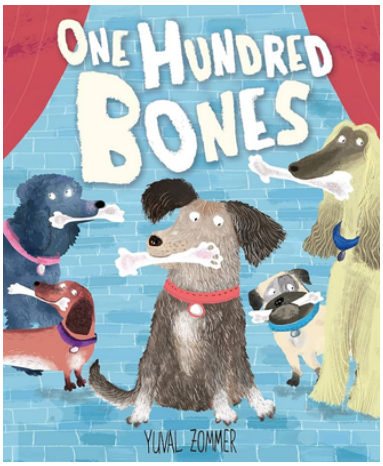
STEAM IMAGINATION GUIDES

One Hundred Bones BY YUVAL ZOMMER



CONVERSATION STARTERS

- Which scents are the easiest to smell? Which are harder?
- How do smells change throughout the seasons?
- What happens to your sense of smell when your nose is stuffy? Do any other senses change too?
- What do you think dinosaurs smelled like?
- What scents do you think were in a dinosaur's environment?
- If you found a fossil or bone, who would you tell first?
- What do you think are the most commonly found fossils or dinosaurs in our state?
    - Nebraska is considered a prime place to find Proboscidean fossils (mammoths and mastodons), which is also our state fossil!

STEAM CONNECTION: FOSSIL FINDER

ELG Standard S.02: Develops foundational skills in learning and understanding about the world through exploration and investigation.
HP.01: Uses finger and hand control to operate and use small objects, demonstrating fine motor coordination.

Scan QR Code or Visit: go.unl.edu/ash-falls to see a virtual tour of an active fossil dig site in Nebraska!

Supplies:

- 1 C flour
- 3/4 C salt
- 1/2 C coffee grinds
- 1 C sand
- 1/2 - 3/4 C water
- Ziploc bag or bowl for mixing
- Casserole pan or dish to hold the dig site
- Toys or other objects to uncover

Discovery Methods:

Paleontologists and archaeologists get to dig through layers of earth to uncover bones, artifacts, and treasures that help tell the story of our planet and human history. Children can experience that same excitement with their own dig site!

To prepare, mix the dry ingredients, gradually add water, and press part of the mixture into a pan. Add dinosaur toys or small treasures, then cover with the remaining mixture. Let it dry for one to two days (a shorter drying time works best for younger children, as it stays more malleable).

Once hardened, provide tools like mallets, popsicle sticks, wooden dowels, golf tees, and paintbrushes for children to carefully excavate their finds. As they explore, describe their actions: "Using the brush helped you uncover the dinosaur's face without breaking it!" or "The hammer helped you remove a big section of rock."

How is this STEAM?

Uncovering embedded items models the way fossils and artifacts are found, introducing concepts of sediment, erosion, and discovery. Children explore cause and effect when they see how different actions (brushing, tapping, digging) affect the items they uncover.

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NATURE: SCENT SAFARI

ELG Standard S.02: Develops foundational skills in learning and understanding about the world through exploration and investigation.

Scruff used his sense of smell to locate a large pile of bones hidden underground and was given a home with a scientist who digs up bones for research. This is no surprise since dogs have a sense of smell about 100,000x stronger than humans. In real life, dogs do help archaeologists locate bones!

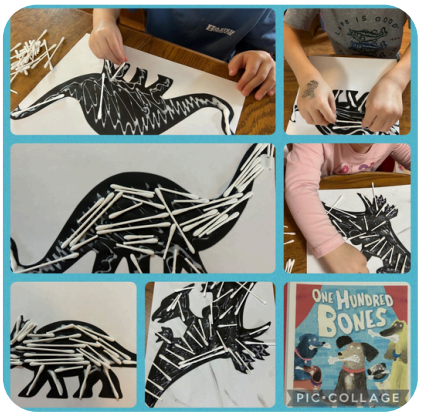
Although dogs have a superpowered sense of smell, humans are better at detecting certain odors, such as fruits and flowers. Let's explore our sense of smell in nature! Children can explore their own sense of smell using empty, clean containers. Together, collect natural items with distinct scents such as pine needles, flower blooms, lavender leaves, or crushed leaves, and place in the containers. Empty herb and spice containers could also be used.

Children can work in pairs: one child is blindfolded and smells each container to guess the contents, while the other child records the answers or notes which scents they find pleasant or unpleasant. This information could be used to show simple graphing to children.

How is this STEAM?
This activity supports sensory development, teamwork, observation skills, and early math concepts, as recorded data can be used for simple graphing to compare scents.

CREATIVE ARTS: PREHISTORIC PUZZLE

ELG Standard CA.02: Develops foundational skills that support creative expression through the process, production, and appreciation of visual art forms.



Did you know that ⅓ of Washington D.C.'s Smithsonian collection of mammal fossils comes from Nebraska? When archaeologists discover bones or fossils, they often find them jumbled together. One of the hardest parts of their job is figuring out where all the bones belong in the body. Children can experience this challenge by creating their own dinosaur skeletons. Cut Q-tips into varying lengths and offer to children, who can arrange them to form a skeleton. Silhouettes of dinosaurs or pictures of real skeletons can be used as guides, but children are encouraged to explore their own creativity. They may even invent a new dinosaur! Ask children about their dinosaurs, "What kind of dinosaur did you make?" "Does it move fast or slow?"

How is this STEAM?
This activity supports fine motor development, spatial reasoning, problem-solving, and creativity while introducing basic concepts of paleontology.

EXTENSION
Early Childhood

PROJECT TEAM
Jackie Steffen | Amy Napoli
Emily Manning | Ingrid Lindal | Jaci Foged

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