

FOWL INTO WATER

A STORYTIME ABOUT WATERFOWL

LESSON PLAN



Wisconsin Water Library
UNIVERSITY OF WISCONSIN-MADISON

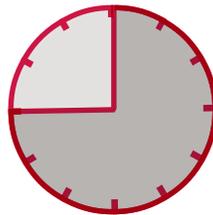
SEPTEMBER 2018

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The objectives of this lesson are to learn what makes birds unique (feathers) and to learn more about birds that live on or near water.



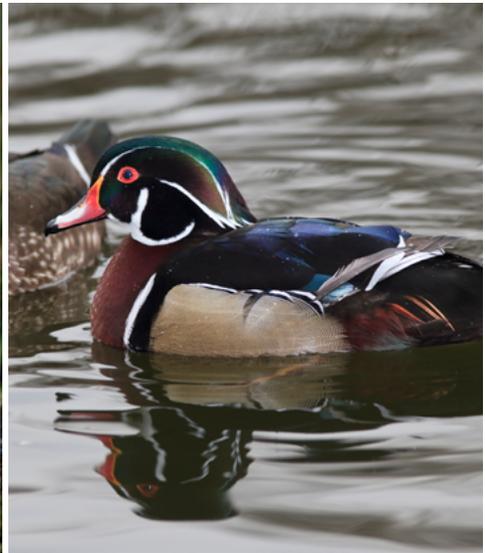
This lesson plan works well with children in preschool through second grade. The lesson lasts from 45 minutes to an hour, based on the number of books read. To orient the children to what it means to be a scientist, think scientifically and “do science,” use the “[A Scientist Is...](#)” and “[Scientific Method](#)” handouts available at the end of this lesson plan.

SING

Begin with your favorite welcome song.

SCIENCE CHAT

Begin by asking the children what they know about the birds that live in and around water. According to the US Fish and Wildlife Service, the term “waterfowl” traditionally meant ducks, swans and geese, which have flattened beaks and webbed front toes and have long been hunted as game. Many people, however, use the term more loosely to include waders (herons, cranes and egrets) and diving waterbirds like loons, grebes and coots.





BIRD BRAINSTORM

Lead a discussion about what makes birds unique.

What makes a bird different from other animals? Is it the bright colors?

No — other animals, like fish and insects, come in all sorts of beautiful colors too.

Is it the bill or beak?

No — other animals, like the duck-billed platypus (a mammal), have bills too.



Is it that they hatch their young from eggs?

No — other animals, like fish, amphibians, reptiles, insects and even some mammals, hatch from eggs as well.

Is it the wings?

No — other animals, like insects and some mammals, have wings.

What could it be?

They have feathers! All birds have feathers, and birds are the only animals that do. Feathers do many jobs for birds. Soft down keeps them warm, wing feathers allow flight and tail feathers are used for steering. The color of the feathers can be used to hide the bird or to help the bird find a mate.



WHAT'S SPECIAL ABOUT WATERFOWL?

First of all, waterfowl like and depend on water, living in and around lakes, rivers and other wetlands. They are very well adapted to these environments.

Ducks, geese and swans all have webbed feet, or more accurately, palmated feet (with skin between their three front toes). This makes them excellent swimmers. Loons also have webbed feet, but their legs and feet are placed further back on their bodies, which helps make them great swimmers and powerful divers. Waders, like herons and cranes, have what are called semi-palmated feet, which means they have some webbing between their toes, but not for the entire length. Since they wade instead of paddling or swimming, this helps them stand on soft sand and muddy bottoms. In place of webbing, grebes and coots have lobed toes (think earlobes), which means they have lobes on each toe. The lobes work like paddles on the down stroke but get squeezed or folded back when they lift their feet.

The feet and legs of waterbirds then help them control their body temperatures. On hot summer days they can release heat from their bodies through their feet into the cool water. In the cold they keep just

enough blood flowing to their feet so they don't lose body heat but keep their feet from freezing. Waterfowl are also good at balancing on one foot and tucking the other into their body feathers, another trick for beating the cold.



Waterfowl mostly nest on the ground or on floating platforms of grasses or reeds (coots, some swans) in wetlands or near the water. Herons, however, mostly nest in trees.

Like other birds, waterfowl preen. Preening is what birds do to arrange or comb their feathers so they all fit perfectly together to keep their body the right temperature and to stay dry.

Like most birds, waterfowl have a special gland that makes a waxy oil, which they spread throughout their feathers. The preen glands are more developed for waterbirds. Keeping all their feathers neat and tidy is as much about survival (staying warm and waterproof) as it is about attracting a mate.

Different kinds of waterfowl have bills that look very different and are adapted for different diets or foods. You can probably guess which birds are likely to nibble on plants, seeds, insects and other tiny animals, and which use theirs to spear fish and other small animals.

READ

Here are some suggestions from the Wisconsin Water librarians, but feel free to swap out with your own or visit our subject-specific reading list: [Water Birds](#).

Book descriptions are quoted from the Cooperative Children's Book Center (CCBC), Kirkus Reviews or Publishers Weekly (PW).

Hooray for Birds! (2017) by Lucy Cousins.

“An exuberant celebration of birds of all kinds — mostly recognizable species (chicken, flamingo, swan, parrot, starling, penguin, ostrich, peacock) but some imaginary. ... Cousins’ unique handmade style, characterized by a bright, highly saturated color palette and scratchy black outlines, together with the charming rhyming narrative in easy-to-read bold handwriting, will give preschoolers lots of inspiration for exploring bird behaviors and imitating bird sounds. ... [Y]oung children will feel like hopping, pecking, and soaring with these exuberant feathered friends.” (Kirkus Reviews) **For ages 2-4.**

5 Little Ducks (2016) by Denise Fleming.

“5 little ducks went out on Monday, / through the woods and far away. / Papa Duck called, “Quack, quack, quack!” But only 4 little ducks came back.’ So begins the pattern of Papa Duck losing one little duck each time the family ventures out. But the distinctive illustrations created by pulp painting reveal that each ‘lost’ duck has actually befriended another animal — a flying squirrel, a wild turkey, a box turtle, a pig, and a child playing in a wading pool. Not to worry — all the little ducks do come back when Papa goes out looking for them on Saturday. ... A visual index at the back gives a bit of information about each of the animals featured in the book, including the child, Anna.” (CCBC) **For ages 2-5.**

On Duck Pond (2017) by Jane Yolen, illustrated by Bob Marshall.

“The splash and chatter of a raft of ducks temporarily disrupts the peace of a

wildlife-filled pond. ... A prolific and skillful writer, Yolen chooses her words carefully and interestingly, putting them together in ways that read aloud gracefully. ... The text describes some of the pond’s inhabitants: trout, turtles, tadpoles, a bullfrog, and a blue heron. The illustrations show many more. Fourteen are identified in a key in the backmatter, and there are a few fast facts. ... Another fine entry for a ‘sense of wonder’ collection.” (Kirkus Reviews) **For ages 2-5.**

Lucky Ducklings (2013) by Eva Moore, illustrated by Nancy Carpenter.

“When Mama Duck decides to take her brood of five ducklings for a walk through town, all goes well until she walks easily over a storm sewer grate. One by one, her ducklings following along behind fall through the openings. Luckily there’s a witness who calls for help, but the fire department can’t lift the grate. ... Based on a true story, Eva Moore’s patterned text takes full advantage of the drama of the page turn, and she expertly uses the repetition of the ducklings’ names — Pippen, Bippen, Tippen, Dippin, and Little Joe — to focus the attention of young listeners. Realistic illustrations offer a range of visual perspectives, including vertical panels showing each duckling’s fall through the grate.” (CCBC) **For ages 2-5.**

Shake a Leg, Egg! (2017) by Kurt Cyrus.

“A laggard gosling is encouraged to leave its shell and join its family. This perfectly executed tale of a slowpoke begins with a title-page image of four goslings surrounding an egg. On the next page, there’s a striking image: a close-up of

the mother Canada goose's head, poking at the last unbroken egg in the nest. 'Hello in there! / Are you aware....' ... The rhythmic text, full of repeating sounds, reads aloud beautifully. ... With fine lines and a gentle watercolor wash, these images are comfortably realistic. For dawdlers everywhere." (Kirkus Reviews, starred review) **For ages 2-6.**

Counting Cranes (1993) by Mary Beth Owens.

"The cycle of seasons provides the backdrop for an ingenious counting book which begins with one whooping crane looking for a mate in spring and ends with a flock of 15 cranes preparing to migrate north once again at winter's end. To each page a crane is added to the picture while the text describes some natural feature of the crane's habits and habitat. ..." (CCBC) **For ages 3-7.**

Mother Bruce (2015) by Ryan T. Higgins.

"A crotchety bear unwillingly raises four goslings. ... Visually beautiful, clever, edgy, and very funny." (Kirkus Reviews, starred review) **For ages 3-6.**

The Raven and the Loon (2013) by Rachel Qitsualik-Tinsley and Sean Qitsualik-Tinsley, illustrated by Kim Smith.

"There was a time when Raven and Loon were both plain white. 'Raven hated anything boring. And without colour, he bored even himself!' He flies back and forth, 'trying not to go crazy with boredom.' Finally, he visits Loon and decides they should make each other a pretty coat. ... When it's Loon's turn to decorate Raven, she's hampered by his incessant talking and squirming. Raven moves once too often and her work is ruined. Furious that he's still a single color, although now it's black, he throws a lamp at Loon, flattening her feet. Their long memories explain why Raven is black, and Loon has flat feet, to this day. A delightful retelling of an Inuit tale is accompanied by comical illustrations that underscore the story's humor." (CCBC) **For ages 3-6.**

Ducks Don't Get Wet (1999) by Augusta Goldin, illustrated by Helen K. Davie.

"After explaining briefly how ducks waterproof themselves by preening their feathers with oil, this clear, concise text goes on to discuss how and why ducks live near water, with particular attention to how different species find food under water, HarperCollins, Children who have an opportunity to observe ducks firsthand in the wild will now be able to recognize and understand various aspects of their behavior, and may even start distinguishing between species, thanks to Helen K. Davie's accurate, realistic watercolor paintings. The book concludes with an easy experiment using vegetable oil, water and feathers (or a brown paper bag if no feathers are available) to show how waterproofing works." (CCBC) **For ages 3-7.**

Make Way for Ducklings (1941) by Robert McCloskey.

"Just any old place won't do for raising a family of ducklings... This brilliantly illustrated, amusingly observed tale of Mallards on the move has won the hearts of generations of readers. Awarded the Caldecott Medal [for] 1941, it has since become a favorite of millions ... as 'one of the merriest picture-books ever...told in very few words with a gravity that underscores the delightful comedy of the pictures.'" (Viking Press Book Jacket, 1969 edition) **For ages 3-8.**

Watching Water Birds (1997) by Jim Arnosky.

"A conversational tone marks the text of this highly accessible introduction to several different kinds of common water birds, including loons, grebes, mergansers, mallards, wood ducks, Canada geese, gulls and herons. Arnosky's years of experience as a careful wildlife watcher inform both his realistic drawings and paintings, and the information he shares with young readers. Throughout the book, he gives pointers on how to distinguish between different species and how to tell males from females. He also suggests things to watch for — how a bird

folds its wing after it lands, for instance, or what it means when a mother duck swims behind her ducklings, instead of in front of them.” (CCBC) **For ages 3-8.**

Don't Fidget a Feather (1994) by Erica Silverman, illustrated by S. D. Schindler.

“One-upmanship goes toe-to-toe (or web-to-web?) with camaraderie when Duck and Gander compete for the title of ‘one and only, true and forever champion of champions.’ ... Duck and Gander, with their comic expressions, are an endearing pair, and Schindler [] does an especially good job of reconciling the prevailing humor with the menace presented by Fox. A well-paced picture book, surefooted in both text and illustrations.” (PW) **For ages 4-7.**

The Birdwatchers (2001) by Simon James.

“This gentle, intergenerational story successfully conveys in a simple and authentic voice a granddaughter’s first birding experience. ... At first she sees nothing, but finally, she is rewarded with a full panorama of winged creatures. ... The grandfather’s love of birdwatching and the pleasure of sharing this passion with his granddaughter, coupled with the frustration of the novice birder who can’t spot a bird, rings true to anyone facing a new challenge, especially a child.” (Kirkus Reviews) **For ages 4-8.**

Song for the Whooping Crane (2000) by Eileen Spinelli, illustrated by Elsa Warnick.

“A visual and linguistic delight, this celebration of the endangered whooping crane delivers a subtle environmental message. Beginning ‘in the far North/ when October spills/ across the ice/ and the wind sweeps high,’ Spinelli traces the flight of the cranes to their southern habitat and back again, detailing the kinds of foods, sounds and activities in which the birds engage.” (PW, starred review) **For ages 4-8.**

The Wolf, the Duck, and the Mouse (2017) by Mac Barnett, illustrated Jon Klassen.

“The story’s timeless, fable-like feel is bolstered by its traditional cast and old-fashioned fairy-tale language ... Life can turn the tables pretty quickly, Barnett suggests, and only those whose outlooks are flexible will flourish. ‘I may have been swallowed,’ says the duck, ‘but I have no intention of being eaten.’ A rare treasure of a story, the kind that seems to have been around forever.” (PW, starred review) **For ages 4–8.**

The Ugly Duckling (1999) by Hans Christian Andersen, illustrated by Jerry Pinkney.

“Jerry Pinkney brings his consummate skills as a wildlife artist to bear on this distinguished adaptation of Andersen’s classic tale. His realistic watercolor paintings place the reader squarely in the ducks’ environment, at the pond’s edge and at the waterline, allowing them to develop a great deal of empathy for the little duckling as he develops into a swan. The human characters who sometimes enter the picture appear to be members of a 19th century farm family who live near the pond.” (CCBC) **For ages 4-8.**

The Boy in the Garden (2010) by Allen Say.

“Say is at the height of his artistic achievement in this tale of a little boy named Jiro and the powerful impact that a story has on him. It opens with a retelling of ‘The Crane Wife,’ with a heading telling readers that this is ‘the story that Mama read to Jiro.’ ... This is a beautiful, moving, quietly mysterious read, ripe with possibilities for interpretation and contemplation.” (Kirkus Reviews, starred review) **For ages 5-8.**

Birds and Their Feathers (2018) by Britta Teckentrup.

“In this quietly introspective volume featuring evocative, earth-toned prints, German author-illustrator Teckentrup explores bird life, behavior, and anatomy through the topic of feathers.

... Teckentrup's opening description of feathers may be just as apt a description for her art and words: "They are delicate, complex, extravagant, beautiful and strong — all at the same time." (PW) **For ages 6-up.**

Birdology: 30 Activities and Observation for Exploring the World of Birds (2015) by Monica Russo, photographs by Kevin Byron.

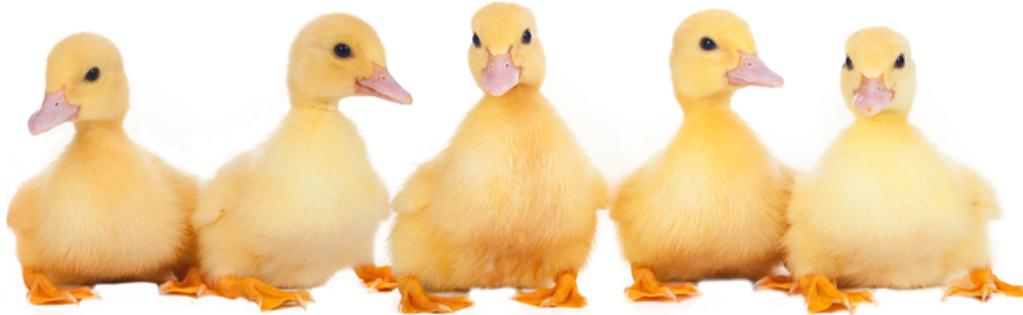
"A longtime nature columnist invites young people to use their eyes, ears, hands and minds to learn about birds. More than an introduction, this is an immersion in the world of birding. Chapter by chapter, the author discusses field marks, beaks and feet, wings, eyes and nests, habitats, feeding, migration, and ways to protect and nurture birds. Each chapter also includes directions for activities: things to look and listen for, things to make and do." (Kirkus Reviews) **For ages 6-up.**

Look Up! Bird-Watching in Your Own Backyard (2013) by Annette LeBlanc Cate.

"You may not have a yard, but you do have the sky. Look up!" Busy pages and cartoon-like conversation bubbles encourage reluctant naturalists to give birding a chance by emphasizing how easy it is to do anywhere, from the window of a city apartment building to suburban backyards and beyond. ... There's a wealth of information about bird appearance and behavior packed into this slim, highly visual volume in which author/illustrator Annette LeBlanc Cate shares her enthusiasm for and knowledge about birding, along with her silly sense of humor, with young readers." (CCBC) **For ages 7-10.**

SING

Use any song you like adapted to the theme of birds or ducks to get kids moving. Here is a poem/rhyme suggestion:



Five Little Ducks

(You can also begin with the number of children in the room if you have a small group and count down until there are none.)

Five little ducks paddling to shore,
One paddled away, then there were four.
Four little ducks paddling towards me,
One paddled away, then there were three.
Three little ducks paddling towards you,
One paddled away, then there were two.
Two little ducks paddling in the sun,
One paddled away, then there was one.
It paddled away, then there was none.

CRAFT

MAKE YOUR OWN DUCK

Supplies:

paper plates (1 for each child)

scissors

yellow and orange construction paper

googly eyes

yellow markers or crayons

glue

craft feathers

stapler

How to:

1. Fold the paper plate in half and staple the bottom edges closed. This will form a semi-circle for the body of your duck.
2. Color the entire paper plate yellow with crayons or markers. Add craft feathers to the body.
3. Trace the child's hands onto yellow construction paper and cut the hand shapes out.
4. Lay the paper plate onto a flat surface with the flat side up and the rounded side pointing down.
5. Glue the two cut-out hands with the fingers pointing out to one end of the paper plate, at the top by the flat end. This forms the tail feathers of your duck.
6. Draw a circle for the head of your duck onto a sheet of yellow construction paper and cut it out.
7. Attach the head of the duck with glue to the opposite side of the paper plate from the tail.
8. Cut out a beak and two crown-shaped feet from a piece of orange construction paper.
9. Apply a googly eye to the face of your duck with glue.
10. Use glue to secure the beak to the duck's face below the eye.
11. Dab two dots of glue onto the bottom of the paper plate on the back side, and apply the duck's feet.



ASK

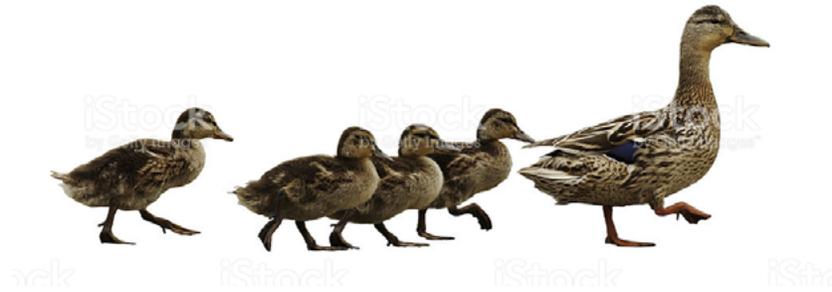
During the craft, ask what makes birds different from other animals and emphasize the feathers again. Point out that birds also have a bill and a tail and lay eggs.

Mention that while the vast majority of birds ([18,000 species](#) depending on how you count them) can fly, there are some birds (about [60 species](#)) that do not fly (among them penguins, ostrich, emu, rhea, kiwi and even some [waterfowl species](#)).

Note for the curious: Flightless birds evolved in environments where they had [no natural predators](#). They are, however, at higher risk of extinction from hunting and other human activities, and from [invasive predators](#) introduced by humans.

FUN NAMES FOR WATERFOWL

BABIES, ADULTS AND GROUPS



Little Ones: What do you call a baby... ?

Baby birds, in general, are called *chicks*, or if they're just hatched, *hatchlings*, or if they're still in their nest, *nestlings*. Baby loons, herons and cranes are all called chicks. Some waterfowl, however, have their own special baby names.

You probably know that a baby duck is also called a *duckling*.

And you might know that a baby goose can be called a *gosling*.

But what is a baby swan called?

A cygnet or a flapper.



Adults: What do you call a female... ?

Female and male adults of certain waterfowl can also have their own special names.

A female duck can be called a *hen* or *duck*; a male can be called a *drake*.

A female goose can be called a *goose*; a male can be called a *gander*.

A female swan can be called a *pen*; a male can be called a *cob*.

A female heron can be called a *hen*; a male can be called a *cock*.

Loons and cranes don't seem to have special names for female/male adults.
They're just called male/female loons or male/female cranes.



Groups: *What do you call a group of... ?*

Group names (or collective nouns) for waterfowl can sometimes get poetic. *Flock* works for just about any group of birds, but if you want to get fancy, there are special group names, and sometimes the name depends on whether the waterfowl are on the ground, in the water, or in flight.

A flock of ducks on the water can be called a *raft, paddling or bunch* of ducks; on land, a *brace, flush, herd or waddling* of ducks; and in flight, a *team, sord, skein* or *string* of ducks.

Gatherings of geese on land can be called a *gaggle* of geese; in flight, geese can be called a *wedge, skein, team*, or if flying close together, a *plump* of geese.

A grouping of swans on land can be called a *game, herd, bevy* or *bank* of swans; swimming swans may be called a *regatta, whiteness or ballet* of swans. In the air, they might be called a *wedge, flight* or *lamentation* of swans.

A collection of cranes may be called a *dance, herd, sedge, siege* or even a *swoop* of cranes.

A gathering of herons can be called a *sedge* or *siege* of herons.

In air, they may be known as a *flight* of herons.

A group of loons may be called a *water dance, a cry or an asylum* of loons.

An assembly of coots may be called a *cover, a covert* or a *raft* of coots.

WATERFOWL EXPRESSIONS

MANY SAYINGS USE WATERFOWL TO MAKE A POINT

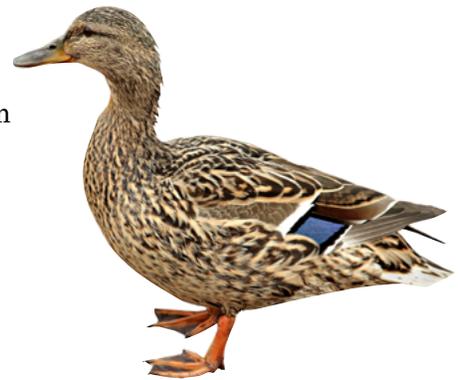
Ducks

“Like water off a duck’s back”... is an expression that goes back to the early 1800s and means that something (an insult for example) that would normally hurt doesn’t have an effect on this person; it rolls off them, like water rolls off a duck’s feathers.

“To take to (something), like a duck to water”... is a saying that can be traced back to the late 1800s and means that someone likes (and is good at) something right away. (She’d only seen snow once or twice, but she took to skiing like a duck to water.)

“Lovely weather for a duck”... is a saying that dates from the 1800s and is a joking way of saying the weather is wet and rainy; maybe good for ducks, but not for people.

“A sitting duck”... goes back to the early 1900s and means that something or someone is an easy target, just as a duck that’s sitting in the water would be easier for a hunter to shoot than one that’s flying away.



Geese

“A wild goose chase”... is a saying that goes back to the 1600s and originally had to do with a kind of horse race with riders following each other in V-formation, like flying geese. Much later it took on the meaning it has today, which is a futile pursuit that wastes time and effort.

“To kill the goose that lays the golden egg”... is based on an ancient Aesop’s fable, [“The Goose and the Golden Egg.”](#) which tells the tale of a greedy man who kills his goose, a goose whose gift is to lay a single golden egg each day. One golden egg a day is not enough for this man. He cuts open his goose thinking he’ll get all the eggs at once, but finds nothing. Today we use it to say someone has ruined a reliable source of income, especially through their own stupidity or greed.



“Goose bumps” (or “goose pimples”)... is a saying dating to the early 1800s that compares the way a plucked goose’s skin looks to the little bumps we get on our arms when we’re chilled or frightened. We might say that a scary person, thing or event, “gives me goose bumps.”



Swans

“Graceful as a swan”... comes from the fact that the swan is considered a symbol of beauty and gracefulness (in many cultures).

“Ugly duckling”... is a saying that comes from the Hans Christian Andersen’s fairy tale (1844), in which a young swan (flapper) is raised among ducklings. The “duckling” appears very homely compared to his brothers and sisters and is teased, bullied and rejected. The “duckling,” however, manages to survive and grow into a lovely and graceful swan. We use the phrase to say that someone who is awkward and unattractive early in life, will or has, with time, become someone with grace and talent.

Cranes

All languages and cultures have sayings. The crane is an important bird for many Asian cultures. In Chinese there is a saying that someone is “A crane standing among a flock of chickens” meaning that they stand head and shoulders above the rest.

Source: “The American Heritage Dictionary of Idioms” [2013] by Christine Ammer



DO SCIENCE

OIL AND WATER INVESTIGATION

Source: [Even More Picture Perfect Science Lessons](#), K-5 (2013) by Emily Morgan and Karen Ansberry

Ask students if they know what “preening” is. You could read from [Just Ducks!](#) on page 9 where the author briefly explains the purpose of preening — “When they preen, ducks spread oil from a little spot (near) their tails all over their feathers to keep them shiny and waterproof.” Or, show a [short video](#) of a duck in the wild preening.

Ducks and other waterfowl must spend a lot of time preening, that is, cleaning and arranging and spreading the right amount of their own oil among their feathers. This oil, made of fatty acids and wax-alcohols, is from their [preen gland](#), or [uropygial gland](#), located near the base of their tails. The oil helps maintain the structure of their feathers. Keeping their feathers in good shape means that birds have insulation from the cold and that their feathers repel water so their skin stays dry.

For more information about preening see: britannica.com/science/preen-gland or [en.wikipedia.org/wiki/Preening \(bird\)](http://en.wikipedia.org/wiki/Preening_(bird))

Ask if anyone has seen ducks or other waterfowl preening.



This science activity reveals the reason behind why birds oil their feathers — oil and water don’t mix. In order to understand why waterfowl preen, the children will need to learn a little bit about oil and water.

Supplies:

Transparent containers with lids that seal tightly (about 10 -16 oz.)

Droppers

Tablespoon (or some liquid measure to dispense the oil)

Food coloring

Vegetable oil

Oil and water investigation sheets (page 19)

What to do:

- ① Divide children into small groups.
- ② Hand out oil and water investigation sheets.
- ③ Fill each clear container about half full with water and give one to each group.
- ④ Tell each group to put three drops of coloring into a container.
- ⑤ Have them close the lid of the container and shake it.
- ⑥ Have them draw what they see and record their observations.
- ⑦ Next, put 3 tablespoons of vegetable oil in each group's container.
- ⑧ Have them reseal the lid and shake once again.
- ⑨ Ask the children if they think shaking the containers hard enough will make the oil and water stay mixed together. Give them two minutes or so to try to dissolve the oil in water.
- ⑩ Then have them record their observations.

ASK

What happened when you put the coloring in the water and shook it?

What happened when we added the oil and shook that?

What happened when you left the container and waited a few minutes?

Was it possible to shake the mixture hard enough to make the oil and water stay together?

Do you think the oil that ducks and other birds spread from their preen gland throughout their feathers helps them stay dry when they are swimming in water?

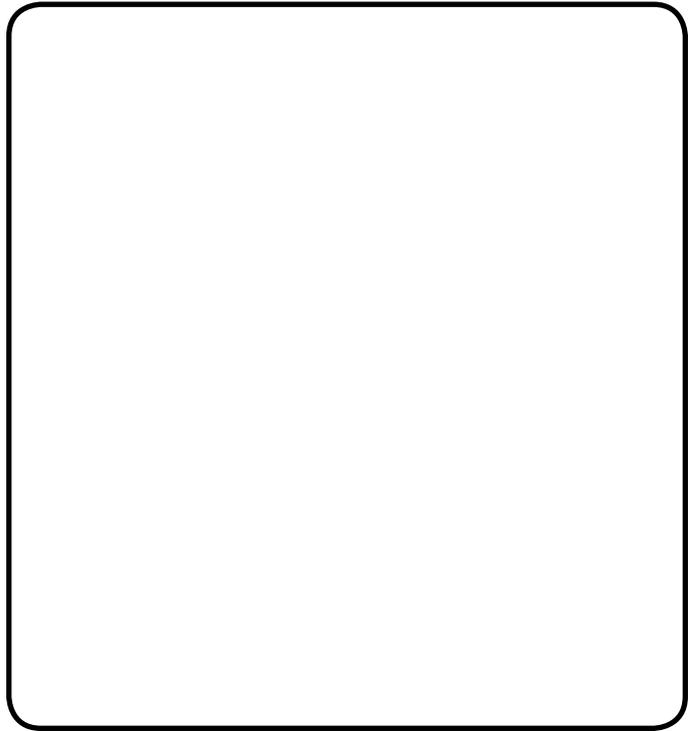
OIL AND WATER

INVESTIGATION SHEET

⑥ What happens when you put food coloring in the water and shake it?

Draw what you see. 

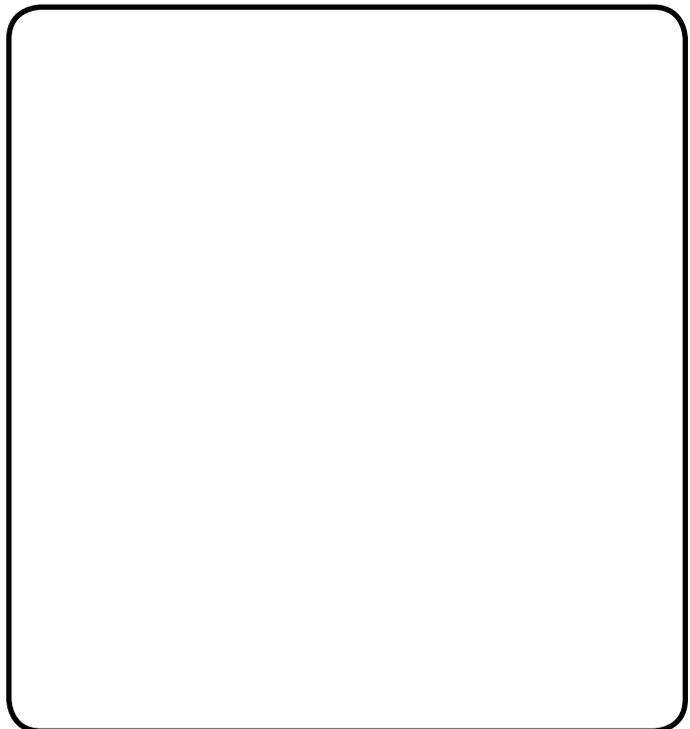
What do you observe?



⑩ What happens when we add oil and shake it?

Draw what you see. 

What do you observe?



SOUNDS OF WISCONSIN WATERFOWL

Mallards, wood ducks and Canada geese have year-round Wisconsin populations. Trumpeter swans, sandhill cranes and common loons nest in parts of Wisconsin during migrations, and American white pelicans stop in Wisconsin as part of their migration.



Mallard

allaboutbirds.org/guide/Mallard



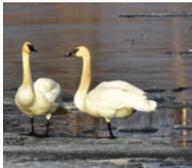
Wood Duck

allaboutbirds.org/guide/Wood_Duck



Canada Goose

allaboutbirds.org/guide/Canada_Goose/



Trumpeter Swan

allaboutbirds.org/guide/Trumpeter_Swan



Sandhill Crane

allaboutbirds.org/guide/Sandhill_Crane



Common Loon

allaboutbirds.org/guide/Common_Loon



American White Pelican

www.allaboutbirds.org/guide/American_White_Pelican/

LEARN MORE ABOUT

WATERFOWL

Waterfowl defined by Britannica: [britannica.com/animal/waterfowl-bird](https://www.britannica.com/animal/waterfowl-bird)

Waterfowl defined by the United States Fish and Wildlife Service:
[fws.gov/refuge/Bandon_Marsh/wildlife_and_habitat/waterfowl.html](https://www.fws.gov/refuge/Bandon_Marsh/wildlife_and_habitat/waterfowl.html)

Audubon’s “Guide to North American Birds”: [audubon.org/bird-guide](https://www.audubon.org/bird-guide)

The Cornell Lab of Ornithology — for bird identification, sounds and information on many waterfowl species: [allaboutbirds.org/search/?q=waterfowl](https://www.allaboutbirds.org/search/?q=waterfowl)

For youth education resources see: [birdsleuth.org/](https://www.birdsleuth.org/)

For their “On Duck Pond” teacher’s guide see: [birdsleuth.org/odpbook/](https://www.birdsleuth.org/odpbook/)

Ducks Unlimited waterfowl ID site: ducks.org/hunting/waterfowl-id/

Ducks Unlimited “Amazing Waterfowl Facts”:

ducks.org/conservation/waterfowl-research-science/amazing-waterfowl-facts

EEK! (Environmental Education for Kids) Critter Corner includes kid-friendly facts and images of Wisconsin waterfowl species: [eekwi.org/critter/bird/index.htm](https://www.eekwi.org/critter/bird/index.htm)

The International Crane Foundation (headquartered in Baraboo, Wisconsin) “works worldwide to conserve cranes and the ecosystems, watersheds, and flyways on which they depend”: [savingcranes.org/](https://www.savingcranes.org/)

For information on their education and youth activities see:

[savingcranes.org/education/](https://www.savingcranes.org/education/)

Wisconsin Society for Ornithology promotes “the enjoyment, study and conservation of Wisconsin’s birds”: [wsobirds.org/learn-about-birds](https://www.wsobirds.org/learn-about-birds)

For information on WSO youth projects see: [wsobirds.org/what-we-do/youth-projects](https://www.wsobirds.org/what-we-do/youth-projects)

The National Audubon Society, one of the oldest and largest (500 local chapters) environmental organizations in the US, “protects birds and the places they need, today and tomorrow, throughout the Americas using science, advocacy, education, and on-the-ground conservation”: [audubon.org/about](https://www.audubon.org/about)

To find a local chapter near you see: [audubon.org/about/chapters](https://www.audubon.org/about/chapters)

Check local chapters for youth education and educator resources.

The American Bird Conservancy envisions an “Americas-wide landscape where diverse interests collaborate to ensure that native bird species and their habitats are protected ... where their protection is valued by society ... and where they are routinely considered in all land-use and policy decision-making”: [abcbirds.org/](https://www.abcbirds.org/)

Birdlife International “is a global partnership of [121] conservation organizations (NGOs) that strives to conserve birds, their habitats and global biodiversity, working with people towards sustainability in the use of natural resources...”: [birdlife.org/](https://www.birdlife.org/)

Wisconsin Department of Natural Resources (DNR) waterfowl management:
dnr.wi.gov/topic/WildlifeHabitat/waterfowlmanagement.html

Wisconsin DNR waterfowl hunting: dnr.wi.gov/topic/hunt/waterfowl.html

The National Wildlife Refuge System, administered by the US Fish and Wildlife Service, is a network of refuges “for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations ...”: fws.gov/refuges/

For National Wildlife Refuges in Wisconsin see:

fws.gov/refuges/refugeLocatorMaps/Wisconsin.html

The US Fish and Wildlife Service’s “Threats to Birds” (habitat impacts and disease; predators (especially cats); collisions with buildings and vehicles; electrocution; entrapment (especially oil pits): fws.gov/birds/bird-enthusiasts/threats-to-birds.php

Resident and migratory bird FAQs from the US Fish and Wildlife Service:

fws.gov/birds/faqs.php

Birdlife International on the top five global threats to birds:

www.birdlife.org/worldwide/news/top-five-threats-birds-may-surprise-you

Bird migration fun facts: audubon.org/news/9-awesome-facts-about-bird-migration

The Migratory Bird Treaty Act, its legacy, and the need for its protection explained:

audubon.org/news/the-migratory-bird-treaty-act-explained

The value of birds to ecosystems and to humans:

environmentalscience.org/birds-ecosystem-services

Year of the Bird (2018) — the National Geographic Society, the National Audubon Society, the Cornell Lab of Ornithology and Birdlife International are commemorating 100 years of the Migratory Bird Treaty Act of 1918 with featured monthly actions to protect birds and their habitats: nationalgeographic.org/projects/year-of-the-bird/

SCIENTIFIC METHOD

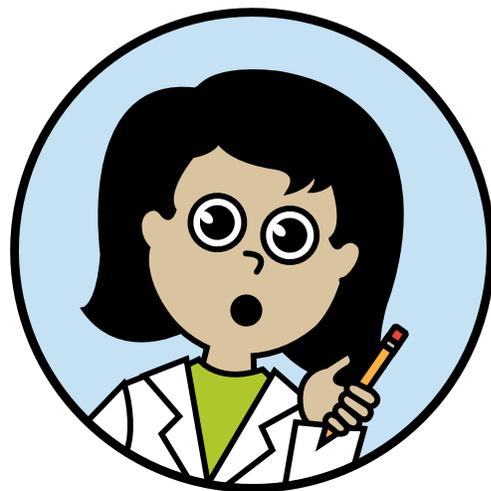


A SCIENTIST IS SOMEONE WHO...

- Observes and wonders
- Asks questions
- Listens to ideas of others
- Conducts experiments
- Shares their ideas and discoveries
- Explores the world around them
- Uses tools to solve problems

A SCIENTIST SAYS...

- I agree with you because...
- I disagree with you because...
- Why do you think that?
- So, what you're saying is...
- Can you tell me more?
- Can you give me an example?
- How could we test that?
- That reminds me of...



SCIENTIFIC METHOD

THINK LIKE A SCIENTIST

