



BRUCE MUSEUM

DIGITAL WEEKENDS: *UNDER THE SKIN*

*Tip: Read this whole lesson plan before you start so you understand how the activity will evolve.

ANIMAL ANATOMY:

Under the Skin is a Bruce Museum science exhibition that asks viewers to look beyond what the naked eye can see. We can now look beyond the surface of museum specimens and creatures using tools created by scientists. These tools allow us to not only expand our knowledge of animal adaptations, but also to better see the beauty in animal anatomy. Using these tools, scientists, and every day people, can learn more about animals and their bodies than ever!



Plains Spadefoot Toad

Spea bombifrons

Cleared and stained specimen under fluorescent light.

Image courtesy Dr. Matt Girard and Dr. Leo Smith

University of Kansas Biodiversity Institute & Natural History Museum

Vocabulary

Muscle: tissue in the body of animals and humans that move parts of the body. Muscle is made up of bundles of fibers that move the body by tightening and relaxing.

Bone: the hard tissue that forms the skeleton of a person or animal.

Anatomy: the science that studies the parts and structures of plants or animals.

X-Ray: a beam of high-energy radiation that is able to pass through many kinds of solid material.

CT Scan: an image of an area of the body that is formed from a grouping of x-rays on a computer. CT scans are used to make a diagnosis in medical treatment. CT stands for computerized axial tomography.

BEFORE YOU BEGIN:



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If you want to learn more about the animals featured in *Under the Skin*, here are some links to help inspire you:

[Under the Skin Digital Exhibition](#)

[Under the Skin Exhibition Details](#)

MATERIALS:

- Paper
- Pencil
- Eraser
- Bonus: If you have these supplies use them as well – tracing paper, fine tip marker, Sharpie, or even gridded paper.

DIRECTIONS:

Prep:

Grab all the materials listed above, with help from an adult. If you don't have something listed, get creative and use something else around your house. Some items you can use might include colored pencils, black marker, or similar paper you can trace with. Make sure to clear a space where you can do this activity.

STEP 1:

Look closely at the image of the Plains Spadefoot Toad above. To start your activity, think about animals you have seen before at the zoo, in your neighborhood, or in your backyard. Use the online links provided above, with an adult, to help with inspiration.

STEP 2:

Watch teaching artist Grayson Kennedy's video. Feel free to pause the video while you draw your artwork. This week you can get creative, too: If you and your family have a pet, get inspired and use them as your reference instead!

STEP 3:

Teaching artist Grayson uses her pet bearded dragon to illustrate its anatomy. Follow along! However, if you want to use your own pet, ask for help from an adult to google an x-ray or CT scan image of the animal. Once you have your plan and reference, you will be ready to draw.

STEP 4:

Start with drawing simple shapes to sketch out the animal's head.

STEP 5:

Draw the animal's spine and tail, if they have one. Try your best to draw to scale.



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STEP 6:

Begin to add other important parts of the animal's skeleton, such as the shoulders and pelvis. This will help with adding limbs to the animal.

STEP 7:

Add circles where joints will be drawn.

STEP 8:

Add elbows, knees, arms, and joints where you sketched out lines and basic shapes.

STEP 9:

Next, add an oval shape, or lines, where the main portion of the animal's ribs are located.

STEP 10:

Draw details on the animal's skull.

STEP 11:

Add in additional bone details such as the spine, limbs, etc. Don't worry if things on your drawing are not exact! Just do your best.

STEP 12:

Draw in claws and paws.

STEP 13:

Finally, add in the last set of bone details, the rib bones, to the animal you are drawing. Repeat drawing rib bones on the opposite side.

STEP 14:

Fix any mistakes, or add more accuracy to your drawing if you would like to.

STEP 15:

If you used your animal friend as you model, show them your drawing! You and your adult are welcome to share your artwork online as well, using the hashtag #BruceMuseum. If so, thank you for sharing!