan site has ideas for hands-on activities, song lyrics, and poems for the youngest learners.
- http://kidshealth.org/kid/htbw/htbw_main_page.html. Another kid-friendly introduction to bones with activities from the Nemours Foundation. Choose 'Bone' from the scrolling bar.
- <http://homes.bio.psu.edu/people/faculty/strauss/anatomy/skel/skeletal.htm>. Detailed photos of human bones and a full skeleton are available here.
- <http://wellnessways.aces.illinois.edu/coloring-book/funactivities.html>. Three .PDFs of the human skeleton are ready to be duplicated and assembled into a jointed skeleton.



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- <http://www.medtropolis.com/VBody.asp>. A narrated slide show gives a brief introduction to the science, history and art connected to skeletons. A skeleton building game is linked.
- <http://sv.berkeley.edu/showcase/pages/bones.html> (Shockwave required) Visit this link for a more detailed skeleton building activity.
- <http://uwmsk.org/RadAnatomy.html>. Bones are examined in a series of radiographs or x-rays.
- http://kidshealth.org/misc/how_the_body_works/name_that_bone.html. This 'Name That Bone' activity could be used at the end of an anatomy unit that includes labeling human bones.

Comparisons

- <http://www.eskeletons.org/index.html>. This site from the University of Texas exhibits a number of skeletons. A close-up comparative look at the bones of different species is available.
- <http://www.calacademy.org/exhibits/skulls/index.html>. This site from the California Academy of Sciences focuses on skulls. Be sure to go to the 'Diversity' page and do the skull match activity.
- <http://www.vet.osu.edu/assets/flash/education/outreach/games/skeleton/skeleton.html>. Label the bones of a dog with this "click and drag" activity.

Fossils

- <http://www.amnh.org/ology/>. Explore dinosaur bones at this site sponsored by the American Museum of Natural History. Choose Paleontology under the 'Ology' menu.
- http://www.blm.gov/education/00_resources/articles/paleo/activity.html. Look at dinosaur bones from a paleontologist's perspective with this activity from the Bureau of Land Management.

Measurement, Scale and Proportion

Steve Jenkins uses scale in many of his books. Enlarging or reducing the size while keeping the proportions correct is an exercise that might fit into your math curriculum. (Check with your art specialist for extension possibilities.) Use these two links for a mathematical look at the body, and use the worksheet "A Look at Me," found in the first link, to keep track of individual measurements.

- <http://www.teachhealthk-12.uthscsa.edu/curriculum/lookatme/pa01pdf/0105B-SWS.pdf>
- Now use the raw data for this analysis 'Body Ratios and Proportions' activity at: <http://teachhealthk-12.uthscsa.edu/curriculum/bones/bone02d-ratio-proportion.asp>

The following links are designed for upper-elementary through middle school.

- Challenge students with the scaling activities at <http://www.figurethis.org/challenges/c61/challenge.htm>
- Make a scale model of a pyramid at <http://www.pbs.org/wgbh/nova/pyramid/geometry/index.html>
- Make a 1:2 scale drawing of a F16 at <http://www.docstoc.com/docs/10577752/Scale-Drawing> or <http://members.eaa.org/student/home/Documents/F16ScaleDrawing.pdf>
- Use the directions on this PDF to use Microsoft Word for drawing and scaling: <http://www.fsmq.org/data/files/rfwiusdrawisi-9038.pdf>

A Cultural Phenomenon

Bones have fascinated people throughout the ages. They have been studied, collected, celebrated, and used for artistic inspiration for centuries. These links will get you started on studying some of the culture surrounding skeletons.

- <http://teachhealthk-12.uthscsa.edu/curriculum/bones/bone01-cultural-skeleton.asp>. This site includes information and activities related to Halloween, All Saints Day, and more.
- http://www.calacademy.org/exhibits/skulls/skulls_in_culture.html. Take a look at some of the artwork inspired by bones at this site.

Just For Fun ...

- Skeleton jokes: <http://www.halloween-online.com/jokes/halloween-jokes-skeleton.html>
- Lyrics and a recording for "Dry Bones (Skeleton Bones)": <http://kids.niehs.nih.gov/lyrics/bones.htm>

More about the Author/Illustrator:

For information about Steve Jenkins, be sure to re-read the interview in *LibrarySparks* April, 2006. If you can't locate a copy, go to TeachingBooks.net's http://www.teachingbooks.net/spec_athr.cgi?pid=1624 page that features much of the interview, plus a video. You can also visit his website

at <http://www.stevejenkinsbooks.com>, where he explains why he believes science is so important, shares the inspiration for several of his books, and shows you his bookmaking process. Be sure to check out his “Links” page that includes many more resources and details about his work and process.

Beyond Bones:

Recent Works by Steve Jenkins

Note: This is a selected list of Steve Jenkins’s works from the past three years. For a full bibliography, visit <http://www.stevejenkinsbooks.com/books.html>.

- *Dogs and Cats*. Houghton Mifflin, 2007.
- *Down, Down, Down: A Journey to the Bottom of the Sea*. Houghton Mifflin, 2009.
- *How Many Ways Can You Catch a Fly?* Houghton Mifflin, 2008.
- *How to Clean a Hippopotamus: A Look at Unusual Animal Partnerships*. Houghton Mifflin, 2010.
- *Living Color*. Houghton Mifflin, 2007.
- *Never Smile at a Monkey: and 17 Other Important Things to Remember*. Houghton Mifflin, 2009.
- *Sisters and Brothers: Sibling Relationships in the Animal World*. Houghton Mifflin, 2008.

Additional Bone Related Resources (from simple to more difficult)

- *Big Book of Bones: An Introduction to Skeletons* by Claire Llewellyn. Peter Bedrick Books, 1999. This title includes a more comprehensive look at a variety of skeletons as it progresses through the bones of the animal world. Bone development, comparisons of hands and feet between species, “bones from the past,” and bones used in cultural practices are included. A quiz concludes the volume. Gr. 5–8
- *Bones* by Anna Sandeman. Copper Beech Books, 1995. Simple text and photographs with bones superimposed describe the role of bones and joints, how to keep them healthy, and what happens when they break. A final spread includes extra information. Gr. 3–4
- *The Bones You Own: A Book About the Human Body* by Becky Baines. National Geographic, 2009. A dynamic presentation, oversized text

and lots of opportunity for interaction make this title a good choice for young readers.

Gr. K–2

- *Skeleton* by Steve Parker. Copper Beech Books, 1996. This title covers the same content as Sandeman’s *Bones*, but in more detail. Again, bones are superimposed over several of the photos, including a life-sized face with half of the skull revealed. Gr. 4–6
- *Skeleton* by Steve Parker. Dorling Kindersley, 2004. Done in the usual DK Guidebook style, excellent photos of a variety of species and their bones will fascinate browsers. Gr. 3+
- *Visual Dictionary of the Skeleton*. Dorling Kindersley, 1995. Although the text for this reference-style resource is more advanced, the visuals will intrigue young readers as well. Photographs of apparently real bones from all sorts of vertebrates are included, and a double gatefold of a human skeleton is featured. The human skeleton sections follow the sections on land mammals with visuals that show other vertebrates. Sections on early human relatives and bone structure are also included. Gr. 5–9
- *You Can’t See Your Bones With Binoculars: A Guide to Your 206 Bones* by Harriet Ziefert. Blue Apple Books, 2003. Following the lyrics to “Dem Bones” and keeping that light-hearted approach, this title provides a little more sophisticated vocabulary and information. Gr. 2–4

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