

NATURE DISCOVERY BACKPACK
THINGS WITH WINGS ACTIVITY BOOK

CONNECTING WITH NATURE

A PROGRAM OF:



DELIVERED WITH:



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Great Blue Heron
(*Ardea herodias*)

ACKNOWLEDGEMENTS

This activity book was created together by Watersheds Canada and Grey Sauble Conservation with the common goal to educate students and families about the benefits of healthy waterways, lakes, and the surrounding environment for our collective future. This book is linked to the Ontario curriculum for grades K-8. Photography in this book is provided by Watersheds Canada unless otherwise labelled. Cover photo: Getty Images.

This Nature Discovery program is made possible because of support from:



**TD Friends of the
Environment
Foundation**

As one of 36 Conservation Authorities established in the Province of Ontario under the Conservation Authorities Act, Grey Sauble Conservation has made it their mission, in partnership with the stakeholders of the watershed, to champion a healthy and safe watershed through innovative conservation efforts, sound planning, and inspiring education initiatives, now and in the future.

Grey Sauble Conservation acknowledges with respect, the history, spirituality, and culture of the Anishinabek: The People of the Three Fires known as Ojibway, Odawa, and Pottawatomi Nation, who have inhabited this land from time immemorial. And further give thanks to the Chippewas of Saugeen, and the Chippewas of Nawash, now known as the Saugeen Ojibway Nation, as the traditional keepers of this land. Grey Sauble Conservation also recognizes, the Metis whose ancestors shared this land and these waters. May we all, as Treaty People, live with respect on this land, and live in peace and friendship with all its diverse peoples.

Watersheds Canada is a federally incorporated charity (863555223RR0001) and non-profit organization committed to building and delivering education and habitat restoration programs in communities across the country. By working alongside property owners, children and youth, schools, Indigenous communities, businesses, and municipalities, the health of lakes, rivers, wetlands, and shorelines can be enhanced and protected.

GETTING READY TO EXPLORE NATURE



Big Brown Bat (*Eptesicus fuscus*)

Photo: Cylita Guy

We are so excited for you to explore your local nature and the winged creatures that live there. You will learn about different local species and how to protect the health of our local natural spaces and beyond!

You can keep this activity book! This activity book will give you tips to safely explore nature, as well as information about different species that are found in this region. You will learn how you can help protect nature. The activity book will teach you what you can do to help nature, with fun activities along the way!

Please return all field materials in the backpack.

If you are interested in learning more about Watersheds Canada, please visit watersheds.ca or scan this QR code!



STAYING SAFE



Here are some things to keep in mind when exploring outside:

- Bring a hat, snacks, reusable bottle with water, sunscreen, and bug spray.
- Tell someone where you are going and when you will be back.
- Watch wildlife from a safe distance. Do not try to handle wild things!
- Please leave nature for everyone to enjoy. Do not pick any plants or bring home any wildlife or insects with you.
- Make sure to bring back your garbage so that you can properly get rid of it at home. With the help of an adult, you can also pick up any garbage you find in nature and bring it home for disposal!
- **There are ticks in the area. Wear long sleeves and long pants if walking in a wooded area. Learn more about tick safety: <https://www.ontarioparks.com/parksblog/how-to-protect-yourself-from-ticks/>**

WHAT IS IN MY BACKPACK?

Identification Guides & Books

Use these to learn more about local biodiversity like species of birds, bats, butterflies, and other pollinators. Each guide shows photos and information about each species.

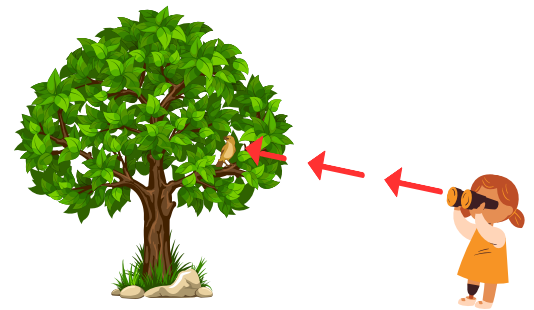


Binoculars



See things that are far away from you with these!

Turn the knob on the binoculars to make it easier to see.



Games & Activities

Practice your drawing, and use flashcards, BINGO, and memory games to learn about winged friends!



Cross off each bird as you see or hear them outside!

Get out the binoculars!



ACTIVITY #1: BIRD BINGO

 American Robin	 Brant	 Song Sparrow	 Canada Goose	 Yellow Warbler
 Barn Swallow	 Red-winged Blackbird	 Northern Flicker	 American Avocet	 Black-capped Chickadee
 Turkey Vulture	 Eastern Kingbird	FREE SPACE	 Baltimore Oriole	 Blue Jay
 Mallard	 Rose-breasted Grosbeak	 American Goldfinch	 Eastern Phoebe	 Cedar Waxwing
 Great Horned Owl	 Common Raven	 Common Loon	 White-breasted Nuthatch	 Downy Woodpecker

Get out the
binoculars!



ACTIVITY #2: TALK TO THE BIRDS

You may hear birdsong in a forest or your backyard, but have you ever tried to have a conversation with these birds?

Try to whistle and mimic (copy) their noises and use your binoculars to see if anyone comes to see you!



Red-breasted Nuthatch

- Small blue-gray bird with strongly patterned heads. They have a black cap and stripe through the eye broken up by a white stripe over the eye.
- Their bellies are rusty-brown in colour.
- Habitat: mainly coniferous woods and mountains.
- Songs and calls: a fast series of nasal, hornlike notes that sound like "yank-yank".



Common Raven

- Entirely black, large bird with a thick neck.
- Habitat: open and forest habitats across western and northern North America.
- Calls: make many different kinds of calls, varying from a low gurgling croak, to harsh grating sounds, to shrill alarm calls.

Belted Kingfisher

- Stocky, large-headed bird with a shaggy crest on the top and back of the head and a straight, thick, pointed bill.
- Habitat: near streams, rivers, ponds, lakes, and estuaries.
- Diet: feeds almost entirely on aquatic prey, diving to catch fish and crayfish.
- Call: similar to a rattle.



Pileated Woodpecker

- Large woodpecker with a long neck and chisel-like bill. Triangular red crest that sweeps off the back of the head.
- Habitat: forests with standing dead trees and downed wood.
- Calls: typically make a high, clear, series of piping calls that lasts several seconds.



Black-capped Chickadee

- Small bird with short neck and large head. They are black (on cap and bib), white (cheeks and underside), and grey (back, wings, and tail).
- Call: "chicka-dee-dee-dee".
- Songs: pure 2 or 3-note whistled "fee-bee" or "hey, sweetie".



Keep practicing your bird call identification skills with these websites:



Merlin Bird ID



ACTIVITY #3: DIY BIRD NEST CRAFT

*Building a nest is a fun way to be creative and help local feathery neighbours!
Make your own nest and see who moves in!*



Gather

Head outside and start looking for your materials. Look for things already on the ground like leaves, twigs, grass, and feathers. You can also use natural materials from your house.

Construct

Weave your items together to make into a bowl shape, adding some feathers or leaves to the bottom as some cushion for the bird and its eggs.

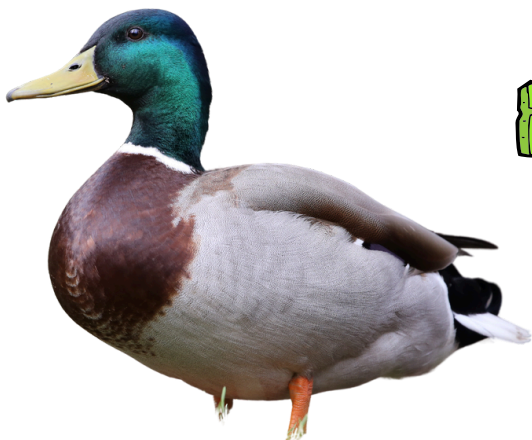
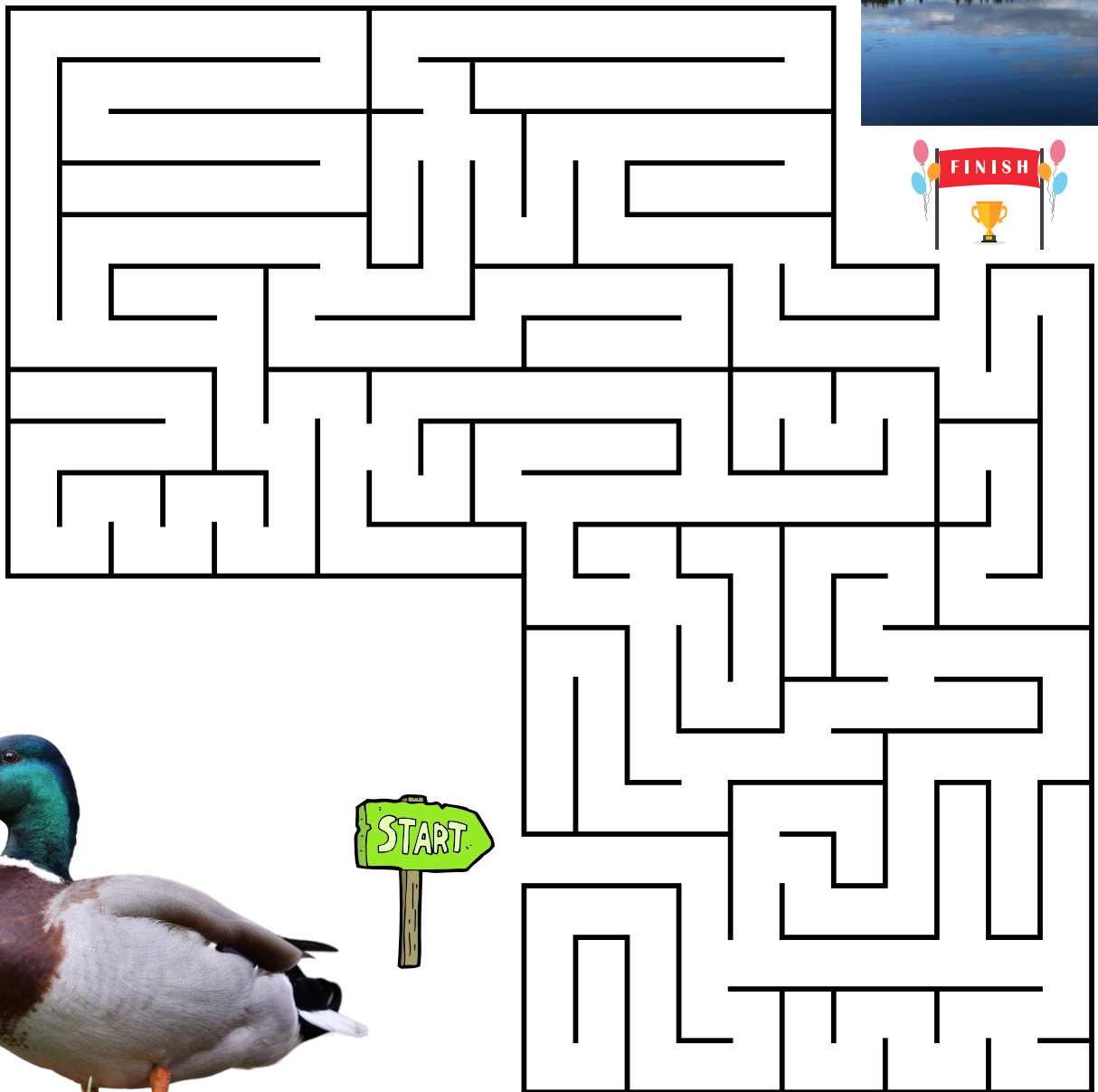


Watch

Set your nest in a safe spot outside and keep an eye on it through the year to see if any of your local feathered neighbours move in.

ACTIVITY #4: MALLARD MAZE

Help this mallard get home!

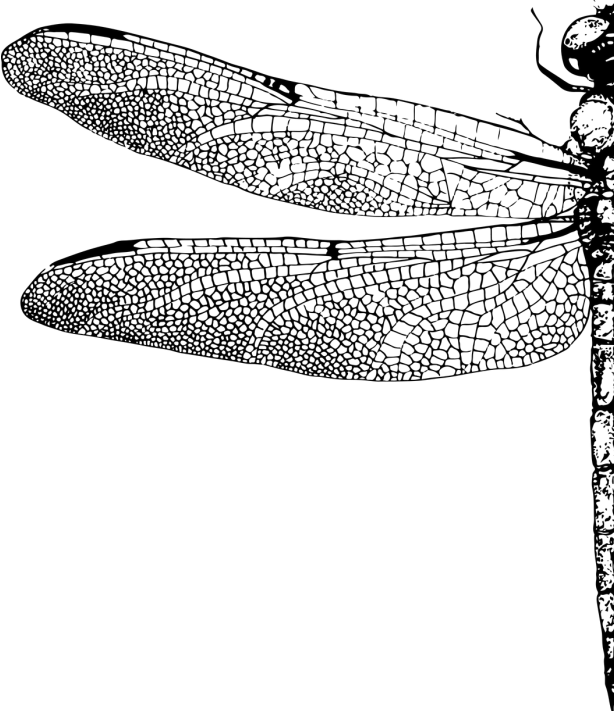
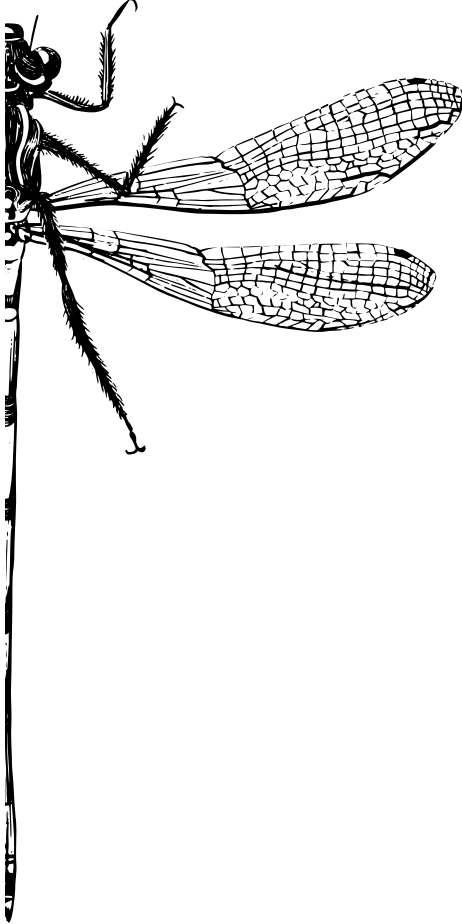


ACTIVITY #5: COLOURING TIME!

Monarch butterflies are a type of pollinator species that need milkweed plants for their food and for a place to lay their eggs!



Draw the other half on this damselfly and dragonfly!

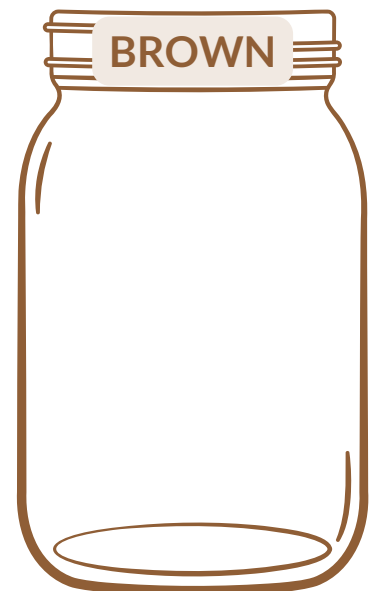
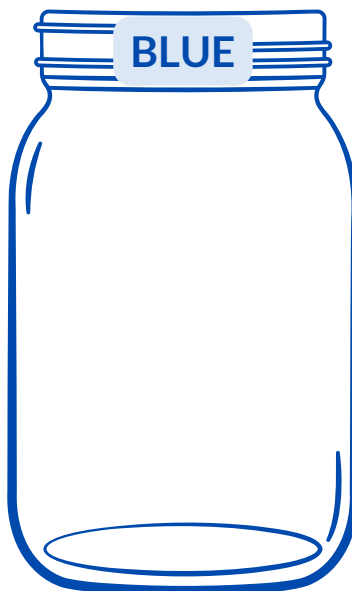
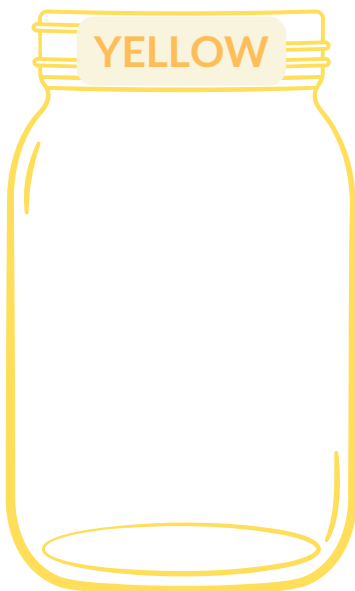
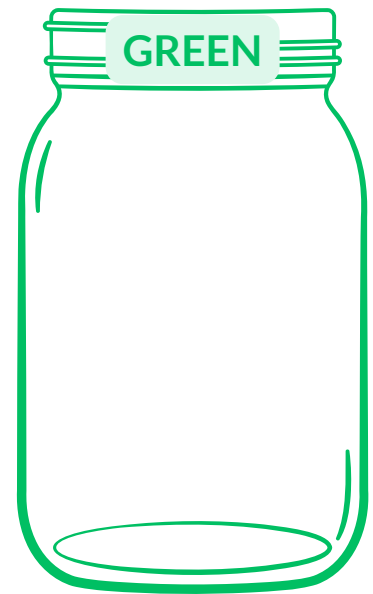
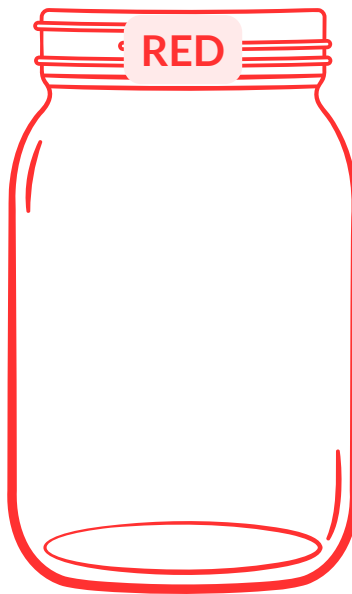
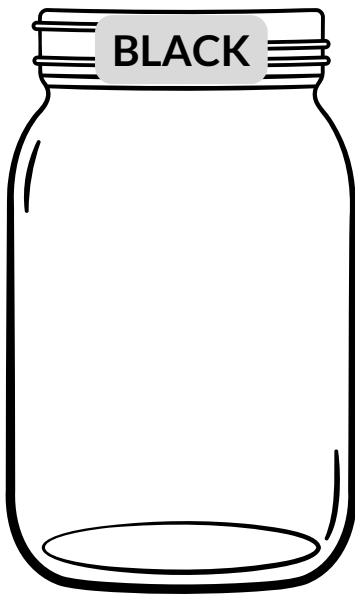


ACTIVITY #6: BUGS AND SLUGS

Get out
these guides!



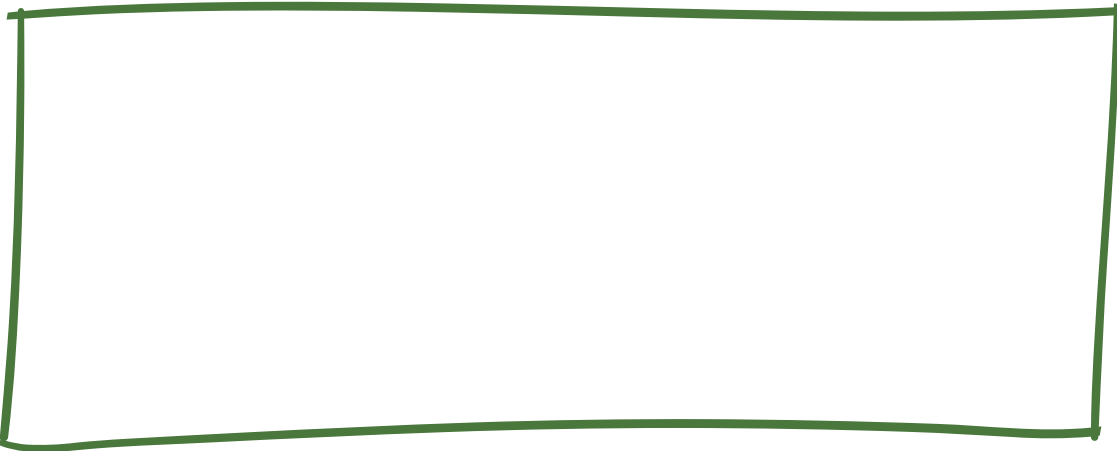
Watch the bugs and slugs around you and draw them or write their names in the jar that matches their colour. Can you find one for each colour?



ACTIVITY #7: CREATE A BUTTERFLY



*Design your own butterfly on this page!
On the right, list 4 things your butterfly needs in its home.*



- 1 _____
- 2 _____
- 3 _____
- 4 _____

**general guidelines*

FLYING INSECTS WITH SCALE COVERED WINGS

FOLD WINGS UP BEHIND THEIR BACK WHEN RESTING

SPREAD WINGS OUT OR HOLD AGAINST THEIR BODY AT REST

CLUB-SHAPED ANTENNAE

FEATHERED ANTENNAE

USUALLY OUT DURING THE DAY

MORE ACTIVE DURING THE NIGHT

Monarch Butterfly



BUTTERFLY

Luna Moth



MOTH

ACTIVITY #8: MAKE BUTTERFLY MAGNETS

Materials:

- Glue
- Food colouring or watercolour paints
- Coffee filters
- Droppers
- Pipe cleaners
- Magnets



Photo: The Laurie Berkner Band

1. Pour water into a small plastic container and add a few drops of food colouring. Do this with several different colors. You can also use watercolour paints instead.
2. Flatten a coffee filter. Use the droppers to place several different colours of the food colouring/water mixture on the filter. The colours will run together and blend.
3. Let the coffee filter dry.
4. Pinch the coffee filter together in the middle and wrap a pipe cleaner around its center to form a body for the butterfly. Leave enough of the pipe cleaner ends at the top to form the butterfly's antennae.
5. Glue a magnet to the underside.
6. Let the glue dry.

ACTIVITY #9: POETRY

List 6 things that describe what you love about animals using the first letter of each line. This will make an acrostic poem, where the first letter of each line spells out the word 'flying'. Lines do not have to rhyme.

F _____

L _____

Y _____

I _____

N _____

G _____



ACTIVITY #10: MEET ONTARIO'S BATS!

Read each sentence, and circle if it is true or false.

1. The Big Brown Bat is the second largest bat species in Ontario. **True or False**
2. The Little Brown Bat is not commonly seen in Ontario. **True or False**
3. The Eastern Small-Footed Bat mates in early spring. **True or False**
4. Hoary Bats are the largest bat in Ontario. **True or False**
5. The Eastern Red Bat migrates to Mexico over the winter months. **True or False**
6. All species of bats in Ontario give birth to twins. **True or False**
7. Most Ontario bats catch insects in mid-air. **True or False**



ACTIVITY #11: ECHOLOCATION IN ACTION

Bats use a technique called echolocation to determine the location of objects. They send out sound waves through their mouth and nose. When the sound waves hit an object, they produce echoes. The echo bounces off the object and returns to the bat's ears. This helps them to navigate and find food in the dark. This activity will allow you to experience echolocation using household items.

What You Need:

- 2 people
- 2 empty paper towel rolls per set up
- 2 aluminum pie plates per set up
- Masking tape
- Ruler



Instructions:

- Tape down the tubes on a flat surface so that they are angled towards each other but are not touching.
- Place the aluminum pie plate on its edge, facing the tubes, but at least 12 inches away from it.
- Tape the pie plate down or place books behind it for support.
- One person whispers into a tube. The other person listens for the sound to bounce off the pie plate and come back through the other tube.

ACTIVITY #12: BAT MATCH

Get out
this guide!



Use your guide to match the bat to its name!

A)



1) Eastern Red Bat

B)



2) Big Brown Bat

C)



3) Hoary Bat

D)



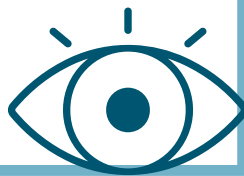
4) Silver-Haired Bat

ACTIVITY #13: SENSES CONNECTION

Find a spot in nature. What do you find? What can you see? What other senses can you use while spending time there? Use your senses and write or draw what you can see, hear, smell, and touch.

SEE

SMELL



HEAR

TOUCH

ACTIVITY #14: WHO AM I?

Meet some new flying friends! Look at the photos and clues and then write the name of the species. Use your identification guides if you need help.



This bat weighs between 4-11g and has a tragus that is long, thin, and rounded at the tip. A tragus is a prominence on the inner side of the external ear.



This dragonfly is one of the most widespread species in Canada. It has a multigenerational, long-distance migration that takes it from Canada to Mexico and the Caribbean.



This is the only bird of prey that can dive into the water to catch its food. It almost exclusively eats fish.



In June and July, you can find this butterfly flying in forests and clearings. It drinks nectar from flowers and sap from rotting plants!

ACTIVITY #15: FRESHWATER HELPER

Cross out the 5 human actions that can harm freshwater species and their watery home with a big ✕!



ACTIVITY #16: NATURE JOURNALING

Nature journaling is a way for you to document and organize what you see, smell, and hear while outside. You will collect your observations, explanations, and questions using words, drawings, and numbers (data). You do not need to be a professional artist to journal!



Photo: Canva

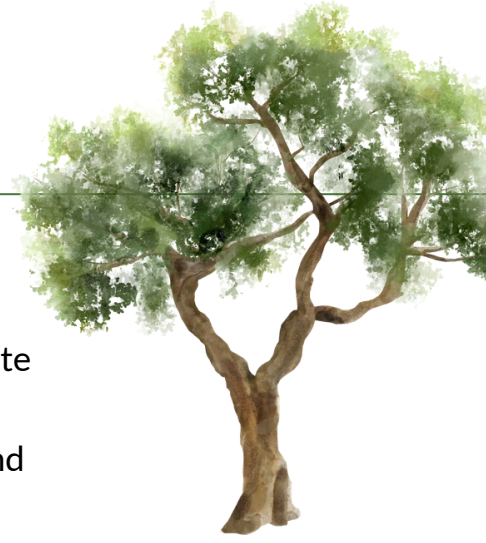


Source: John Muir Laws

You can journal anything that is interesting to you! Add diagrams, maps, numbers, or even sketches. Count the number of species you see, and add the time, weather, and date.

Here are some writing prompts if you want help getting started:

- Find a comfortable spot in nature. Close your eyes for a minute and listen. What sounds do you hear? What do you smell?
- Spend time in a quiet place in nature. Write your thoughts and feelings about being there.
- Sit beside a tree. Imagine you are that tree and write a story about your day as the tree.
- Look up! What shapes do you see in the clouds? Write a story about what you see.





Here are some drawing prompts if you want help getting started:

- Find a plant starting to bud and draw it. Guess what the leaf or flower will look like in full bloom - draw a picture and write a description.
- Draw a comic strip about the animals and plants you see around you.
- Imagine you are an inventor and you are making something to explore a lake in your area. Draw your invention and write how it works and what you will discover!
- Find a wild mushroom and draw a detailed picture of it. Write any interesting features it has and label your drawing.



Interested in learning more about nature journaling?

Visit: johnmuirlaws.com

Save the Bay!



The bay needs a hero like YOU!

What can you do to help save the bay from pollution and storm water runoff?

Write down your action plan here!



WHAT IS A WATERSHED?

- A **watershed** is an area of land that water flows through or across on its way to a particular water body, like a stream, river, wetland, lake, or coastline.
- A watershed is the land where precipitation – like rain – falls and flows to a common, watery place!
- Depending on where you live in Owen Sound, you may be in the Sydenham River Watershed, Bothwell's Creek Watershed, or Pottawatomi River Watershed.



Photo credit: Open Government Licence - Ontario. Internet: <https://ontario.ca/page/open-government-licence-ontario>

HOW ARE PEOPLE IMPACTING NATURE?



As shorelines become more developed, humans are changing the way shorelines look and the species that can live there.

Some threats to wildlife and water health include: plastic pollution, introducing non-native (invasive) species, road mortality, and habitat removal and fragmentation.

One way to help is to replant a shoreline with native plants along the edge. This buffer helps to filter and stop things like fertilizers and pesticides from entering the water. Plant roots also help keep soil together in heavy rainstorms which prevents erosion.



Photo: Stephany Hildebrand

WAYS TO HELP NATURE

- Gather data.** Take photos and observations of different animals and plants you see in nature and submit them to an online database like [iNaturalist](#), [eBird](#), [MonarchWatch](#), or [Water Rangers](#).
- Be natural.** Consider adding native plants to provide stabilization, habitat, and food to your property. Learn what native species to plant on your property: naturaledge.watersheds.ca/plant-database/
- Grow Me Instead!** Learn about native plants you can grow in your garden by checking out the “Grow Me Instead” chart: <https://ontarioinvasiveplants.ca/wp-content/uploads/2020/04/Southern-Grow-Me-Instead-1.pdf>
- Keep it clean.** Prevent the spread of invasive species by staying on trails while hiking and by cleaning equipment after boating. Learn more: <https://ontario.ca/page/invasive-species-fact-sheets>
- Be respectful.** Take only photos and leave only footprints when exploring in the forest. This lets other people, animals, and plants use the space too.
- Support local.** Buy local native plants at the Inglis Falls Arboretum Alliance: <https://greysauble.on.ca/arboretum-alliance/>
- Help local turtles!** Get involved with the turtle stewardship program at Grey Sauble Conservation: <https://greysauble.on.ca/turtle-stewardship-program/>
- Protect baby turtles.** Turtle nest predation rates are very high in our area. Help protect turtle eggs and ensure they have a chance to hatch. As a family, consider if it may be appropriate for you to make your own turtle nest protector: <https://ontarioturtle.ca/get-involved/turtle-nests-and-nest-protection/>

LIGHT POLLUTION

Many of us have likely sat out at night and noticed the lights at properties across the way or up above. Take a moment to reflect on how this makes you feel and consider if light from your property is also contributing to this. This doesn't mean we have to get rid of all our outdoor lights, though! Maybe we do not need as many or they can be retrofitted to reduce the glare. Here are some questions to ask:

- Does the area on my property really need to be lit?
- Does it need to be this bright?
- Is the light transmitted further than it needs to be?

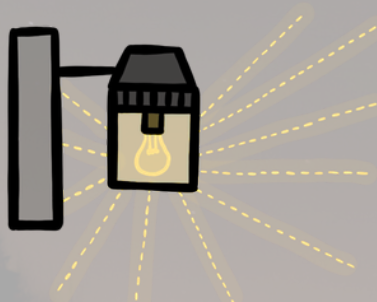
Learn more: <https://watersheds.ca/light>

Not Recommended: Glare Lights

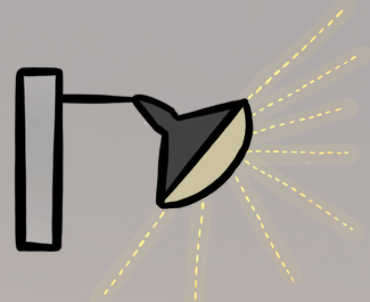
Typical 'Wall Pack'



Typical 'Yard Light'

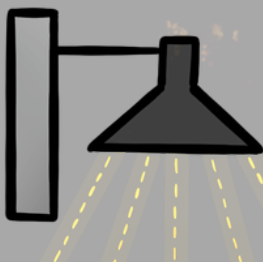


Flood Light

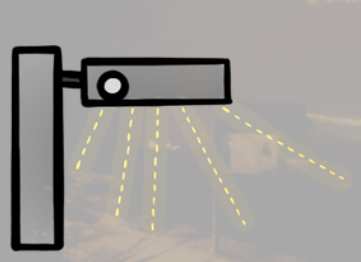


Recommended: Shielded Lights

Opaque Reflector

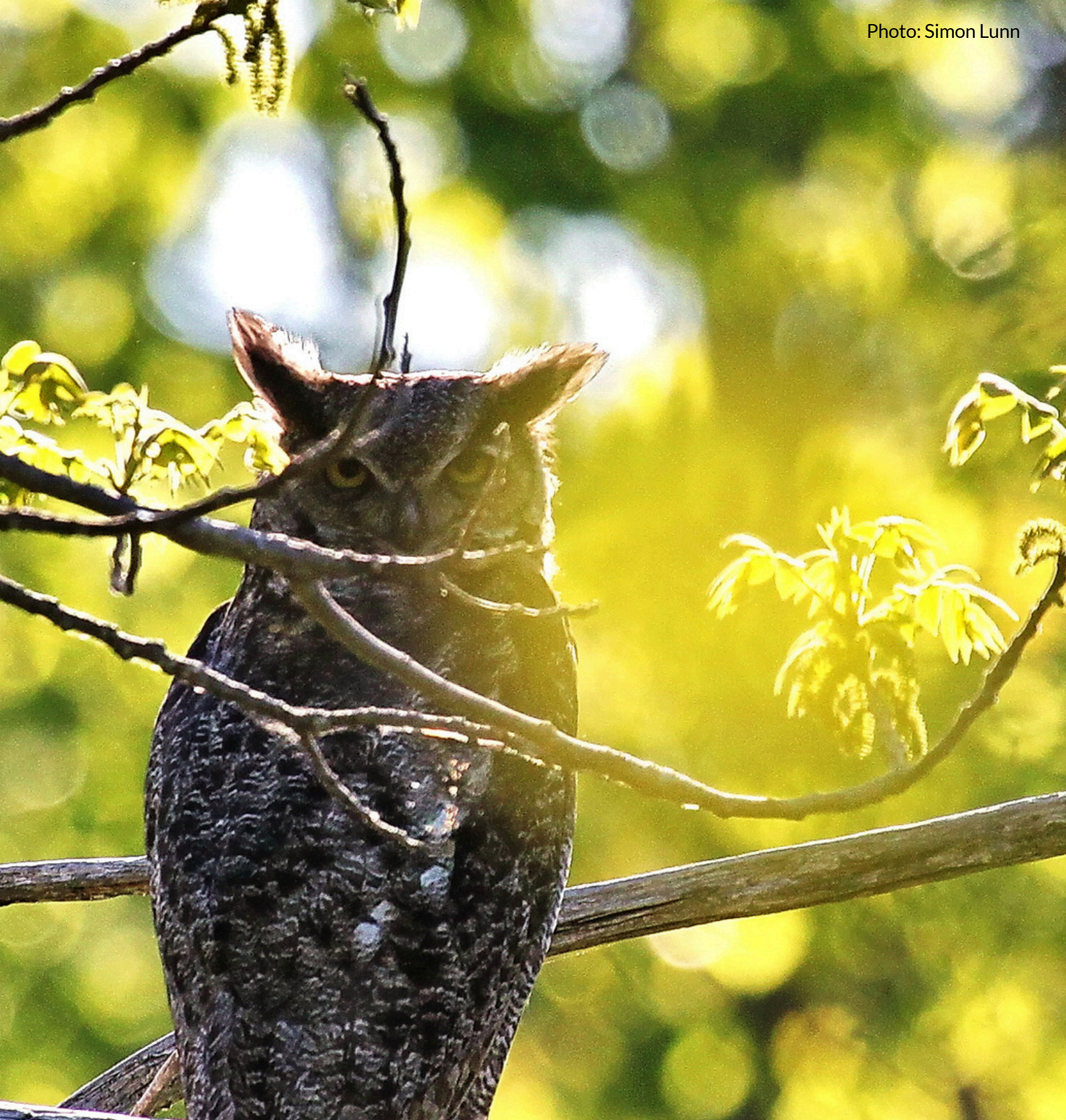


Typical 'Shoebox'



Flood Light with Hood





Great Horned Owl

Bubo virginianus



Watersheds
CANADA

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watersheds.ca