

Animal Noses

by Mary Holland



Animal Noses

Noses come in all kinds of shapes and sizes that are just right for its particular animal host. Not only do most animals use their noses to breathe but for many animals, the sense of smell helps them find food, a mate, or even to know when danger is near! Following *Animal Ears*, *Animal Tails*, *Animal Eyes*, *Animal Mouths* (NSTA/CBC Outstanding Trade Science Award), and *Animal Legs*, Mary Holland continues her photographic *Animal Anatomy and Adaptations* series by exploring many different animal noses and how those noses help the animals survive in their habitats.



Arbordale Publishing offers so much more than a picture book. We open the door for children to explore the facts behind a story they love.

Thanks to Tia Pinney, Naturalist at Mass Audubon's Drumlin Farm Wildlife Sanctuary in Lincoln, MA for verifying the accuracy of the information in this book.

The *For Creative Minds* includes

- Sense of Smell
- Fun Facts
- Match the Nose
- Animals With a Very Good Sense of Smell

Visit www.ArbordalePublishing.com for free resources and support: teaching activities; quizzes; reading levels; and alignment to Common Core, NGSS, and state standards.

Arbordale's interactive ebooks read aloud in both English and Spanish with word-highlighting and adjustable audio speed. Available for purchase online.

Mary Holland is a naturalist, nature photographer, columnist, and award-winning author with a life-long passion for natural history. After graduating from the University of Michigan's School of Natural Resources, Mary worked as a naturalist at the Museum of the Hudson Highlands in New York state, directed the state-wide Environmental Learning for the Future program for the Vermont Institute of Natural Science, worked as a resource naturalist for the Massachusetts Audubon Society, and designed and presented her own "Knee-High Nature Programs" for libraries and elementary schools throughout Vermont and New Hampshire.

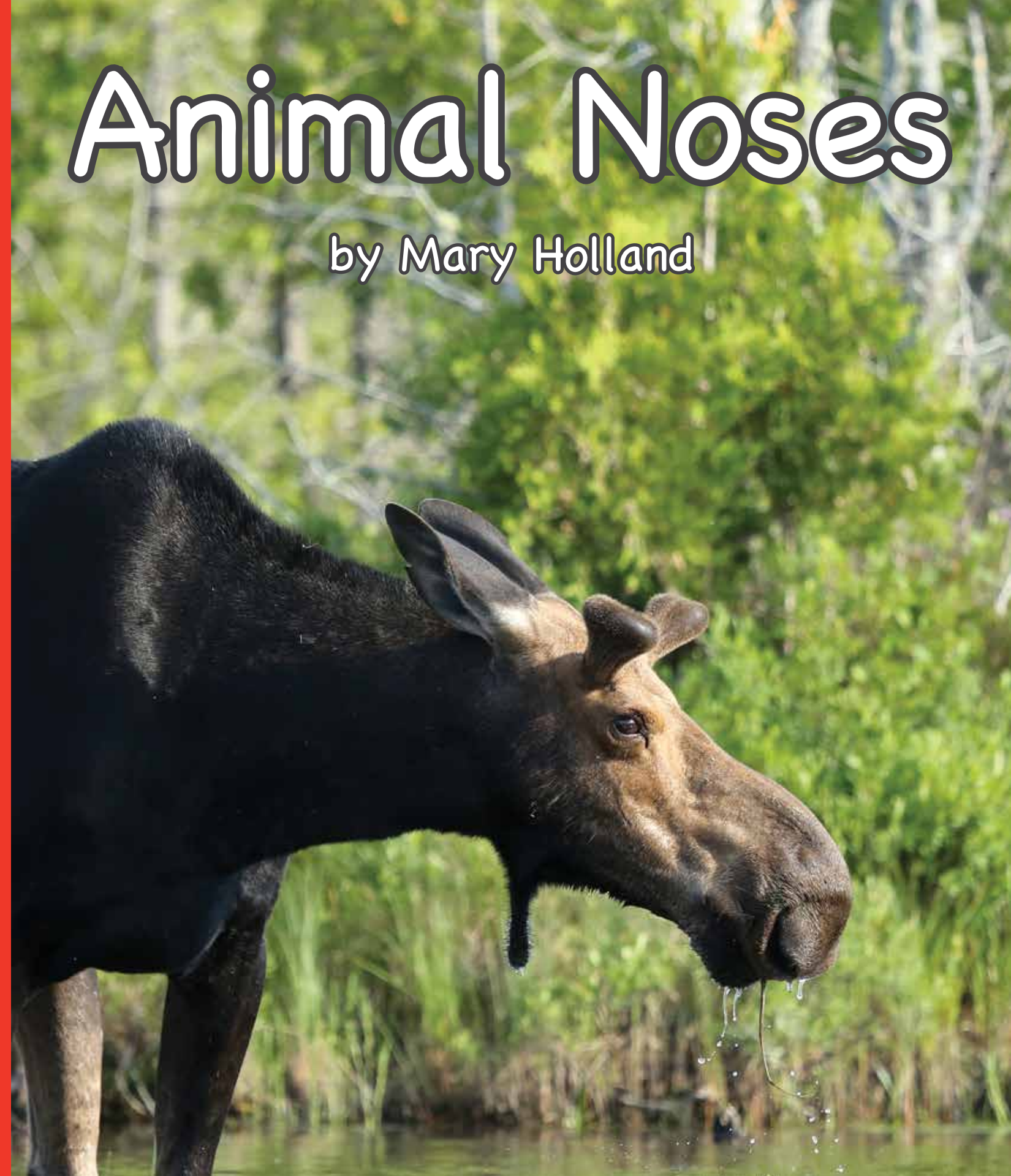
Her other children's books with Arbordale include *Otis the Owl*, *Ferdinand Fox's First Summer* (NSTA / CBC Most Outstanding Science Trade Book and Moonbeam Children's Book Award), *The Beavers' Busy Year*, *Yodel the Yearling*, *Animal Ears*, *Animal Tails*, *Animal Eyes*, *Animal Legs*, and *Animal Mouths* (NSTA / CBC Most Outstanding Science Trade Book). Mary's book *Naturally Curious: a Photographic Field Guide and Month-by-Month Journey Through the Fields, Woods and Marshes of New England* won the 2011 National Outdoor Book Award for the Nature Guidebook category. *Naturally Curious Day by Day* was published in 2016. Mary lives in Vermont with her lab, Greta. Visit Mary's blog at naturallycuriouswithmaryholland.wordpress.com.



Mary Holland

Animal Noses

by Mary Holland



Noses come in all kinds of shapes and sizes. Some are pointed, some are flat. Some are tiny and some are huge. Some are wet and some are dry.

Most noses help animals do two things: breathe and smell. Many animals, like this shrew, use their sense of smell to find food, to find a mate and to know when danger is near.





Birds do not have a real “nose,” but they do have two holes, or nostrils, just above their beak. Can you find a nostril on this young bald eagle? Most birds breathe through their nostrils. Some birds can smell very well, others not so well.

Many animals leave messages for each other by rubbing their scent on a tree or rock, or peeing and pooping in special spots. An animal's scent contains a lot of information.



When another animal of the same kind comes along, it uses its nose to smell the scent and learn who lives there, how old they are, if they are big and strong, if they're looking for a mate, and lots more.





Bears depend on their noses to find a mate and to find food. They rub their backs against trees and leave their scent so that other bears can smell the trees and know who has been there. Black bears can smell food that is several miles away. Grizzly bears can find food under water, and polar bears can smell a seal through three feet (1 m) of ice.

For Creative Minds

This section may be photocopied or printed from our website by the owner of this book for educational, non-commercial use. Cross-curricular teaching activities for use at home or in the classroom, interactive quizzes, and more are available online.

Visit www.ArbordalePublishing.com to explore additional resources.

Sense of Smell



Everything in the world is made of chemicals. As the air moves, it picks up tiny pieces of everything it touches. It carries these chemicals to your nose.

In the back of your nose is a special patch of skin filled with **chemoreceptors**, also called olfactory receptors. In adults, this area is about the size of a postage stamp.

chemo: chemical
receptor: a place that takes something in
A chemoreceptor is a place that takes in chemicals.

Smells

When you have a stuffy nose, you probably can't smell very well—or taste well either! Eighty percent of our taste is related to smell, so when a cold causes nasal obstruction, it not only prevents you from smelling very well, but you also aren't able to taste very much.

Some sicknesses can change the way you smell things. Certain smells may be harder to sense, or might smell stronger.

When you breathe in through your nose, the air moves through your nose and down into your lungs. The chemicals carried on the wind touch the chemoreceptors at the back of your nose.

The chemoreceptors send a signal to your brain so you know what you are smelling. Most people can sense at least one trillion distinct scents. In general, women are more sensitive to smells than men.

Fun fact: You will probably never have a sense of smell better than you have when you are 8 years old!

Fun Facts

Bloodhounds have noses ten- to one-hundred-million times more sensitive than a human's.

Bears have a sense of smell seven times stronger than a bloodhound.

Many fish have a well-developed sense of smell.

Albatrosses can find food over 12 miles (19 km) away by smelling it.

Homing pigeons have been shown to use their sense of smell to help find their way home more easily and directly.

Turkey vultures eat mostly decaying bodies of animals which they find by using their sense of smell.

People can detect at least one trillion distinct scents.

Our noses can taste as well as smell. The taste buds on our tongues can only distinguish five qualities: sweet, sour, bitter, salty, and savory (umami). All other 'tastes' are detected by our nose.



black bear



turkey vulture

Match the Nose

Match each animal to its nose:

Striped skunk

Red fox

Eastern chipmunk

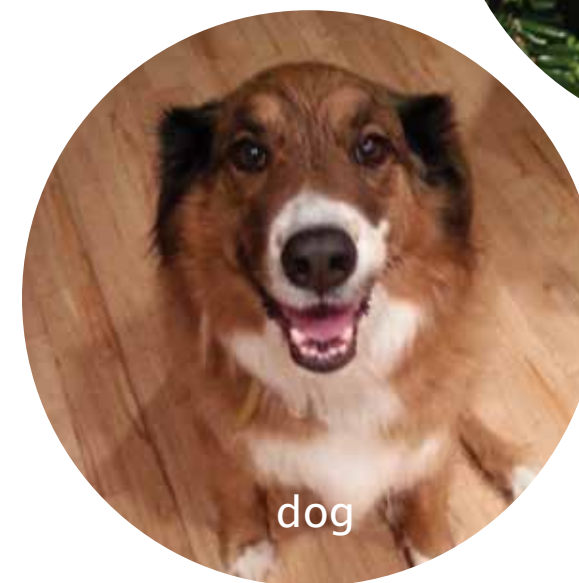
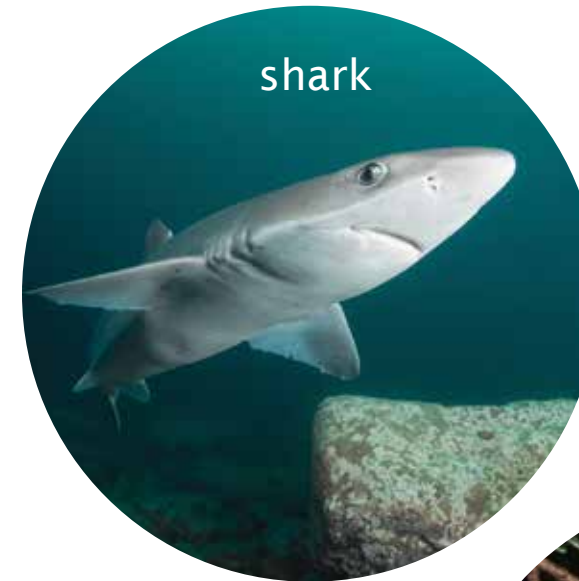
Star-nosed mole



Answers: A: eastern chipmunk. B: red fox. C: star-nosed mole. D: striped skunk

Animals With a Very Good Sense of Smell

Can you guess which of these animals have a good sense of smell?



Answer: All of them!

All photographs were taken by nature photographer Mary Holland with the exception of the photo of urine in the snow (Susan Holland) and the following photos in the For Creative Minds section: shark (Shutterstock 77472286), dog (Donna German), albatross (Lieutenant Elizabeth Crapo, NOAA Corps)

Thanks to Tia Pinney, Naturalist at Mass Audubon's Drumlin Farm Wildlife Sanctuary in Lincoln, MA for verifying the accuracy of the information in this book.

Library of Congress Cataloging coming soon

9781607188056 English hardcover
9781607188063 English paperback
9781607188070 Spanish paperback
9781607188087 English ebook PDF downloadable
9781607188094 Spanish ebook PDF downloadable
9781643511542 English ePub / ePub en Inglés ISBN
9781643513126 Spanish ePub / ePub en Español ISBN
Interactive, read-aloud ebook features selectable English (9781607188100) and Spanish (9781607188117) text and audio (web and iPad/tablet based)

Lexile® Level: 650L

key phrases: animal adaptations

Animals in this book include raccoon (cover), moose (title page), shrew, juvenile bald eagle, red fox, black bear, Virginia opossum, white-tailed deer, Polyphemus moth, garter snake, snapping turtle, spring peeper, beaver, star-nosed mole, child (Otis Brown), porcupine (copyright)

Bibliography/ Bibliografía:

JG-Park Ranger. *Bear Series: Part One A Bear's Sense of Smell.* Yosemite National Park, October 1, 2014. Internet. August, 2018.

Hickman, Pamela M. *Animal senses.* Toronto, Kids Can, 2015.

Holland, Mary. *Naturally Curious: A Photographic Field Guide and Month-By-Month Journey Through the Fields, Woods, and Marshes of New England.* North Pomfret, VT: Trafalgar Square Books, 2010.

Sensory World of Aquatic Organisms, The. Marietta College, January 24, 2002. Internet. August, 2018.



Manufactured in China, December 2019
This product conforms to CPSIA 2008
First Printing

Copyright 2019 © by Mary Holland

The "For Creative Minds" educational section may be copied by the owner for personal use or by educators using copies in classroom settings.

Arbordale Publishing
Mt. Pleasant, SC 29464
www.ArbordalePublishing.com



If you enjoy this book,
look for other Arbordale books that may be of interest:



Includes 4 pages of
learning activities.
Look for more free activities
online at
ArbordalePublishing.com