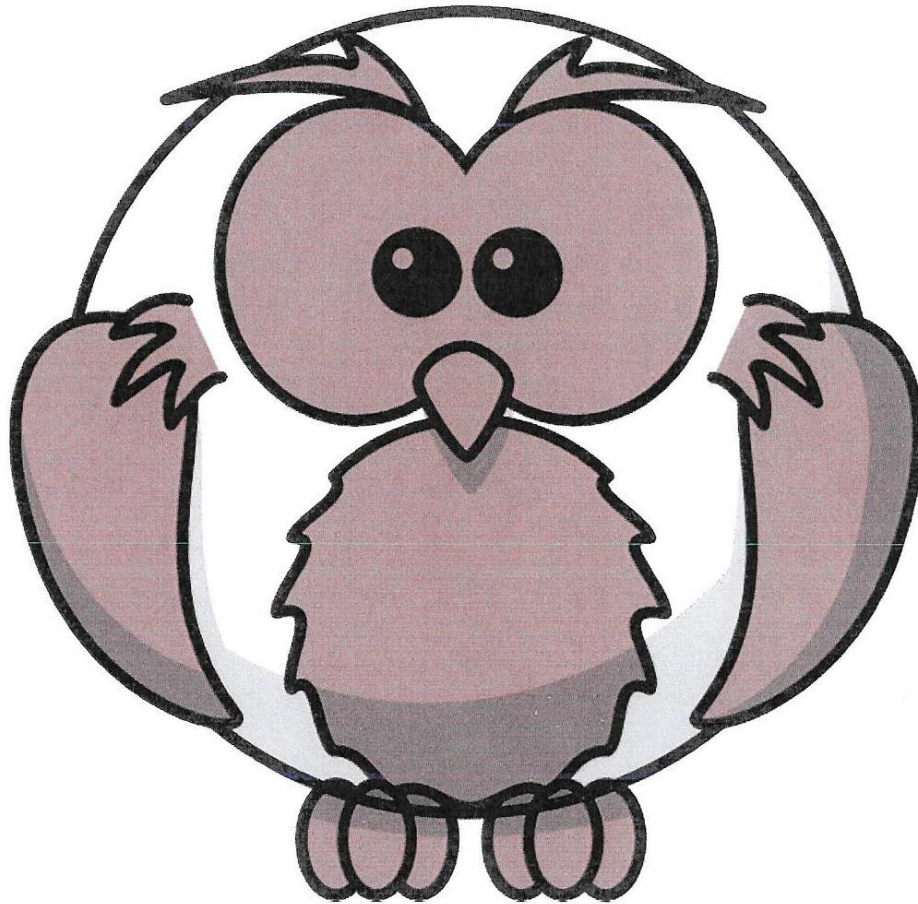


Indiana Dunes Owl Curriculum



Developed by Indiana Dunes State Park staff. Thanks to Beth Dixon for her material support and Friends of Indiana Dunes for curriculum funding.

FRIENDS OF
INDIANA DUNES



Saw-Whet Owl Unit

Thank you for participating in our Saw-Whet Owl Banding Program at the Indiana Dunes Nature Center. We hope that this program will encourage your students to pursue further study of owls and nature in general. Our goal is to promote awareness of Saw-Whet Owls, to help you educate students to become lifelong learners, and to spark a higher level of curiosity of the natural world.

Materials Inside:

- A list of appropriate Indiana College and Career Standards per grade level
- A comprehensive review of the banding process
- A list of read-aloud books and teacher-friendly websites about owls
- Ready-to-use handouts
 - These handouts have been compiled to help you create a unit of study to enhance our program.. These handouts contain multiple sheets that range from reading comprehension to fine art to math concepts. Please feel free to adjust these as needed.
- A sample of worksheets available at www.superteacher.com for a nominal yearly fee.



OWL BANDING AND ADOPTIONS AT INDIANA DUNES STATE PARK!

Join us this fall for our sixth year of saw-whet owl banding at Indiana Dunes State Park! The owl banding program is run from mid-October to mid-November, for 3-6 hours each night starting one-half hour after sunset. Banding is weather dependent, and visitors are welcome to call the Nature Center to check on nightly banding updates. Public presentations are given on most weekend nights and whenever crowds arrive. Help release an owl through our owl adoption program that supports the materials and supplies needed to make this program happen! For more information, call the Nature Center at 219-926-1390.



Sign up for owl text or email alerts to be notified when banding is occurring or when owls have been captured for the public to drive in to see! <http://bit.do/owlbandingalerts>

Tear Here

**Indiana Dunes State Park
Saw-whet Owl Adoption Program
supporting research on the migration patterns
of the Northern Saw-whet Owl in the Indiana Dunes.**

Yes, I would like to support Saw-whet Owl research at the Indiana Dunes State Park

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Email: _____

Note: Others (school classes, scouts, etc.) may also adopt my owl to assist in fundraising to support this research.

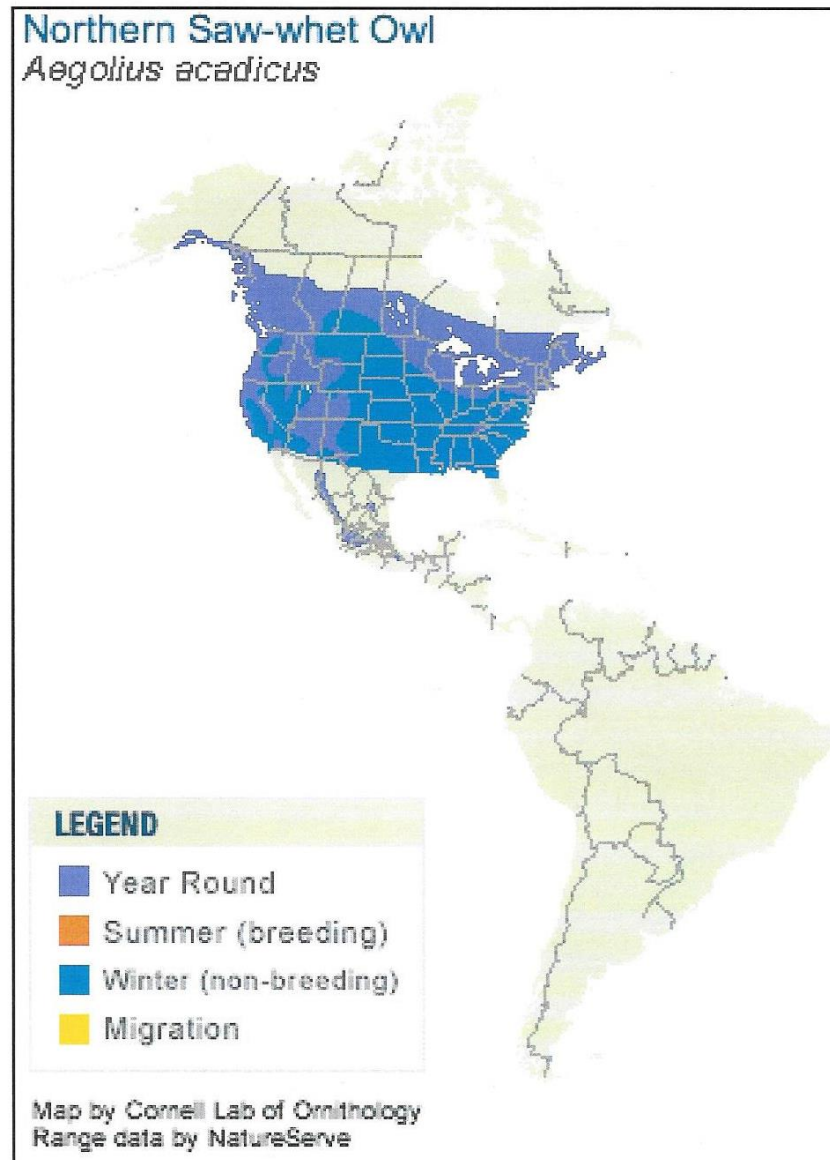
Send cash or check with **\$25** for each
Adopted owl payable to:

Indiana Dunes State Park
1600 N 25 E
Chesterton, IN 46304

In return you will receive a detailed letter and certificate about the owl you have adopted. Contact Brad Bumgardner (bbumgardner@dnr.in.gov) for more information.



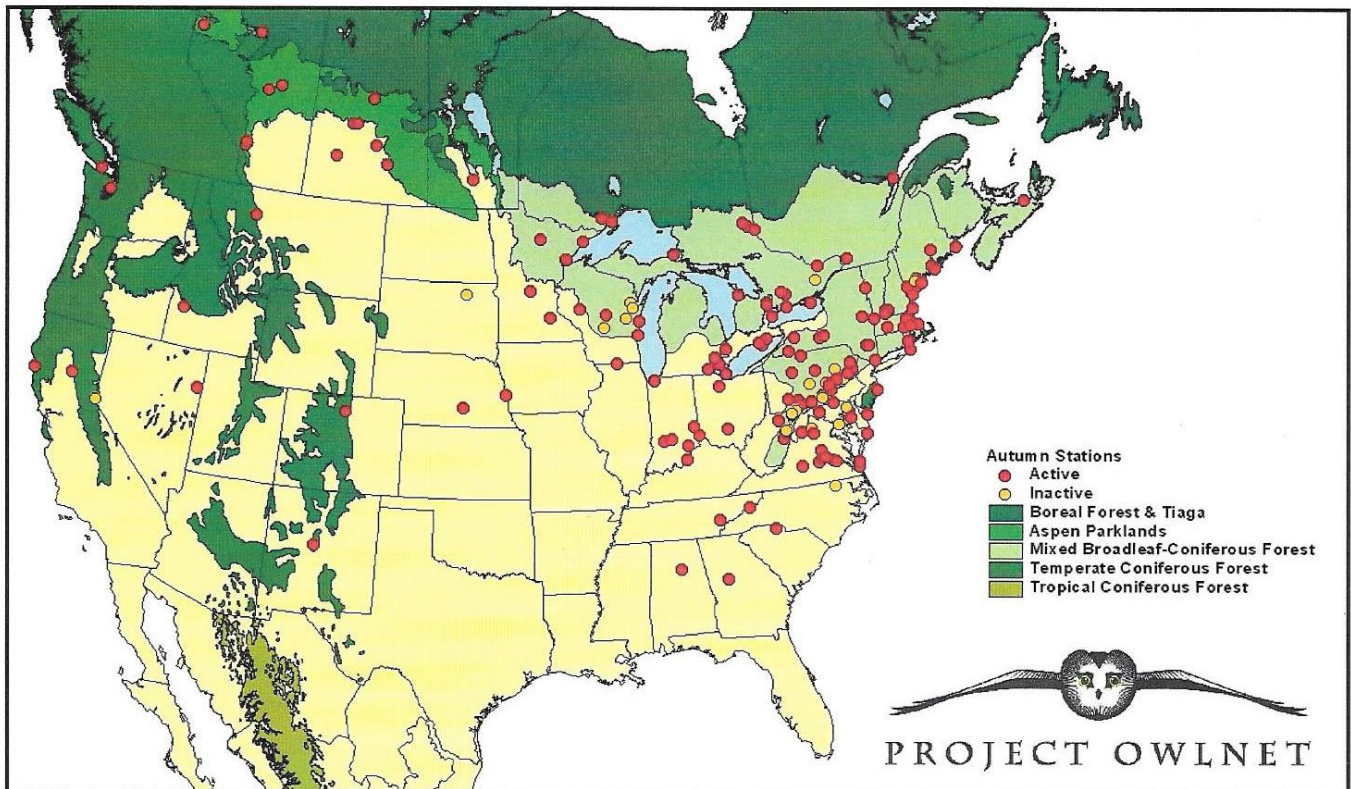
Saw-whet Owl Migration Map



Discussion Questions

1. What does the purple indicate? What does the blue indicate?
2. Name three countries might where you might find a Saw-whet Owl?
3. What are some reasons why these owls might migrate south during the winter months?

Saw-whet Owl Fall Banding Station Map

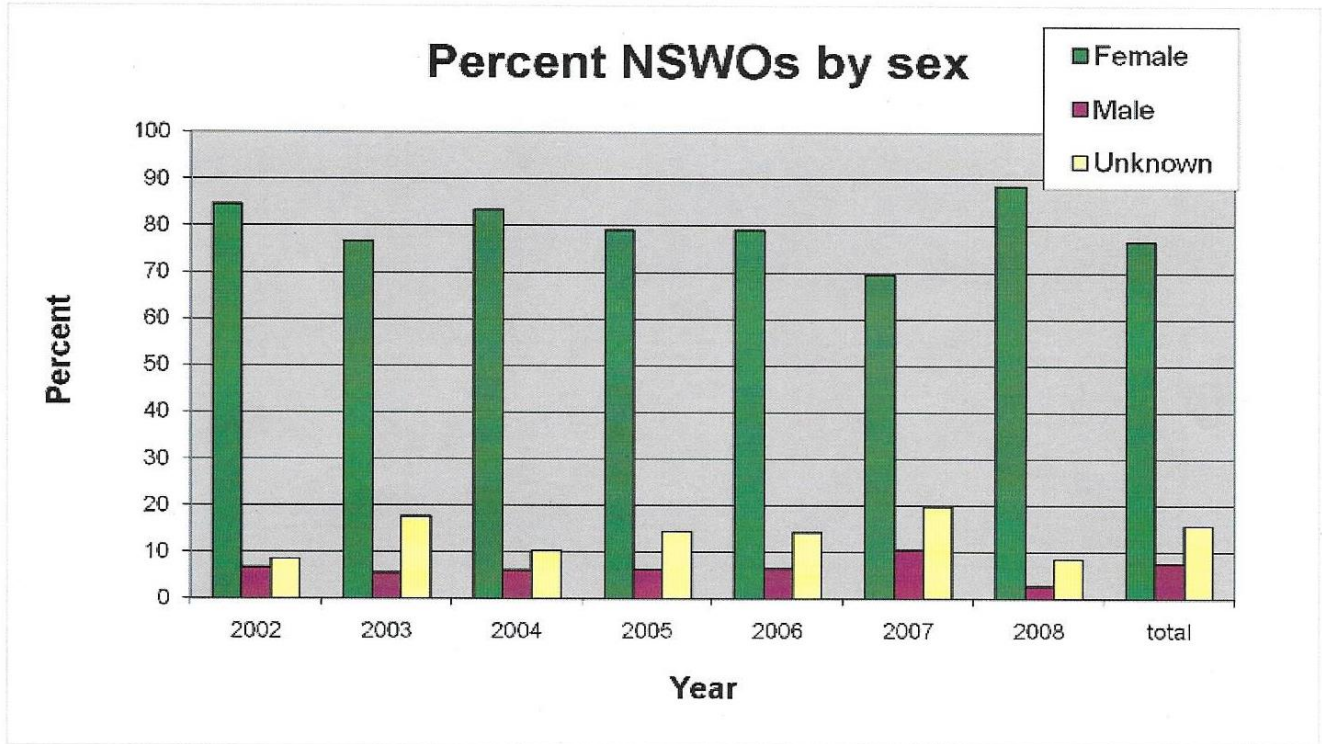


Discussion Questions:

1. What region of the United States, would you most likely find Saw-whet Owl banding stations?
2. Why do you think states like Texas and Florida do not have banding stations?
3. What do the red circles indicate?
4. What do the yellow circles indicate?
5. What do the different shades of green show?
6. Why are so many banding stations placed on the southern edge of the forests?

Name _____

Female to Male Saw-Whet Owl Graph 2002-2008



1. What does the green bars show? The purple bars? The yellow bars?
2. In 2007, how many more females were banded than males?
3. In what year, were the least amount of male owls banded?
4. What does this information tell scientists about the owls that migrate through Indiana? Why is that information important?

Kindergarten Owl Unit
Indiana Academic Standards

Science

K.3.1 Observe and draw physical features of common plants and animals.

K.3.2 Describe and compare living animals in terms of shape, texture of body covering, size, weight, color and the way they move.

Language Arts

K.RN.1 Actively engage in group reading activities with purpose and understanding.

K.RN.2.1 With support, ask and answer questions about important elements of a text (e.g., events, topics, concepts).

K.RN.2.2 With support, retell the main idea and key details of a text.

K.RV.3.2 With support, ask and answer questions about unknown words in a nonfiction text.

K.W.1 Write for specific purposes and audiences.

K.W.3.2 Use words and pictures to develop a main idea and provide some information about a topic.

K.W.3.3 Use words and pictures to narrate a single event or simple story, arranging ideas in order.

K.W.5 With support, build understanding of a topic using various sources. Identify relevant pictures, charts, grade-appropriate texts, personal experiences, or people as sources of information on a topic.

K.SL.1 Listen actively and communicate effectively with a variety of audiences and for different purposes.

K.SL.3.2 Ask appropriate questions about what a speaker says.

These standards can be met using the owl unit with attention to reading, writing and vocabulary development in both Language Arts and Science. Outside reading sources may be needed.

1st Grade Owl Unit
Indiana Academic Standards

Science

- 1.3.3 Observe and explain that plants and animals have basic needs for growth and survival: plants need to take in water and need light, and animals need to take in water and food and have a way to dispose of waste.
- 1.3.4 Describe how animals' habitats, including plants, meet their needs for food, water, shelter and an environment in which they can live.
- 1.3.5 Observe and describe ways in which animals and plants depend on one another for survival.
- 1.4.2 Choose two animals that build shelters within their habitats. Compare the shelters in terms of the materials and tools they use and the type and purpose of shelter they provide.
- 1.4.3 Construct a simple shelter for an animal with natural and human-made materials.

Language Arts

- 1.RN.1 With support, read and comprehend nonfiction that is grade-level appropriate.
 - 1.RN.2.1 Ask and answer questions about key details to clarify and confirm understanding of a text.
 - 1.RN.2.2 Retell main ideas and key details of a text.
 - 1.RN.2.3 Describe the connection between two individuals, events, ideas, or pieces of information in a text.
 - 1.RV.1 Use words, phrases, and strategies acquired through conversations, reading and being read to, and responding to literature and nonfiction texts to build and apply vocabulary.
 - 1.RV.3.2 Ask and answer questions to help determine or clarify the meaning of words and phrases in a nonfiction text.
-
- 1.W.1 Write routinely over brief time frames and for a variety of purposes and audiences.
 - 1.W.3.2 Develop a topic sentence or main idea, provide some facts or details about the topic, and provide a concluding statement.
 - 1.W.3.3 Develop topics for stories or poems, using precise words to describe characters and actions and temporal words to signal event order, with ideas organized into a beginning, middle, and ending.
-
- 1.SL.1 Listen actively and adjust the use of spoken language (e.g., vocabulary) to communicate effectively with a variety of audiences and for different purposes.
 - 1.SL.2.4 Ask questions to clarify information about topics and texts under discussion.
 - 1.SL.3.1 Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
 - 1.SL.3.2 Ask and answer questions about what a speaker says to clarify something that is not understood.
 - 1.SL.4.2 Add drawings or other visual displays, such as pictures and objects, when sharing information to clarify ideas, thoughts, and feelings.

These standards can be met using the owl unit with attention to reading, writing and vocabulary development in both Language Arts and Science. Outside reading sources may be needed.

2nd Grade Owl Unit Indiana Academic Standards

Science

2.3.1 Observe closely over a period of time and then record in pictures and words the changes in plants and animals throughout their life cycles-including details of their body plan, structure and timing of growth, reproduction and death.

2.3.2 Compare and contrast details of body plans and structures within the life cycles of plants and animals.

Language Arts

2.RN.1 Read and comprehend a variety of nonfiction within a range of complexity appropriate for grades 2-3. By the end of grade 2, students interact with texts proficiently and independently at the low end of the range and with scaffolding as needed at the high end.

2.RN.2.1 Ask and answer questions about the main idea and supporting facts and details in a text to confirm understanding.

2.RN.4.1 Describe how an author uses facts to support specific points in a text.

2.RN.4.2 Compare and contrast the most important points presented by two texts on the same topic.

2.RV.1 Use words, phrases, and strategies acquired through conversations, reading and being read to, and responding to literature and nonfiction texts to build and apply vocabulary.

2.RV.2.1 Use context clues (e.g., words and sentence clues) and text features (e.g., table of contents, headings) to determine the meanings of unknown words.

2.RV.3.2 Determine the meanings of words and phrases in a nonfiction text relevant to a second grade topic or subject area.

2.W.1 Write routinely over brief time frames and for a variety of tasks, purposes, and audiences; apply reading standards to write in response to literature and nonfiction texts.

2.W.3.2 Write a paragraph or paragraphs on a topic that introduce a topic, provide facts and details about the topic, and provide a concluding statement.

2.SL.1 Listen actively and adjust the use of spoken language (e.g., conventions, vocabulary) to communicate effectively with a variety of audiences and for different purposes.

2.SL.2.1 Participate in collaborative conversations about grade-appropriate topics and texts with peers and adults in small and larger groups.

2.SL.2.4 Ask for clarification and further explanation as needed about the topics and texts under discussion.

2.SL.3.2 Ask and answer questions about what a speaker says to clarify comprehension, gather information, or deepen understanding of a topic or issue.

These standards can be met using the owl unit with attention to reading, writing and vocabulary development in both Language Arts and Science. Outside reading sources may be needed.

3rd Grade Owl Unit
Indiana Academic Standards

Language Arts

- 3.RN.1 Read and comprehend a variety of nonfiction within a range of complexity appropriate for grades 2-3. By the end of grade 3, students interact with texts proficiently and independently.
- 3.RN.2.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
- 3.RN.2.2 Determine the main idea of a text; recount the key details and explain how they support the main idea.
- 3.RN.2.3 Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in processes or procedures in a text, using words such as first, next, finally, because, problem, solution, same, and different.
- 3.RN.3.1 Apply knowledge of text features to locate information and gain meaning from a text (e.g., maps, illustrations, charts, font/format).
- 3.RN.3.2 Identify how a nonfiction text can be structured to indicate a problem and solution or to put events in chronological order.
- 3.RN.4.2 Compare and contrast the most important points and key details presented in two texts on the same topic.
-
- 3.RV.1 Build and use accurately conversational, general academic, and content-specific words and phrases.
- 3.RV.2.1 Apply context clues (e.g., word, phrase, and sentence clues) and text features (e.g., maps, illustrations, charts) to determine the meanings of unknown words.
- 3.RV.3.2 Determine the meanings of general academic and content-specific words and phrases in a nonfiction text relevant to a third grade topic or subject area.
-
- 3.W.3.2 Write informative compositions on a variety of topics that –
State the topic, develop a main idea for the introductory paragraph, and group related information together.
Develop the topic with facts and details.
Connect ideas within categories of information using words and phrases.
Use text features (e.g., pictures, graphics) when useful to aid comprehension.
Provide a concluding statement or section.
- 3.SL.1 Listen actively and adjust the use of spoken language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes.
- 3.SL.2.2 Explore ideas under discussion by drawing on readings and other information.
- 3.SL.2.4 Ask questions to check understanding of information presented, stay on topic, and link comments to the remarks of others.
- 3.SL.3.2 Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.

These standards can be met using the owl unit with attention to reading, writing and vocabulary development in both Language Arts and Science. Outside reading sources may be needed.

4th Grade Owl Unit
Indiana Academic Standards

Science

4.3.1 Observe and describe how offspring are very much, but not exactly, like their parents or one another. Describe how these differences in physical characteristics among individuals in a population may be advantageous for survival and reproduction.

4.3.2 Observe, compare and record the physical characteristics of living plants or animals from widely different environments. Describe how each plant or animal is adapted to its environment.

4.3.4 Describe a way that a given plant or animal might adapt to a change arising from a human or non-human impact on its environment.

Language Arts

4.RN.1 Read and comprehend a variety of nonfiction within a range of complexity appropriate for grades 4-5. By the end of grade 4, students interact with texts proficiently and independently at the low end of the range and with scaffolding as needed at the high end.

4.RN.2.1 Refer to details and examples in a text when explaining what a text says explicitly and when drawing inferences from the text.

4.RN.2.2 Determine the main idea of a text and explain how it is supported by key details; summarize the text.

4.RN.2.3 Explain the relationships between events, procedures, ideas, or concepts in a historical, scientific, or technical text, based on specific information in the text.

4.RN.3.1 Apply knowledge of text features to locate information and gain meaning from a text (e.g., charts, tables, graphs, headings, subheadings, font/format).

4.RN.4.2 Combine information from two texts on the same topic in order to demonstrate knowledge about the subject.

4.RV.1 Build and use accurately general academic and content-specific words and phrases.

4.RV.2.1 Apply context clues (e.g., word, phrase, sentence, and paragraph clues) and text features (e.g., charts, headings/subheadings, font/format) to determine the meanings of unknown words.

4.RV.3.2 Determine the meanings of general academic and content-specific words and phrases in a nonfiction text relevant to a fourth grade topic or subject area.

These standards can be met using the owl unit with attention to reading, writing and vocabulary development in both Language Arts and Science. Outside reading sources may be needed.

4.W.1 Write routinely over a variety of time frames and for a range of discipline-specific tasks, purposes, and audiences; apply reading standards to support reflection and response to literature and nonfiction texts.

4.W.3.2 Write informative compositions on a variety of topics that –

Provide an introductory paragraph with a clear main idea.

Provide supporting paragraphs with topic and summary sentences.

Provide facts, specific details, and examples from various sources and texts to support ideas and extend explanations.

Connect ideas using words and phrases.

Include text features (e.g., formatting, pictures, graphics) and multimedia when useful to aid comprehension.

Use language and vocabulary appropriate for audience and topic.

Provide a concluding statement or section.

4.SL.2.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) on grade-appropriate topics and texts, building on others' ideas and expressing personal ideas clearly.

4.SL.2.2 Explore ideas under discussion by drawing on readings and other information.

4.SL.2.4 Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.

4.SL.3.1 Summarize major ideas and supportive evidence from text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

4.SL.3.2 Identify and use evidence a speaker provides to support particular points.

These standards can be met using the owl unit with attention to reading, writing and vocabulary development in both Language Arts and Science. Outside reading sources may be needed.

5th Grade Owl Unit Indiana Academic Standards

Science

5.3.1 Observe and classify common Indiana organisms as producers, consumers, decomposers, predator and prey based on their relationships and interactions with other organisms in their ecosystem.

5.3.2 Investigate the action of different decomposers and compare their role in an ecosystem with that of producers and consumers.

Language Arts

5.RN.1 Read and comprehend a variety of nonfiction within a range of complexity appropriate for grades 4-5. By the end of grade 5, students interact with texts proficiently and independently.

5.RN.2.1 Quote accurately from a text when explaining what a text says explicitly and when drawing inferences from the text.

5.RN.2.2 Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.

5.RN.2.3 Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

5.RN.4.1 Explain how an author uses reasons and evidence to support claims in a text, identifying which reasons and evidence support which claims.

5.RN.4.2 Combine information from several texts or digital sources on the same topic in order to demonstrate knowledge about the subject.

5.RV.1 Build and use accurately general academic and content-specific words and phrases.

5.RV.2.1 Select and apply context clues (e.g., word, phrase, sentence, and paragraph clues) and text features to determine the meanings of unknown words.

5.W.1 Write routinely over a variety of time frames and for a range of discipline-specific tasks, purposes, and audiences; apply reading standards to support reflection and response to literature and nonfiction texts.

5.SL.2.4 Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.

5.SL.2.5 Review the key ideas expressed and draw conclusions in reference to information and knowledge gained from the discussions.

5.SL.3.1 Orally summarize or respond to a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

5.SL.3.2 Summarize a speaker's points as they relate to main ideas or supporting details and demonstrate how claims are supported by reasons and evidence.

These standards can be met using the owl unit with attention to reading, writing and vocabulary development in both Language Arts and Science. Outside reading sources may be needed.

6th Grade Owl Unit

Indiana Academic Standards

Science

- 6.3.1 Describe specific relationships (i.e., predator and prey, consumer and producer, and parasite and host) between organisms and determine whether these relationships are competitive or mutually beneficial.
- 6.3.2 Describe how changes caused by organisms in the habitat where they live can be beneficial or detrimental to themselves or to native plants and animals.
- 6.3.3 Describe how certain biotic and abiotic factors—such as predators, quantity of light and water, range of temperatures and soil composition—can limit the number of organisms an ecosystem can support.
- 6.3.5 Describe how all animals, including humans, meet their energy needs by consuming other organisms, breaking down their structures, and using the materials to grow and function.

Language Arts

- 6.RN.1 Read a variety of nonfiction within a range of complexity appropriate for grades 6-8. By the end of grade 6, students interact with texts proficiently and independently at the low end of the range and with scaffolding as needed at the high end of the range.
- 6.RN.2.1 Cite textual evidence to support analysis of what a text says explicitly as well as inferences drawn from the text.
- 6.RN.2.2 Determine how a central idea of a text is conveyed through particular details; provide an objective summary of the text.
- 6.RN.3.2 Analyze how a particular sentence, paragraph, chapter, or section fits into the overall structure of a text and contributes to the development of the ideas.
- 6.RN.3.3 Determine an author's perspective or purpose in a text, and explain how it is conveyed in the text.

- 6.RV.1 Acquire and use accurately grade-level appropriate general academic and content-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.
- 6.RV.2.1 Use context to determine or clarify the meaning of words and phrases.

These standards can be met using the owl unit with attention to reading, writing and vocabulary development in both Language Arts and Science. Outside reading sources may be needed.

Indiana Department of Natural Resources Indiana Dunes State Park N Saw-whet Owl Banding Station



Updated October 2014

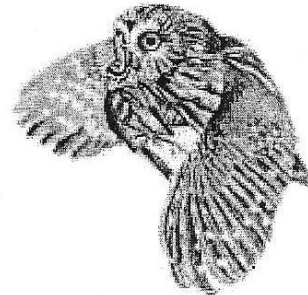
PURPOSE:

The goals of the owl banding program at Indiana Dunes State Park are to:

1. Monitor long-term changes in Saw-whet Owl populations
2. Track timing of migration of age/sex groups along Lake Michigan's southern shore
3. Study stopover patterns and lengths
4. Educate the public of migrating Saw-whet Owls

Name and address of coordinator:

*Brad Bumgardner
Indiana Dunes State Park
1600 N 25 E
Chesterton, IN 46304
bbumgardner@dnr.in.gov*



GENERAL METHODS:

The owl banding program is run from roughly October 1 to November 20, for 4-8 hours each night starting one-half hour after sunset. In 2013, two arrays totaling 10 nets are set up, each array in the form of a cross with one net on each side, with exception of one side with two nets. A speaker is placed in the center of the cross, connected to an mp3 player that continuously broadcasts calls of Saw-whet Owls (the principal target species). All owls captured are banded and complete banding data is recorded on forms provided, along with netting effort. Safety of the birds is paramount, and the protocol should be temporarily abandoned if safety is compromised. All protocol is done to standards made continent wide with Project Owl Net. (www.projectowl.net)

DETAILED PROTOCOL FOR STANDARD COVERAGE PERIOD:

1. Criteria for operation

In general, banding should occur on all suitable nights between October 1 and November 20.

Aside from the principal licensed bander, a minimum of two qualified people per night is recommended for each station (both experienced in extracting owls from nets). If no one else is

available, the station can be run with a single fully qualified person, but nets must be closed promptly if bird volume is too much for one person to handle. Volume of birds in a net check necessary for closing will vary depending on years experience and difficulty of entanglement.

Netting should not be undertaken in rain, wet snow (light dry snow is acceptable), or very strong winds, or in the presence of a predator. It is difficult to set absolute rules for wind interference, as the effect depends on wind direction and density of leaves on the surrounding trees, but Beaufort Wind Scale 5 (18-24mph) or more is too strong at any time.

2. Site map

Banding sites are located inside Indiana Dunes State Park. The main park road extends east through the park, past the campground and takes a 90 degree right (south) turn at the Wilson Shelter. The first station is at the end of this road at the Tremont Shelter area. A roped service drive extends from the corner of the Tremont Shelter parking lot west to a gated access area 75 meters away. The banding station is located through a foot path found on the left (south) side of the trail beyond the gate marked with flagging tape. Total distance between the gate and the station is approximately 100 meters. A map of the site is shown in Figure 1, and the placement of net poles is shown in greater detail in the banding log book. Station 2 is located in Paradise Valley on the park's far east end. From the Kemil Rd Access Gate, hike Trail 10 west for 75 yards and turn south 100 feet to the station. A map of the sites is shown in Figure 1, and placement of net poles is shown in greater detail in the banding log book. All banding is done at the Nature Center.

Additional banding nets may be set up in the pine stands next to the park's West Lot at various times.

3. Pre-banding set-up

Plan to arrive at sunset to allow time for set-up. When first learning the set up, plan to arrive just before sunset. Banding and broadcast equipment are stored in the Nature Center.

If the audio lure is not at the site, it must be brought over from the Nature Center. The charged FoxPro unit can be carried to the site, after transporting it from the Nature Center.

Test the player, adjusting volume so that the player is set just below the maximum volume. The amplifier has been preset to play the ideal decibel level of 90-110 decibels. Make sure the settings are at these positions to reduce distortion of sound. Sound file numbers are taped onto the FoxPro unit for the owl being lured.



All volunteers will want to purchase a headlamp for day to day use. Extra batteries during the season can be provided by the station coordinator. Extra headlamps are available in case one is forgotten, but are generally kept for visitors being brought to the nets. Bass Pro Shop and Cabelas both carry a good selection of head lamps.

4. Banding protocol

Have all nets open one half hour after official sunset. Each net extends to the top of the pole, and should be roughly waist height at the lower trammel. Times of sunset for the season can be found in the back of the banding notebook. Start the Foxpro player once nets have been set up, and record the time. Nets should be checked every 45-60minutes. The lure should be stopped at the site before birds are extracted, partly to prevent owls approaching when people are around and partly to reduce feistiness in the birds, which seems to be higher if the player is still playing. Restart the lure once birds have been extracted, and check nets again at the same time interval. All birds are to be immediately placed into banding bags and should be transported with care to avoid stressing the bird.

After three hours, if no owl has been caught, the night's monitoring period can end.

Birds will be transported to the banding area for immediate processing. Only licensed banders or those training from previous years are permitted to collect banding data, per Federal and State permitting. Owls are released placing them on a perch or shoulder away from exterior lights outside the Nature Center, such as the front porch.

Record all information called for on the special banding sheet for owls. Record all information on re-traps once per night--release bird after checking band number if it has already been handled once that night. A sample data sheet for recording coverage data is shown in the back of the binder. It **must** be completed for every owl banding session, even if no owls are caught or if the session is terminated early. Weather data can be found from local stations at www.wunderground.com, zip code 46304.

5. Specific problems

The station coordinator and lead owl banding volunteer is in charge and responsible for all decisions to close down operations. Netting should stop if:

- Wind is very strong (e.g. leaves being blown into nets almost as fast as they can be removed).
- Rain or wet snow begins (stronger than drizzle).
- Nets are damaged. (Ensure replacement the next day).
- Predators are present. Shut down until the suspected predator has left the area or been removed (set live trap and transport animal to park's west boundary).



A bird that is injured and unable to fly should be held overnight. If it has a simple wing sprain, the bird may be released the next night; but if longer rehabilitation is required, it should be transported to Dr. Reed Veterinary clinic at US 20 and Waverly Road.

6. Closing down

Furl nets and put on at least 3 ties to hold in place. Raise nets to at least six feet high to avoid them having deer hit them. Return broadcast equipment to banding Nature Center if needed. Attach FoxPro to charger. Return any bags, knives, and knitting pins to supply box at net site. Return any borrowed head lamps to Nature Center.

By the end of the night or the next morning, report to the project coordinator any difficulties with broadcast equipment, nets, headlamps or any other equipment, and any shortage of banding supplies.

7. Public Interaction

The Saw-whet Owl project is a primary research facility for migrating owls in the Indiana Dunes area. It is the only station conducting regular owl banding in all of Northern Indiana as well. A secondary goal is to educate the public on these fascinating birds. Volunteers are **expected** to engage with the public that may be visiting the Nature Center, whether during an official public night or an informal night. Aside from basic needs and privacy, most volunteers should choose to “hang out” in the auditorium to answer public questions.

Much of the funding for the project comes from our visitors adopting owls or purchasing goods at the Nature Center gift shop. All volunteers should be able to make quick sales or to be able to assist in an owl adoptions.

If during a very busy public night, it is expected that if needed, a volunteer stay back to assist with the public in adoptions or sales if needed.



Figure 2: Project Owl Net Stations

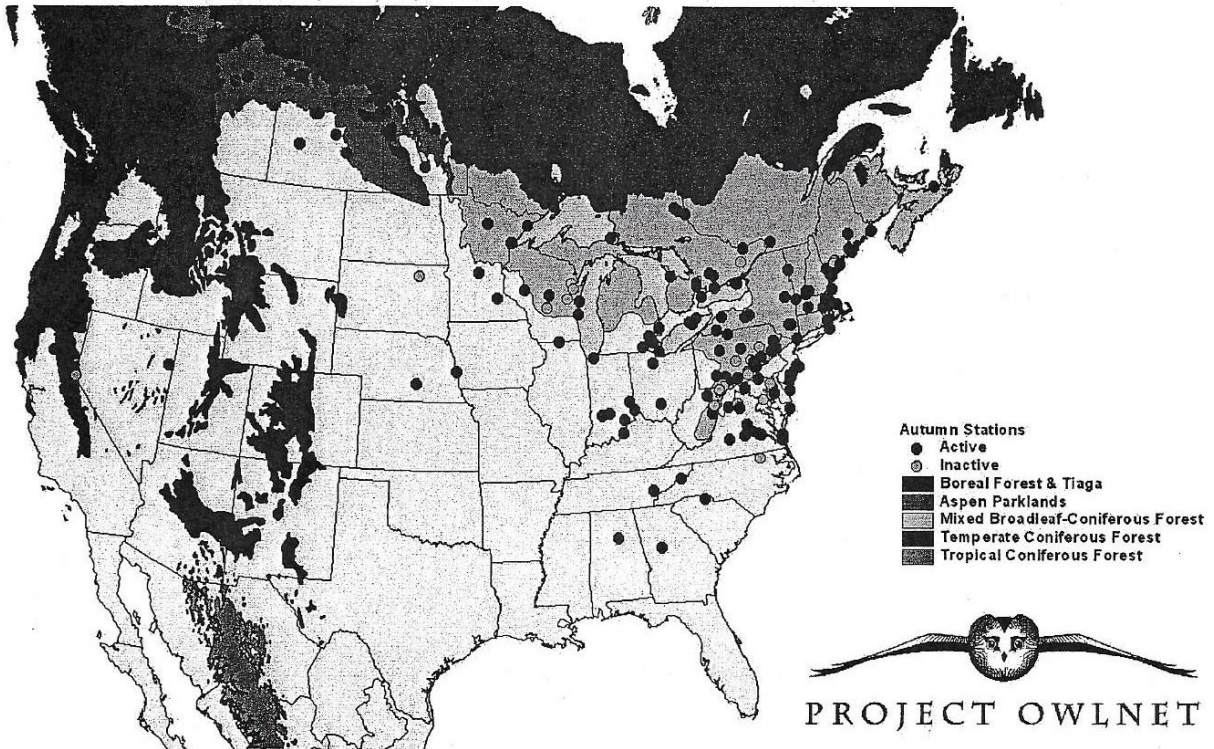


Figure 3: Example Adopt an Owl Form

**Indiana Dunes State Park
Saw-whet Owl Adoption Program
Supporting research on the migration patterns
of the Northern Saw-whet Owl in the Indiana Dunes.**



Yes, I would like to support Saw-whet Owl research and other NIMBA Projects!

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

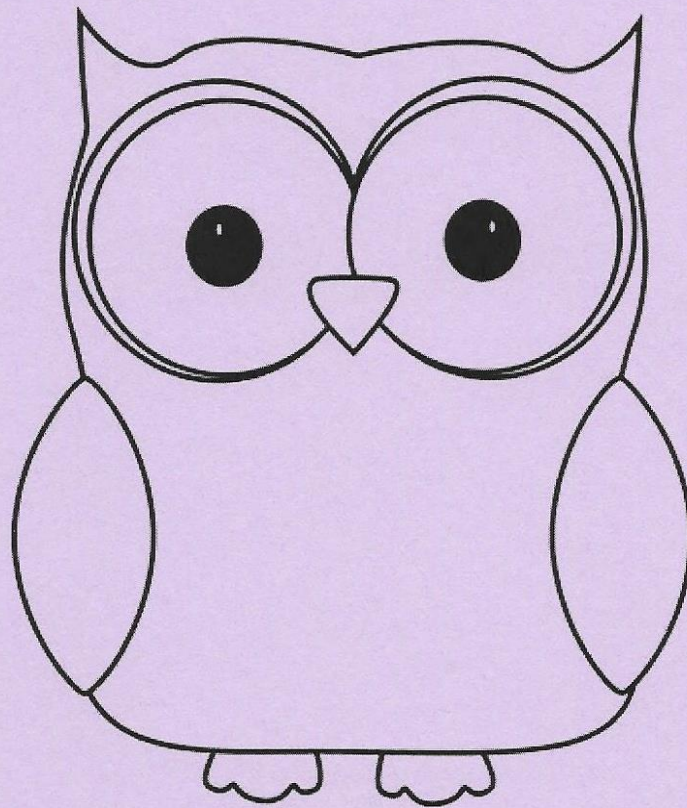
Phone: _____ Email: _____

Yes No Others (school classes, individuals, etc...) may also adopt my owl to assist in fundraising to support this research.

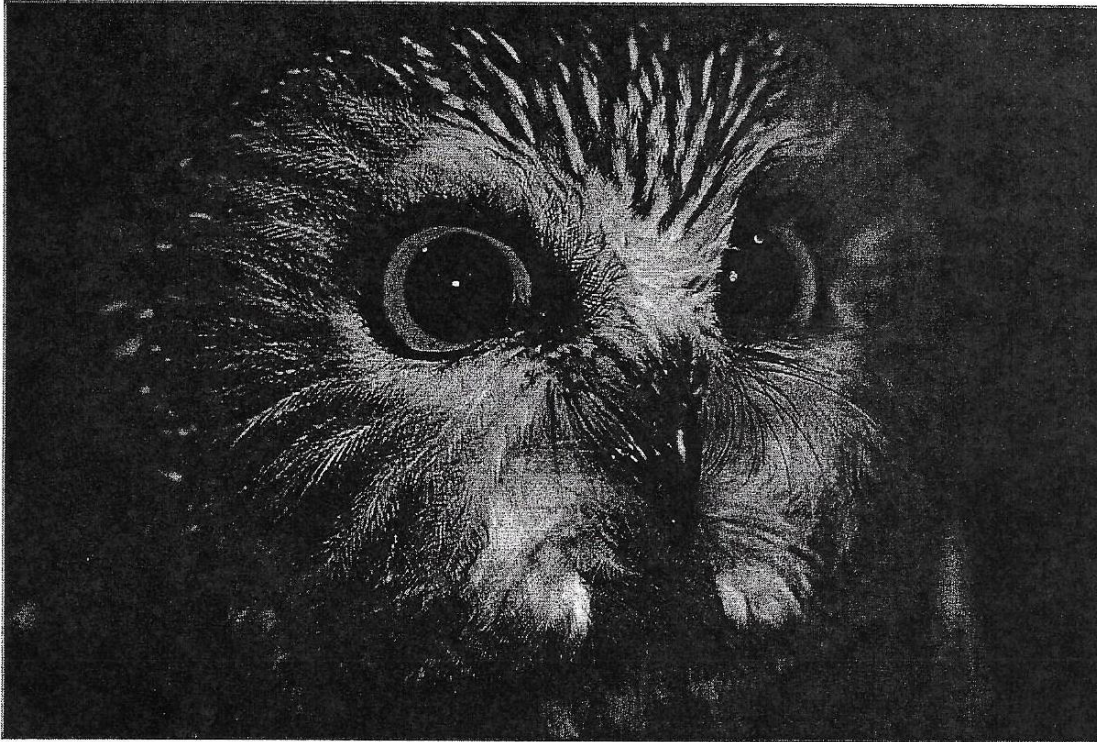
Send a check with \$25 for each
Adopted owl payable to:

Northwest Indiana Migratory Bird Association
1600 N 25 E
Chesterton, IN 46304

For Use with Students



Banding Saw-whet Owls at The Indiana Dunes State Park



Photographs by John Lindsey

The Purpose

In 2009, the Interpretive Services at Indiana Dunes State Park set out to study and educate the public on the secretive and smallest of eastern US owls... the Northern Saw Whet Owl. While other stations have run for many years to the north and south of us, no station was currently studying Saw-whet Owls in northern Indiana or along the southern shores of Lake Michigan. The Dunes Saw-whet Owl Banding Station runs in October and November with the following goals:

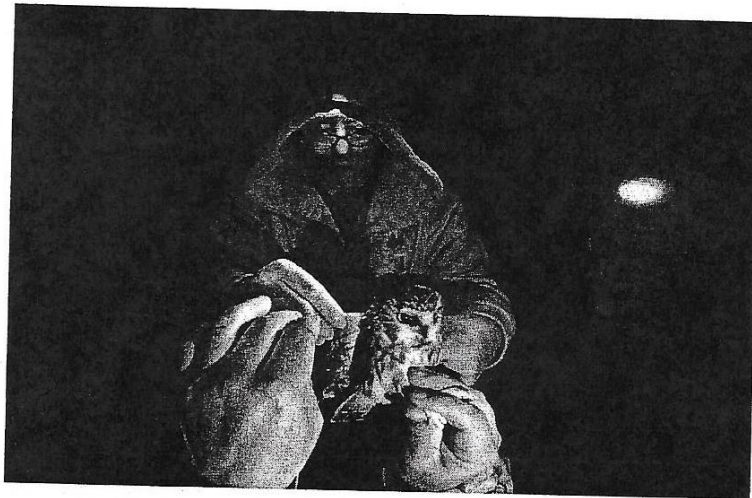
1. Monitor long-term changes in Saw-whet Owl populations
2. Track timing of migration of age/sex groups along Lake Michigan's southern shore
3. Study stopover patterns and lengths
4. Educate the public of migrating Saw-whet Owls

Setting the Stage

Capturing migrating owls largely depends on the use of mist nets and a sound recording to attract them. Most owl banding is conducted with at least four 12m mist nets placed in areas where owls might be flying on their migratory route. Nets are strategically placed and audio recording of owl calls are played in the center of the netting area.

Choosing the areas to place nets is a key factor in the capturing of owls. Because the volume of the recording must be loud, it is important to choose a remote place. Most banding sites are located in large areas of forest, often on or along ridgelines, or on coastal locations (ocean or Great Lakes).

The nets, however, should be placed in thick shrubs and plants growing underneath of large trees whenever possible. Small owls feel more secure from attack in thick cover, and the understory will serve to break up the outline of the nets. An ideal setting would be dense evergreen cover while avoiding netting in fields, bogs and other open locations.



The use of an audio recording is essential to capturing a reasonable number of migrating owls. To be effective, the sound system used should produce 90-110 decibels. The louder the call, the greater the hearing range, which should equal a higher capture rate. The audio device is usually placed near the middle of the net array with two speakers aimed in opposite directions. The speakers can be placed on the ground, or on posts 1-2m high.



The Indiana Dunes Saw-whet Owl Banding Station runs from roughly October 5 to November 20, for 3-8 hours each night starting one-half hour after sunset. Ideal conditions typically follow the passing of a cold front, especially blustery northerly winds that turn calm at sunset. Cold, calm, dark-moon nights are generally best.

Net checks

Many (perhaps most) saw-whet owl banders make hourly net checks, creating a balance between the welfare of the bird, and number of disturbances at the nets. Checking the nets too often disturbs the area, and perhaps scares away some nearby curious owls. On the other hand, leaving an owl in a net for too long is not best for the owl, so hourly checks seem to be the norm at most banding sites, including the site here at the Indiana Dunes State Park. It is important to be flexible though. Nets may need to be checked more often on windy nights (20 mph wind), or if a predator is known or suspected to be in the area.

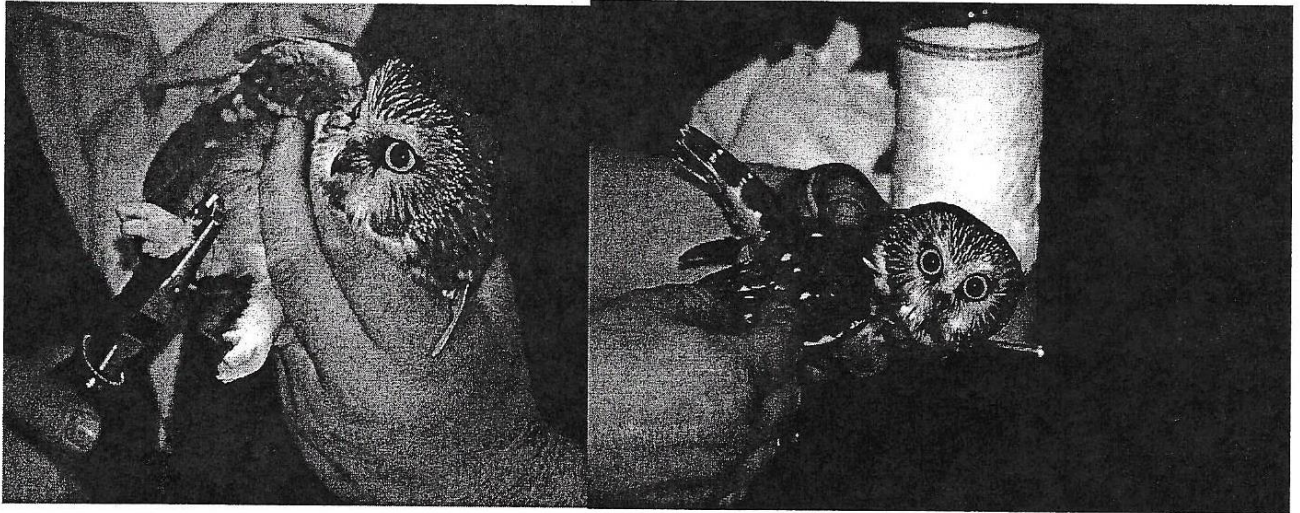
The number of owls captured per night varies dramatically with location and date. Some major migration points (generally in the Great Lakes region) may experience 75-100 saw-whet owls per night during peak season. This may overwhelm a single operator, which is why a team effort is needed to successfully band a large number of owls each year. Banders faced with a large numbers or poor weather can shut off the audio recording, effectively stopping any further captures.



Remember, the welfare of the birds is a researcher's first priority.

the bird is considered undetermined at the time.

Once the age and sex of the owl has been recorded, a band is placed on the leg of the bird giving it an identification number. This information is then uploaded into a data-base used by scientists. This number becomes its new name, so to speak. If this bird is captured again, scientist will have a way to discuss and compare the data for this specific bird. The band weighs very little and soon the owl will not even realize it is banded. You can compare it to a ring on your finger or a watch on your wrist. After a while, you don't even know it is there.

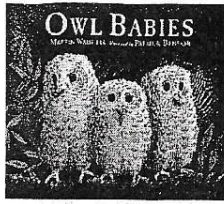


The Release

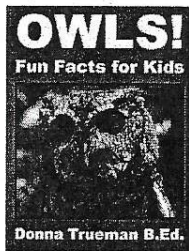
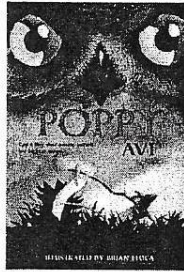
Newly banded owls are soon released and allowed to continue their migration. Often times, the owls do not fly away when they are released, but remain motionless for a few moments. This gives observers a few minutes to “ooh and aah” over the tiny creatures that have traveled so far and have so many more miles to go. Once airborne, the owls find their way back through the trees to safety of the night.



Owl Read Alouds



Owl Babies by Martin Waddell



Owls-Fun Facts for Kids by Donna Trueman



The Owl Who Was Afraid of the Dark
by Jill Tomlinson



A Snowy Owl Story by Melissa Kim

Poppy by Avi



Owl Moon by Jane Yolen



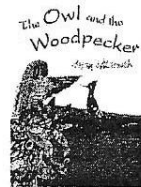
Owls by Gail Gibbons



Adopted by an Owl
by Robbyn Smith van Frankenhuyzen



Hoot
by Carl Hiaasen



The Owl and the Woodpecker
by Brian Wildsmith

Owl Book Ideas from Scholastic

<http://www.scholastic.com/teachers/article/overboard-owls-book-list>

The following books can be used as a read-aloud or as research references. They can be used for preparation of the topic, as well as in conjunction of the owl unit. The visual aids are excellent for introduction and identification of owl adaptations.

OWL RESEARCH

Owl Puke by Jane Hammerslough

The book covers a range of information about owls. It is presented in a kid-friendly format, with vivid illustrations and charts.

Classroom Tips: Copy the pages for use as a reference when writing the owl report.

This is an outstanding book to use as an introduction to owl pellets. Copy the bone sorting chart for students to have as a reference when dissecting owl pellets. It includes great owl activities, such as making an edible owl pellet.

Animal Kingdom by Eyes on Nature Series

Beautiful illustrations and large printed information makes this book a great animal resource. Mammals, insects, reptiles, and birds of prey are divided into sections with interesting facts about the animals in each kingdom.

Classroom Tips: Use the book when introducing adaptations to the students. The large photos allow students a close up look of adaptations. A Venn Diagram may be used to compare the adaptations of owl to other birds of prey.

Scoop into the Nocturnal World of Owls by Zoobooks

Reading material is presented in a magazine format. Information about owls, such as diet, habitat, and hunting are organized for students.

Classroom Tips: Copy the different sections of the book for students to use when researching owls. Students may also go online to The Owl Pages to research more information about their specific owl topic.

Raptor! A kid's guide to birds of prey by Christyna M. and Rene Laubach

The books highlights the main characteristics of different owl species. Pictures and maps illustrate the features and habitats of owls. Addresses of bird organizations and web sites are provided for further research.

Classroom Tips: Divide the students into pairs and provide a copy of the information for each owl. Students summarize main characteristics of each owl for a class chart showing comparisons of each owl species. Use chart as a math discussion for maximum, minimum, range when discussing statistics. Show a map of the United States and label the different parts of the country where different owl species live. Students could write letters to organizations asking for information on supporting the protections of the animals.

Skeletons: an Inside Look at Animals by Jinny Johnson

This book is a collection of giant-sized pictures of animal skeletons. It shows the similarities and differences between animal bones.

Classroom Tips: When introducing the various bones of the body, use the different skeleton drawings to show similarities between animals. Reinforce the identification of animal bones prior to dissecting an owl pellet.

OWL READ ALOUD

The Moon of the Owls by Jean Craighead George

A 40-page story with black-and-white illustrations about a nocturnal journey of a great horned owl in New York.

Classroom Tips: Separate the story into a 3-day read aloud. Discuss word choice that provides vivid visualizations and have students illustrate a scene while reading aloud. Use a graphic organizer to show story sequence by charting the animals seen by the owl. Show a map of the United States and label the different parts of the country where different owl species live.

The Barn Owls by Tony Johnston and ***Owl Babies*** by Martin Waddell

Simple stories about the lives of owls are written in a poetic and heart-warming style. The books focus on the hunting practices of owls.

Classroom Tips: Use as a read-aloud to show the hunting practice of owls. Highlight the various verbs written in the story, and use a precursor for a poetry writing exercise.

Birds: A First Look at Animals by Diane James & Sara Lynn

Amusing illustrations and simple text introduce students to characteristics of all birds, including owls.

Classroom Tips: The text is appropriate for below level readers. English Language Learners can use the large, easy to read print to study adaptations and owl characteristics.

Owl: American Indian Legends by Vee Browne

Three American Indian legends are told that explain the features and behaviors of owls. Information about owls are provided in between the retelling of the legends. Fantastic illustrations bring these captivating legends to life

Classroom Tips: Use as a precursor to writing an owl legend. After a discussion of culture diversity, conclude by creating a pottery owl, as shown in the book.

Owls by Gail Gibbons

An excellent read-aloud or research source, the large art illustrations and text allow students to easily follow along.

Animal Predators: Owls by Sandra Markle

The book has beautiful photographs with smaller text. Can also be used for research.

Classroom Tips: Use these books as research sources or introductions to owl adaptations. Use the glossary terms as vocabulary reinforcement with games such as memory.

Owl Moon by Jane Yolen

The award-winning story of a young girl who accompanies her father as he calls for owls and encounters one in the woods near their farm.

Websites on Owls

K-2

<http://mssmiths2ndgradeclassroom.weebly.com/owls-and-owl-moon.html>

3-6

<http://owling.com/>

http://owling.com/Northern_Saw-whet.htm

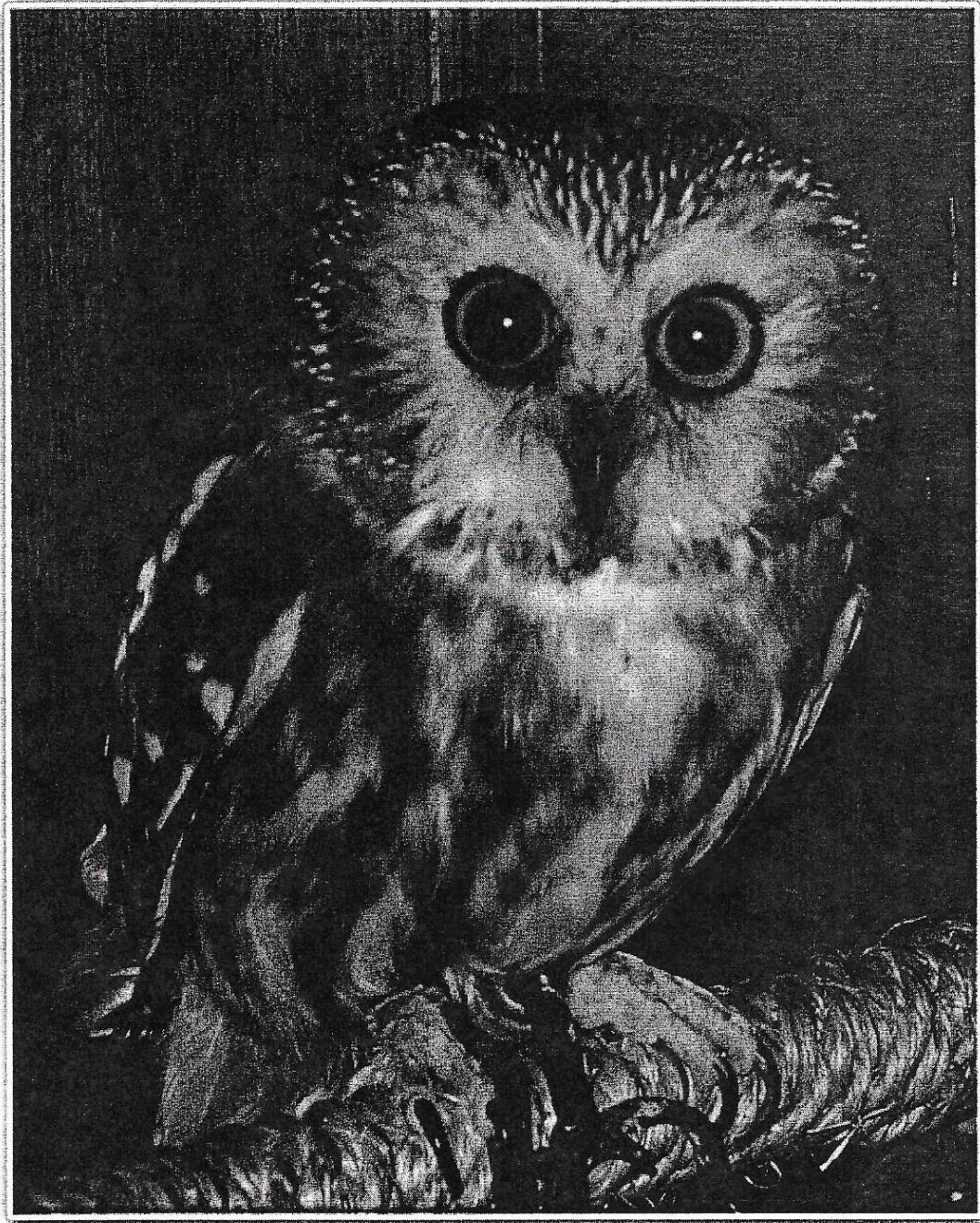
<http://www.loversleapbirdhouses.com/birdcoloring.html>

http://www.allaboutbirds.org/guide/Northern_Saw-whet_Owl/lifehistory

<http://www.owlinstitute.org/northern-saw-whet-owl.html>

http://identify.whatbird.com/obj/9/overview/Northern_Saw-whet_Owl.aspx

Northern Saw-whet Owl Activity Book



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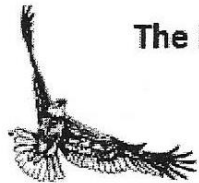
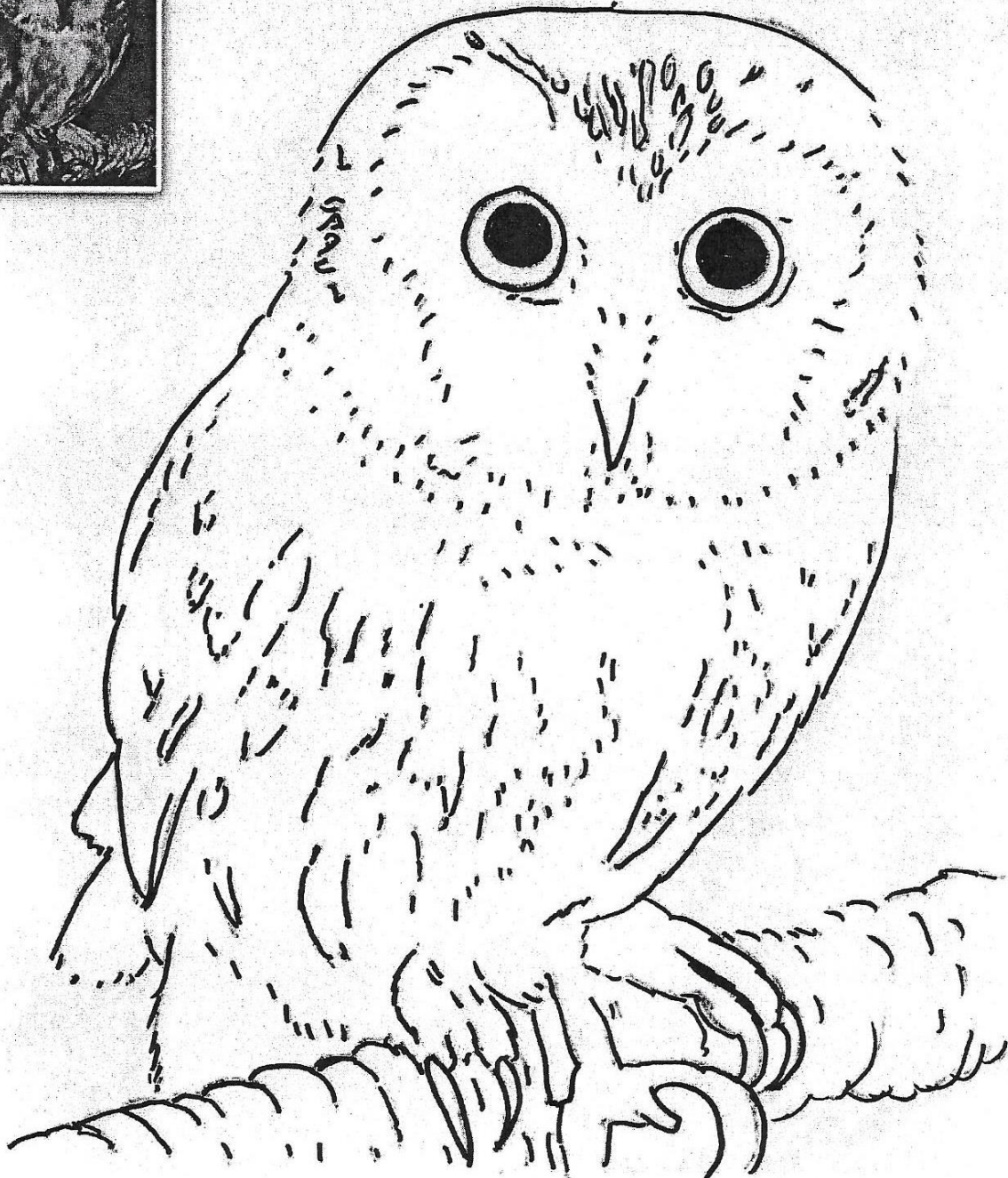
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Northern Saw-whet Owl Coloring Page



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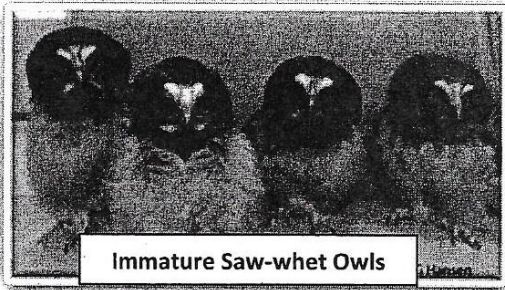
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Northern Saw-whet Owl Quick Facts Sheet

The Saw-whet Owl's scientific name is *Aegolius acadicus*.

Appearance: The smallest owl east of the Mississippi, the saw-whet stands about seven inches tall. It has a brown head with no ear tufts and white streaks between and above its eyes in a Y-shape. Its body is brown with white streaks on the belly. Saw-whets usually weigh between two and four and a half ounces and have a wingspan (the length of one wingtip to the other) from 17–20 inches long.



Immature Saw-whet Owls

Fun Facts! An immature saw-whet owl's coloring (plumage) looks completely different from an adult's. The young have chocolate brown heads, backs and wings and are light brown on their fronts. This plumage disappears by the end of the first summer.

Sound: Northern saw-whet owls have a seemingly endless and monotonous call that sounds like "too-too-too-too...." It can be repeated up to 100 times per minute.

Fun Facts! The word "whet" means to sharpen. The saw-whet owl's name comes from the sound they make in spring when they call for a mate. Some say it sounds like a saw blade being sharpened by a file. It sounds a bit like "skree-aw" repeated three times.

Flight: The saw-whet owl flies rapidly and flows up and down in its flight path.

What it eats: Saw-whet owls feed primarily on small rodents, such as deer mice, shrews, and voles. They also eat insects and amphibians. They have been reported to take songbirds.

How it hunts: It is an ambush hunter, sitting on branches and then swooping down on any prey that passes close by. In winter, they will sometimes cache (store) uneaten prey and let it freeze. When they get hungry they will "brood" or sit on the frozen prey until it is thawed.

Fun Facts! When prey is plentiful, these owls have been known to eat only the heads of their prey.

Where you will see one: The saw-whet owl can be found across southern Canada and in most of the United States (with the exception of the southeastern states), and into Mexico. It is an owl of dense woods and is found mostly in coniferous or mixed hardwood forests. It nests in unlined cavities from about 15 to 60 feet up.

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Northern Saw-whet Owl Hidden Message

Use the key below to learn another name the Northern Saw-whet Owl has been called.

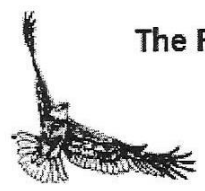


4 12 11

9 7 3 5 5 25 26

25 26 17

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
3	15	20	14	11	16	8	12	6	1	21	17	18	23	25	7	22	5	9	4	19	13	26	24	2	10



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Northern Saw-whet Owl Word Find

Find the words forward, backward, or diagonally!

D	F	O	C	O	N	I	F	E	R	O	U	S	F	O	R	E	S	T	S	O	B	J
R	A	N	S	H	K	J	T	P	P	R	B	H	J	M	G	Y	J	K	I	S	I	L
A	F	E	M	S	A	V	O	L	E	S	M	L	A	A	G	E	H	A	W	K	A	D
N	W	C	H	L	G	O	P	A	D	U	K	M	M	C	R	P	Y	U	N	B	D	O
D	M	V	C	N	H	J	S	B	E	N	J	U	R	X	A	Y	C	A	C	H	E	U
A	I	N	E	N	W	G	B	I	R	D	L	N	C	H	S	R	E	D	W	N	N	A
R	X	L	D	C	V	O	H	J	M	P	N	L	L	I	S	O	R	T	D	R	L	E
K	E	I	R	M	E	N	R	G	C	D	H	I	M	N	L	D	X	R	U	K	L	G
P	D	G	D	A	B	D	O	B	D	W	U	N	W	S	A	T	R	F	H	E	S	O
H	H	M	O	E	U	B	M	S	E	I	O	E	E	W	N	N	O	E	E	C	E	L
A	A	T	A	C	T	R	T	H	E	N	J	D	E	N	S	E	W	O	O	D	S	I
S	R	I	G	M	E	O	L	S	F	G	S	C	A	E	S	N	R	D	S	X	O	U
E	D	N	D	T	O	O	I	D	I	S	D	A	G	P	G	I	N	S	E	C	T	S
D	W	V	E	H	J	D	E	L	S	C	A	V	H	T	S	S	H	L	U	Y	E	A
R	O	E	E	H	A	X	X	F	U	C	W	I	D	I	G	Q	A	L	R	E	N	C
P	O	L	R	M	M	A	A	R	O	E	S	T	G	L	R	M	E	I	O	R	O	A
J	D	O	M	C	A	C	M	N	E	R	M	I	S	E	S	A	I	A	D	X	H	D
S	F	S	I	W	I	A	P	U	P	L	E	E	R	S	C	T	I	T	H	W	P	I
O	O	C	C	H	C	S	H	H	E	B	V	S	E	K	T	S	H	T	K	M	E	C
N	R	A	E	S	E	M	I	M	P	H	I	B	T	A	N	W	F	R	H	K	L	U
R	E	S	R	W	N	M	B	F	S	M	V	T	E	S	F	E	R	O	T	R	E	S
M	S	B	M	O	S	G	I	P	A	X	O	I	N	F	Y	R	W	H	H	K	T	F
E	T	L	T	L	I	G	A	T	P	H	A	S	E	L	G	H	Y	S	L	O	W	E
I	S	R	U	T	S	L	N	O	E	A	R	T	U	F	T	S	W	E	R	T	X	S
Z	H	N	Z	Q	U	U	S	J	L	Q	P	Y	U	N	B	D	O	W	E	R	T	J

Aegolius acadicus	Shrews	Brood
Brown Head	Voles	Dense Woods
No Ear Tufts	Insects	Coniferous Forests
Plumage	Amphibians	Mixed Hardwood Forests
Deer Mice	Cache	Unlined Cavities



The Raptor Center

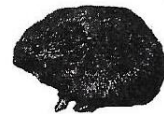
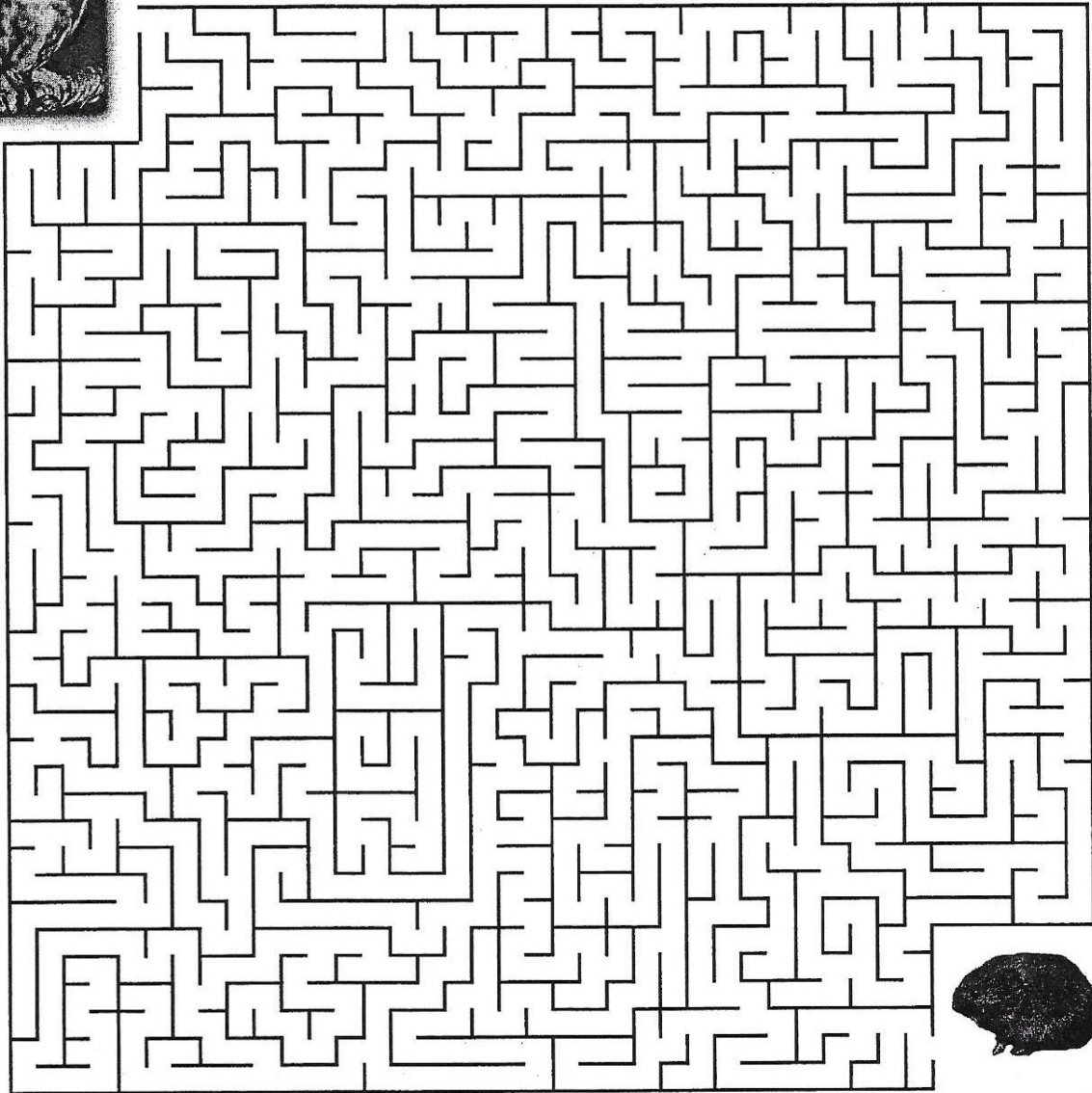
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Northern Saw-whet Owl Maze



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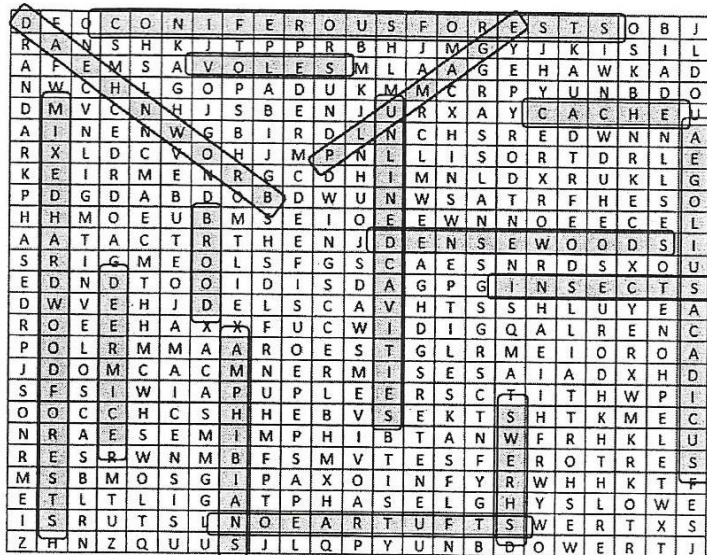
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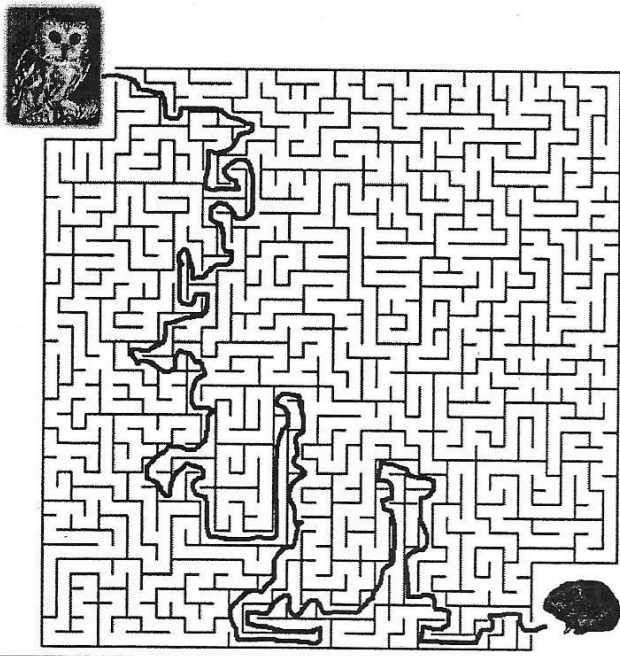
Northern Saw-whet Owl Activity Book - Answer Key



Word Find



Maze



The Raptor Center

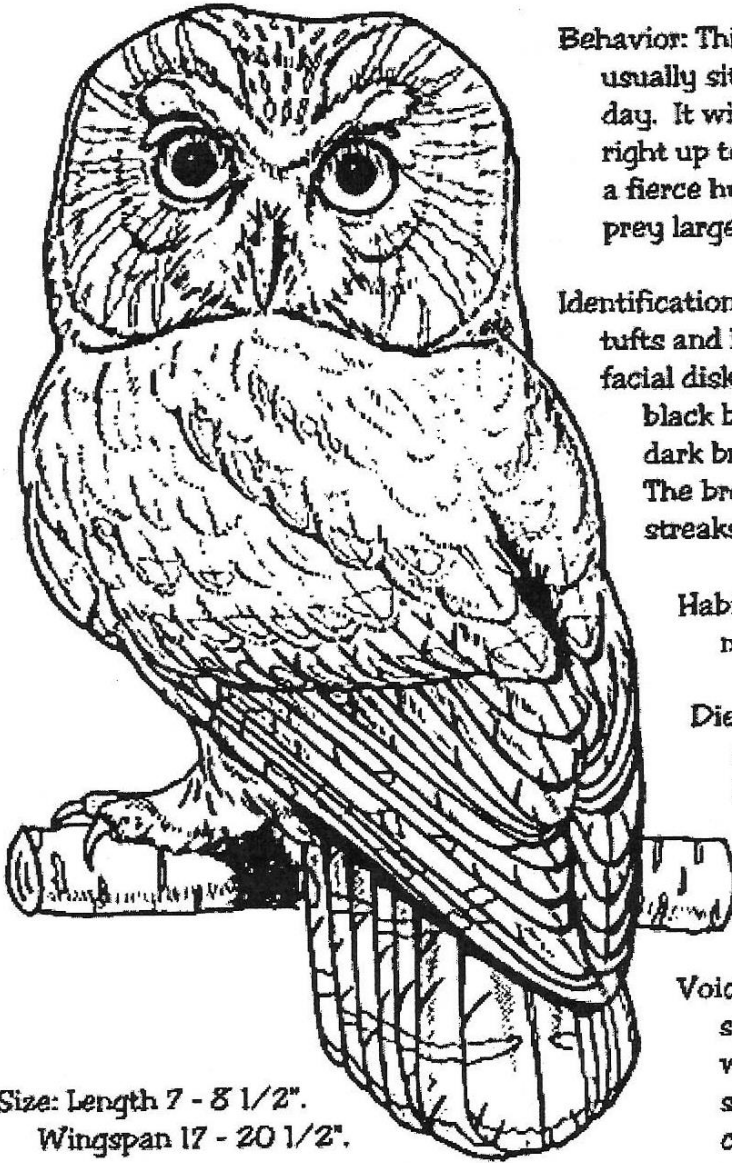
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Northern Saw-whet Owl



Size: Length 7 - 8 1/2".
Wingspan 17 - 20 1/2".

Behavior: This is a very tame owl that usually sits in a pine tree during the day. It will allow people to approach right up to it. Although small this is a fierce hunter, sometimes taking prey larger than itself.

Identification: This owl has no ear tufts and large yellow eyes. The facial disk is reddish brown with a black border. The forehead is dark brown with white streaking. The breast has thick reddish streaks.

Habitat: Coniferous and mixed forests.

Diet: mice, shrews, voles, chipmunks, bats, some birds, and insects.

Voice: During the breeding season it gives a low tooting whistling, about 2 per second. It carries on this continuous tooting for long periods of time.



Northern Saw-whet Owl Word Scramble

Unscramble the words below to learn something new about the Northern Saw-whet Owl.

Y T E H A E V H

— — — — — — — —

T E H R E D E F A

— — — — — — — — —

S O T E

— — — —



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Hidden Message

<u>T</u>	<u>H</u>	<u>E</u>					
4	12	11					
<u>S</u>	<u>P</u>	<u>A</u>	<u>R</u>	<u>R</u>	<u>O</u>	<u>W</u>	
9	7	3	5	5	25	26	
<u>O</u>	<u>W</u>	<u>L</u>					
25	26	17					



Word Scramble

Y	T	E	H		A	E	V	H
<u>T</u>	<u>H</u>	<u>E</u>	<u>Y</u>		<u>H</u>	<u>A</u>	<u>V</u>	<u>E</u>
T	E	H	R	E	D	E	F	A
<u>F</u>	<u>E</u>	<u>A</u>	<u>T</u>	<u>H</u>	<u>E</u>	<u>R</u>	<u>E</u>	<u>D</u>
S	O	T	E					
<u>T</u>	<u>O</u>	<u>E</u>	<u>S</u>					



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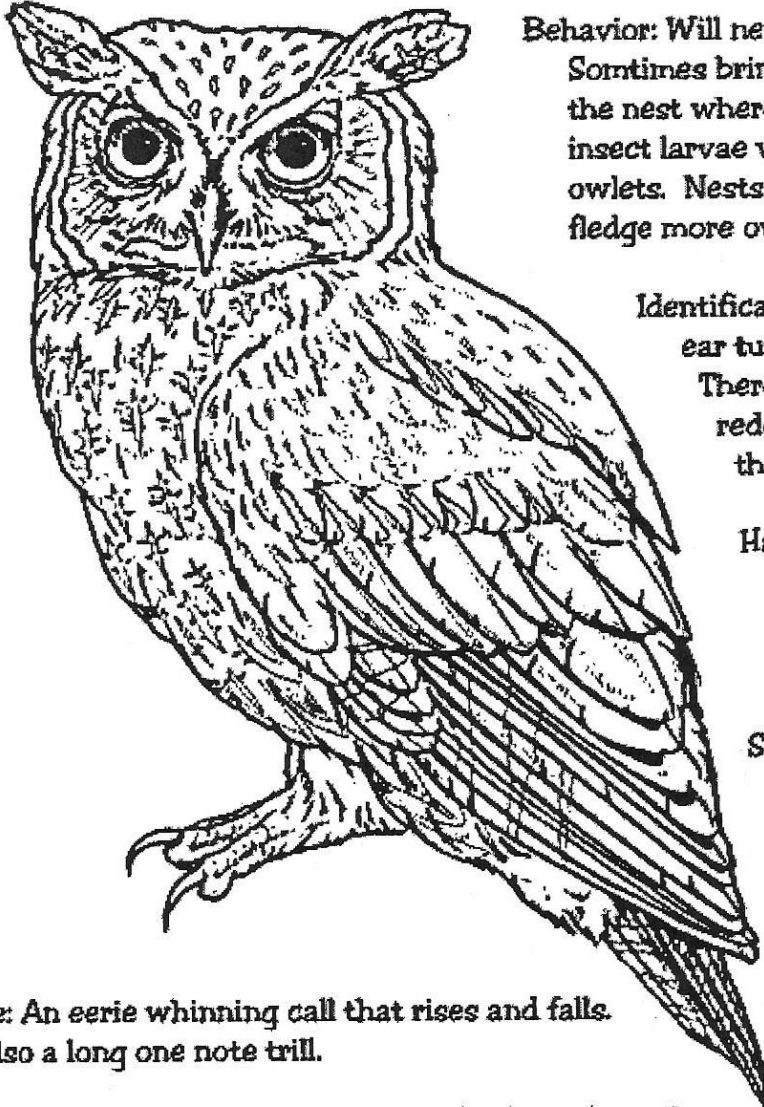
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Snowy Owl



Eastern Screech-Owl



Behavior: Will nest in man-made boxes. Sometimes brings Blind Snakes into the nest where they live by eating insect larvae which could harm the owlets. Nests with these snakes fledge more owls.

Identification: A small owl with ear tufts and yellow eyes. There are two color morphs: reddish and gray. In both, the breast is streaked.

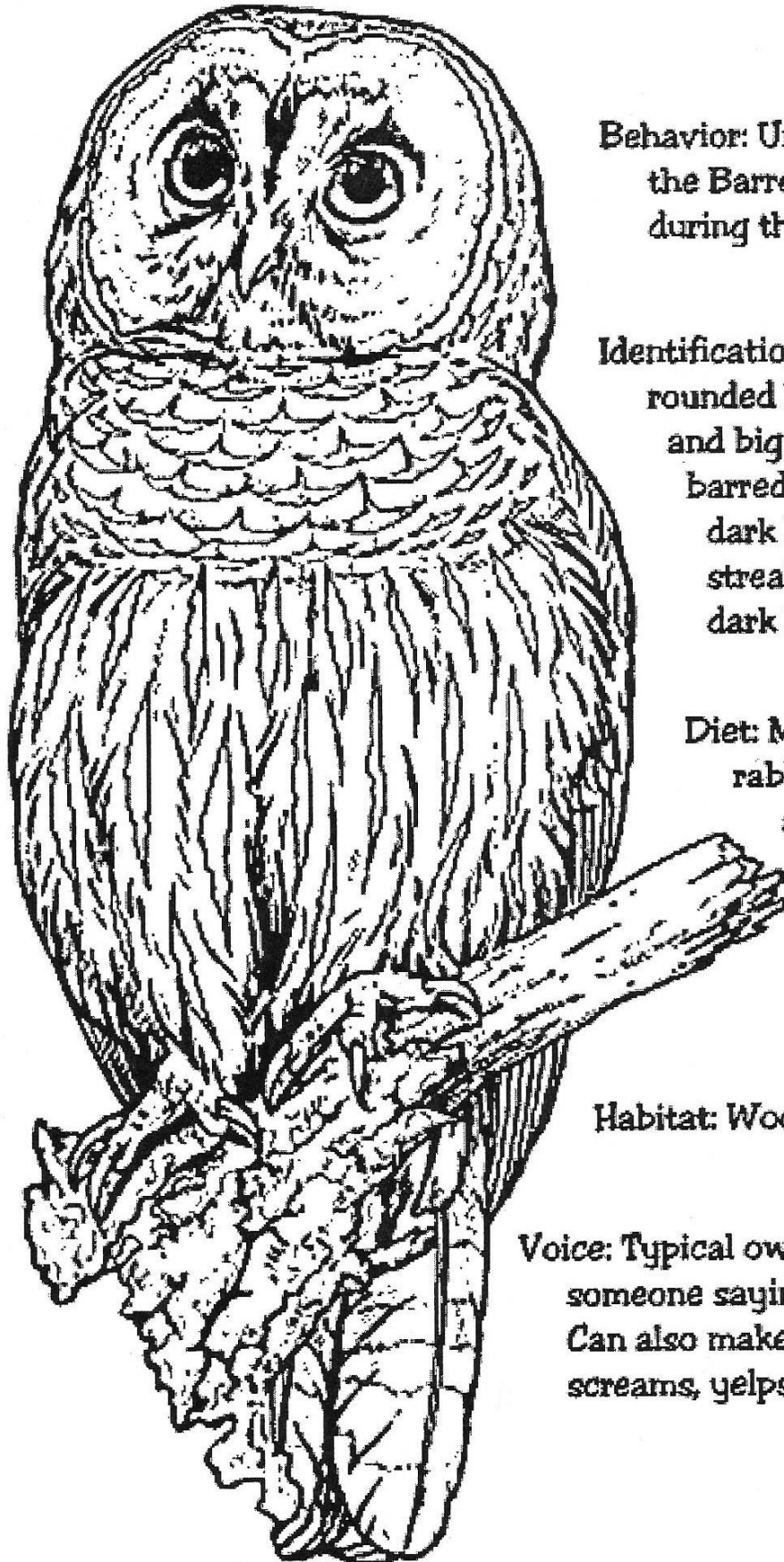
Habitat: Open woodlands, forests, towns, cemeteries, parks, scrub.

Size: Length 6 1/2 - 10"
Wingspan 18 - 24"

Voice: An eerie whinny call that rises and falls. Also a long one note trill.

Diet: Mice, insects, amphibians, some birds, and reptiles.

Barred Owl



Behavior: Unlike most other owls, the Barred Owl will call and hunt during the day.

Identification: This owl has a large rounded head with no ear tufts and big dark eyes. The chest is barred (horizontal lines) with dark brown while the belly is streaked (vertical lines) with dark brown.

Diet: Mice, squirrels, shrews, rabbits, amphibians, reptiles, and insects.

Size: Length 17 - 24"
Wingspan 40 - 50"

Habitat: Woods and wooded swamps.

Voice: Typical owl hooting that sounds like someone saying "Who cooks for you?". Can also make other sounds such as screams, yelps, and barks.

Great Horned Owl

Behavior: Begins breeding in early January, even in the north when the ground is covered with snow. Young leave the nest in Spring learning to hunt the young animals that are just beginning to appear. Can be found most often in the daytime when crows mob them while roosting.

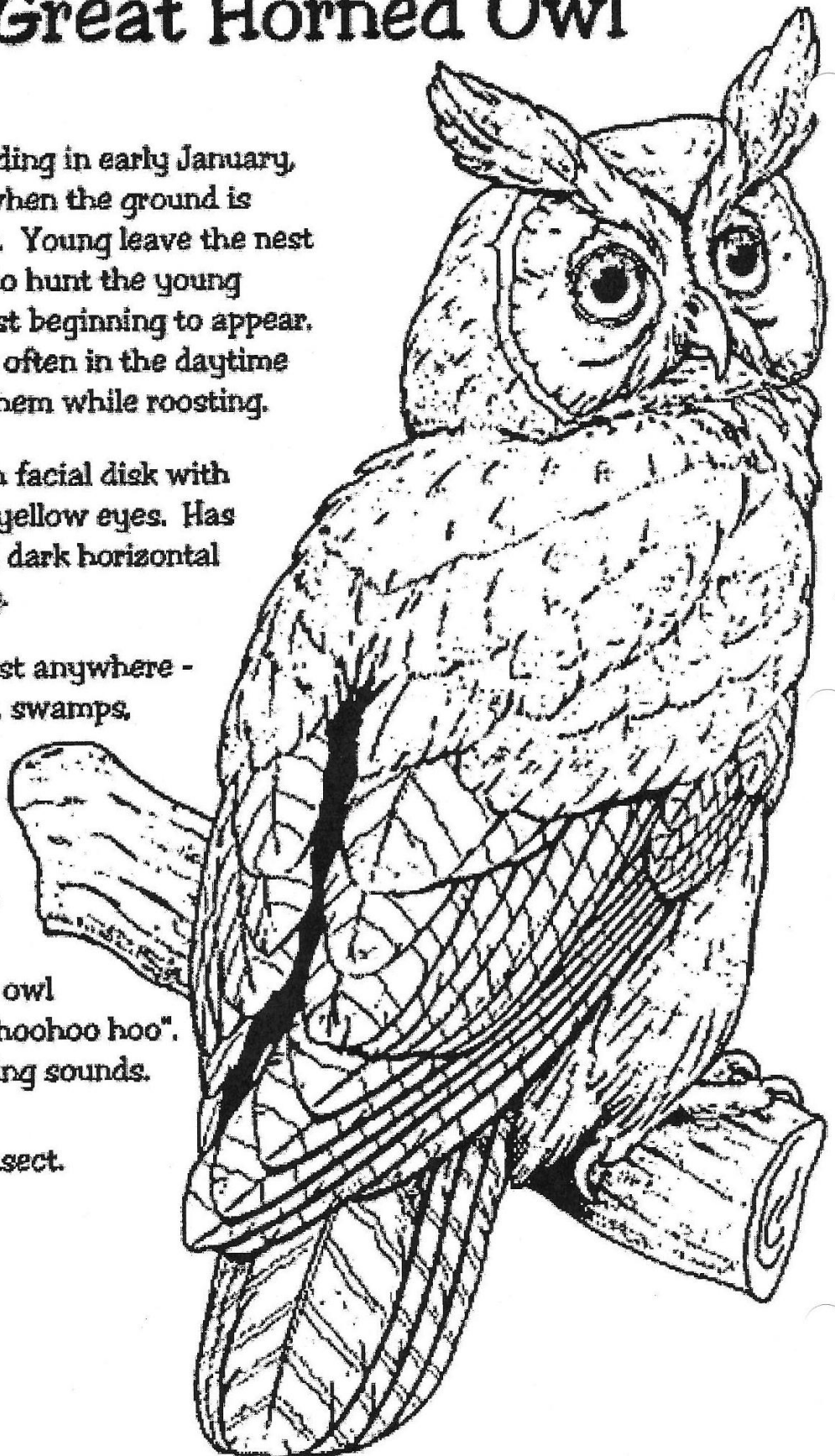
Identification: Reddish facial disk with dark ear tufts and yellow eyes. Has a white throat and dark horizontal barring on its belly.

Habitat: Can live almost anywhere - forests, woodlands, swamps, orchards, parks, deserts.

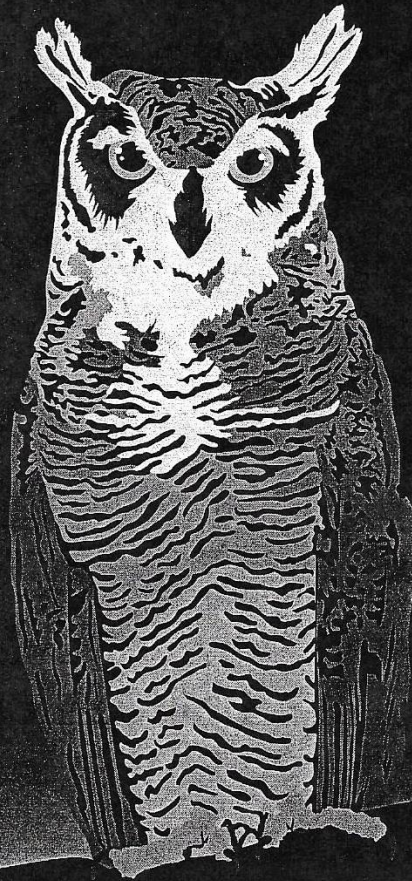
Size: Length 18 - 23"
Wingspan 35 - 52"

Voice: Gives a typical owl hoot, "hoo hoo hoo hoo hoo". Also makes shrieking sounds.

Diet: small rodents, insect.



Great Horned Owl



Great Horned Owls in Yellowstone National Park

Great horned owls are one species of owl found in Yellowstone. They are the heaviest American owl, weighing up to six pounds. They have a wingspan of 36 to 60 inches and are 17 to 25 inches tall. The colors of these owls vary, but they are usually dark and light brown or shades of gray striped. They have reddish brown or gray face feathers, large ear tufts, white patches on their chests, and bright yellow eyes. They even have feathers on their toes! They live 13 years in the wild but can live 38 years in captivity. In Yellowstone, their diet includes rodents, rabbits, and some fish. They are also known as "tiger owls."

Great horned owls are nocturnal and can be found perched in trees in Yellowstone watching for prey.

What did you learn about the great horned owls of Yellowstone?

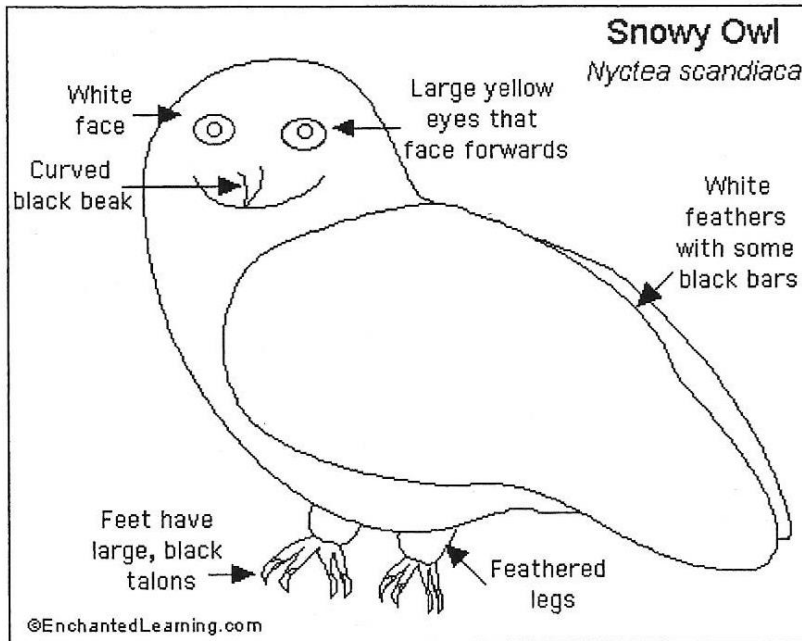
1. What is the wingspan of a great horned owl?

2. What is another name for great horned owls?

3. When do great horned owls hunt?



Snowy Owl



The snowy owl (*Nyctea scandiaca*) is a bird of prey that lives in the tundra of North America. This owl is diurnal (most active during the day).

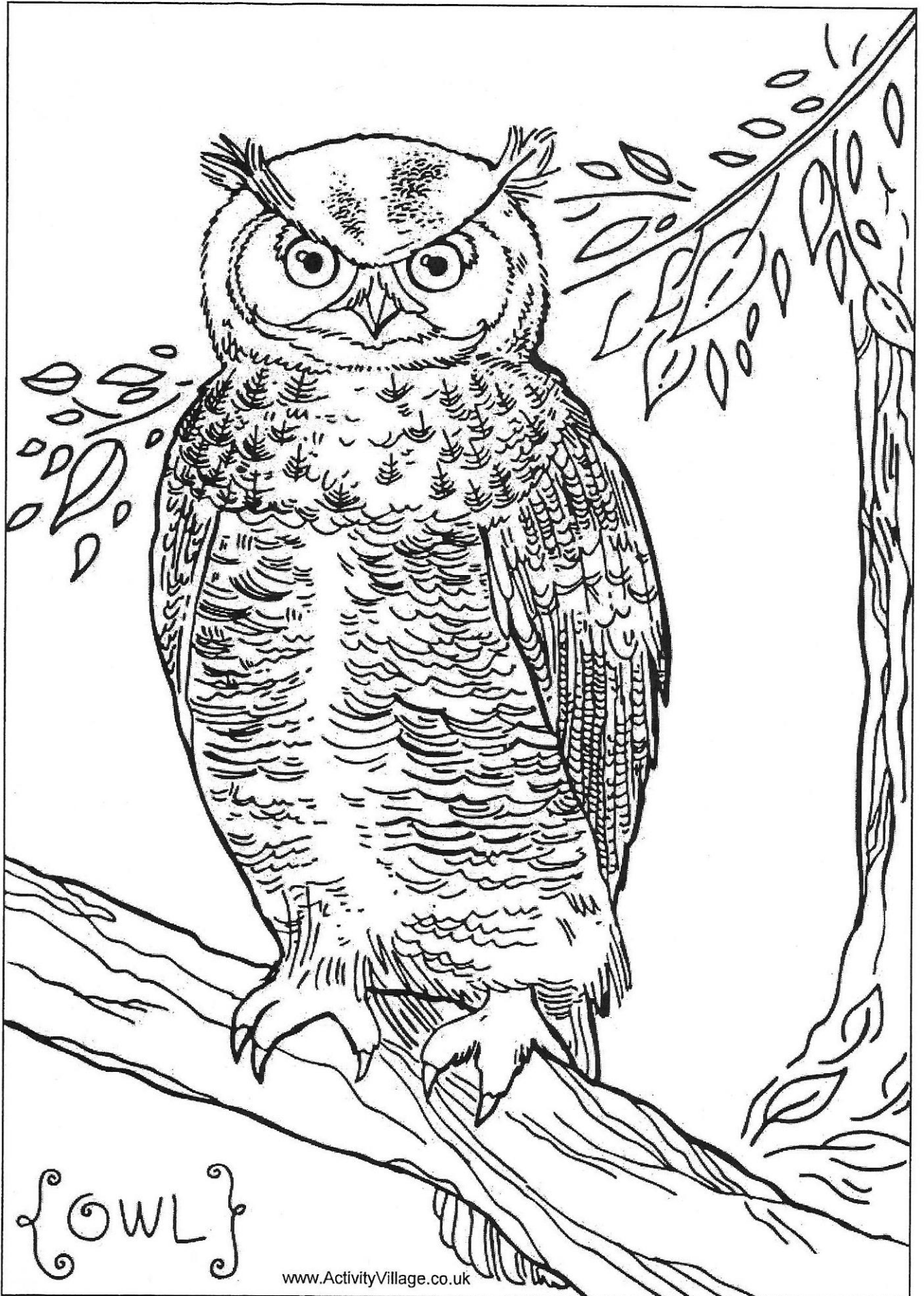
Anatomy: The snowy owl is 20 to 27 inches (50-68 cm) long and weighs 3.5 to 4.5 pounds (1.6 to 2 kg). The bill is black, the head is rounded, and the legs are heavily feathered. Snowy owls are almost all white with scattered dark spots. Males and females are

similar, but the male is whiter.

Eyes: Snowy owls have yellow eyes and very good vision. Owls cannot move their eyes within their sockets like we can. In order to look around, they have to move their entire head, which has a range of movement of about 270°. Owls have a large head and large eyes that face forwards (unlike other birds, whose eyes are on the sides of their head). This eye placement gives them binocular vision and very precise depth perception. Also, there are circles of radiating feathers surrounding each eye, giving them a wide-eyed, alert look.

Diet: Snowy owls are **carnivores** (meat-eaters) who are stealth hunters; they can easily sneak up on their prey since their fluffy feathers give them almost silent flight. Snowy owls hunt and eat small rodents like lemmings and voles. They also eat hares, rabbits, and large birds like ptarmigans, ducks, and geese.

Reproduction: Females lay 5-8 white eggs in a clutch. The nest is lined with moss, lichens and feathers; it is located on the exposed tundra.



{OWL}

5. A) *Note to Teacher: See note at the top of the first page.*

What body parts help owls catch and carry the small animals that they eat for food?

Suggested answer: sharp claws and a strong beak

- B) Draw a picture of an owl catching its food or carrying it away.

Suggested answer: Students' pictures may vary but should include an owl catching an animal with its sharp claws or carrying the animal away in its strong beak.

6. *Note to Teacher: See note at the top of the first page.*

What did you learn from "An Owl is a Bird"?

Suggested answer: Answers may vary and should be supported by the passage.

7. *Note to Teacher: See note at the top of the first page.*

Class Discussion Question: Explain why it might be important for an owl to fly quietly with its soft feathers while it is hunting for food.

Suggested answer: Students should infer that while the owl is flying and hunting for food, it is best if it can do so in a quiet manner so that the owl does not alert its prey of its presence. Thus, the owl is better able to catch its prey.

Great Horned Owl Biology

A Reference for North and Central American Owls

Great Horned Owl - *Bubo virginianus*



Other Common Names: Virginia Horned Owl (*virginianus*); Dusky Great Horned Owl (*saturatus*); Montana Great Horned Owl (*occidentalis*); Northwestern Great Horned Owl (*lagophonus*); Labrador Great Horned Owl (*heterocnemis*); St. Michael Great Horned Owl (*algistus*); Western Great Horned Owl (*pallescens*); Pacific Great Horned Owl (*pacificus*); Tundra Great Horned Owl (*subarticus*); hoot owl; chicken owl; eagle owl; king owl.

Subspecies: Strictly speaking the Great Horned Owl is only found in the Americas. It has sometimes been considered to be part of the Eurasian Eagle-Owl (*Bubo bubo*) species that is spread across Eurasia. There are currently 8 recognized races of Great Horned Owl in North America. There are 4 races that have been described but further study will be required. There are also 2 races in Central America and 2 in South America (a third was recently divided into its own species). *B. v. lagophonus* is found from Alaska south in the mountains to N. E. Oregon and as far east as W. Montana. The described race *algistus* is included here

although both northern populations of races *lagophonus* and N. E. Canada's *heterocnemis* race may not be separable with the western race *saturatus*.

B. v. saturatus is found along the Pacific coast from S. E. Alaska to N. California.

B. v. pacificus is found along the California coastline (except far north) and as far south as N. Baja California.

B. v. subarticus is found from E. British Columbia east to the Hudson Bay and south to at least the Northern U. S. The described race *occidentalis* of the Rocky Mountains has been included here. A mix with *lagophonus* or *pallescens* (or an unnamed race) may inhabit south to Arizona.

B. v. pallescens is found from C. and S. E. California east to W. Kansas and south to C. Mexico.

B. v. heterocnemis is found in N. E. Canada south to the Great Lakes. The described race *scalariventris* of Ontario and E. Manitoba has been included here.

B. v. virginianus is found from Minnesota south to E. Texas and east to the Atlantic from Prince Edward Island to Florida.

B. v. elachistus is found in Baja California.

B. v. mayensis is found on the Yucatan Peninsula.

Measurements and Weights:

Wingspan: 50 - 60 in.

Length: 18 - 25 in.

Tail: 6.9 - 9.9 in.

Average Weight:

Male: 46 1/2 oz.

Female: 61 oz.

Description: The Great Horned Owl is a large, powerful, and mostly nocturnal owl. It is also the only large owl with ear tufts. The smaller, medium sized Long-Eared Owl is similar in appearance although can be distinguished by its smaller size, slimmer shape, longer ear tufts, cross barred under parts, and different call (the Great Horned has a distinctive advertising hoot that 'might' only be confused with a Great Gray Owl). The Great Horned Owl is very widespread and common but can vary in color dramatically between

regions although its markings do remain reasonably constant and it always has prominent ear tufts. Its under parts have thin dark brown bars on a whitish base with the upper chest bars becoming somewhat blotchy. The throat has a bold white patch; white mustache and white to tan along the sides of the bill into the eyebrows. The prominent facial disk is bordered at the sides with black. The eyes are from lemon yellow to straw colored with a thin black border. The backside has fine dark mottling with dark bars on the primaries and tail. The races tend to get smaller in size from the northeast to the southwest. The races also tend to blend with their habitat in their coloration. The owl varies in overall and facial disk color from whitish to orange-buff to brownish-gray to dark brown. The northern members of the *subarticus* race being the lightest with a whitish facial disk and overall whitish-buff base color. The darkest race being the *saturatus* with a deep brown facial disk, chest, and base color to its backside.

Young: The young are similar in coloration with the adults although their barring and dark markings are not as crisp and defined, ear tufts smaller or not apparent. It also has a screech similar to a barn owl for a call.

Habitat: The Great Horned Owl has probably the most diverse habitat and climatic tolerance of any North American owl. It inhabits virtually every type of terrain in North America from sea level to 11,000-ft. elevation. Of the three main requirements being nesting sites, available prey, and roosting sites the Great Horned is very adaptable. If there is a preferred habitat it would include mature deciduous woods with scattered conifers for maximum roosting concealment, that border water with adjacent open habitats for hunting.

Food and Feeding: The Great Horned Owl has such a long and diverse variety of prey that it would not be practical to list. It is a very opportunistic forager that generally chooses a perch and scans for prey although it will glide over areas where prey is likely to be, it will walk on the ground, and it has even been reported to wade into the water. Scarcely anything that moves is safe from this owl. It will eat prey as small as insects and scorpions or as large as domestic cats, woodchucks, geese, and Great Blue Herons. This owl's diverse diet may include small mammals to rabbits, birds, and reptiles to fish and amphibians. It will take carrion when the weather is bad. It has one of the most powerful grips with its feet of any of the owls. It regularly preys on smaller owls and has been reported to attack and kill even Red-tailed Hawks. It has no predators and will eat anything from crayfish to young foxes.

Breeding: The Great Horned is the earliest nesting owl with breeding season from December to July depending on latitude. Because of its tremendously varied habitat, the Great Horned has developed flexibility in its nesting locations also. It usually nests in old stick nests of raptors or jays although depending on the habitat, it will also nest in caves, hollows of broken off snags, cliff ledges or faces, rock outcrops, abandoned quarries, crotches in cacti or holes in them, to mention but a few. Clutch size is normally small; 1 - 3 eggs (usually 2) but can have as many as 6 in years of abundant food. Incubation lasts 28 - 35 days (maybe temperature dependant). The young climb out on nearby branches at 5 - 6 weeks of age but do not fly well until they are about 10 weeks old. Subsequent parent care lasts for up to 5 months.

Movements and Life Span: The Great Horned Owl is generally regarded as sedentary except in the north of its range. Studies in Canada (Saskatchewan) show 17 of 35 recovered birds moving more than 150 miles with young birds more prone to travel than adults. Southern populations move very little. The Great Horned have potential for a very long life. Multiple studies show post-fledging mortality for the Great Horned is very high especially in the first 2 years of life. Natural causes include parasitism, disease, and starvation. Unfortunately the major causes of death are related to mankind with 52 - 86% of deaths in some banding studies caused by shooting and 19% by trapping (96% potentially intentionally caused by man). Other studies show 21% shooting deaths, 15% trapped, 20% hit by cars, and 7% electrocuted. Road kills, pesticides, illegal shootings, and electrocution are major causes of death in North America. The Great Horned Owl has a maximum recorded longevity record of more than 28 years.

Name: _____

Silent, Nighttime Hunters

By Guy Belleranti

Owls are raptors, or birds of prey. They are carnivores who quickly and silently swoop down on their prey from above. Most raptors such as eagles, hawks and falcons are day hunters. They use their sharp eyesight to spot small animals on the ground below. Owls, on the other hand, use their senses to hunt in a different way. Owls are nocturnal, which means they do their hunting at night.



Photo: The Common Great-Horned Owl lives in North America.

What do owls eat?

Prey usually includes small mammals, such as rodents, rabbits, mice, moles, and voles. They will also eat small lizards, frogs, insects, and even other birds.

A couple varieties, such as the Asian Fishing Owl, will even wait on the banks of rivers and creeks so they can swoop down to catch fish.

Worksheets!

Why do owls hunt at night?

An owl hunts after dark, when there's less competition from other predators. During the nighttime it's easier for an owl to fly around unseen.

Owls have special adaptations that allow them to hunt in darkness, when most other birds and large predators are asleep.

How does an owl capture and eat its prey?

Like all raptors, an owl has powerful talons on its feet and a sharp beak on its head. It uses its sharp talons to capture and hold small animals. Owls can swallow smaller prey whole. It uses its beak to tear larger prey into pieces before swallowing.

Because owls swallow prey whole or in large chunks, they regurgitate (spit up) undigested bone, fur, and feathers in the form of pellets.

How do any owl's keen senses help it to hunt at night?

The feathers around an owl's circular inset face catch and direct sound to its ears. In fact, an owl can hear a mouse 75 feet away!

Its soft feathers have a special shape that allow it to fly silently, so its prey can't hear it coming. Even the owl doesn't hear its own wings, making it easier to concentrate on hearing prey.

The owl's huge forward-facing eyes have the unique ability to see in low light. Its thin beak is low on the face and points downward, so it doesn't block the owl's view while catching prey.

Unlike a human, an owl can't move its eyes to look to the sides, but it can move its head $\frac{3}{4}$'s of the way around. This means an owl can see behind itself (us) by turning its head. How would you like to be able to do that?



Photo B: Notice the camouflage on this Tawny Owl.

Where do owls live?

Owls are found in deserts, grasslands, and forests all over the world. They are on every continent except Antarctica.

While most owls live in trees, some varieties of owls live in caves, mines, old buildings, and barns. Burrowing owls live in underground burrows.

Do owls have camouflage to help protect them from predators?

Yes, most owls have special coloring and patterns on their bodies to help them blend into their natural surroundings. Owls that live in trees often mimic the pattern of tree bark.

(See photo B.)

Snowy Owls live in the treeless tundra of the arctic. Their white coloring provides camouflage in these icy surroundings.

How big are owls?

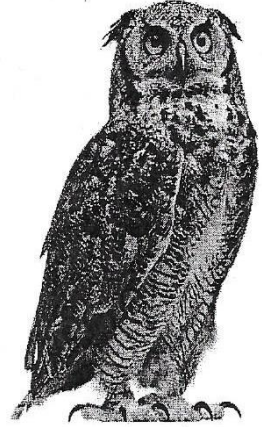
The Eurasian Eagle Owl, which lives across most of Europe and Asia, is one of the largest owl species. It has a six foot wingspan and can weigh nine pounds.

The Elf Owl, which lives in the deserts of Arizona and Mexico, is the world's smallest owl species. Its wingspan is usually under a foot. At only 1.9 ounces, it weighs less than a hot dog.

Name: _____

Silent, Nighttime Hunters

Reading Comprehension Questions



- Which sentence best describes how an owl eats its prey?
 - It rips the prey into tiny bits before eating.
 - It eats large chunks of its prey or swallows the animal whole.
 - It hides its food behind its wing when it eats.
 - It drinks water while it eats.

- An owl's beak is thin and low on its face. How does this adaptation help owls survive?

from

- According to the information in the article, what can a human do with his or her eyes that an owl can't?

Worksheets!

- On which continent do Common Great-Horned Owls live?

- Do Snowy Owls live in the Northern or Southern Hemisphere?

- Does the Eurasian Eagle Owl live in the Eastern or Western Hemisphere?

- What is an owl pellet?

- the part of an owl's body that it uses to make a hooting sound
- the part of an owl's body that it uses to smell its prey
- the part of an owl's prey that it does not swallow
- the part of an owl's prey that is spit up because it could not be digested

Name: _____

Silent, Nighttime Hunters

Vocabulary Activity



The scrambled words below are vocabulary words from the article. Unscramble each word and write it on the line. Please be sure each word is spelled correctly.

Can be

1. _____ ^{p o s a w}
purchased
hint: move rapidly down through the air

2. _____ ^{r e p o t}
from
hint: repeated design

3. _____ ^{s r o p e a t r d}
Superteacher
hint: hunters

Worksheets!

4. _____ ^{w r o r b u s}
hint: underground animal homes

5. _____ ^{m i c m i}
hint: copy

6. _____ ^{t l o s a n}
hint: bird's claws

7. _____ ^{c e t i n n o t n}
hint: large mass of land

Name: _____

Owl Pellet Dissection Activity

Owls are nighttime hunters who will eat small animals, such as mice, moles, voles, and even other birds. After the owl's body has digested its food, it will spit up the undigestible parts, such as bones, fur, and feathers. This owl's undigested food is coughed up in the form of an owl pellet.



Inside your owl pellet, you will find the bones of one or more small animals. You may find ribs, leg bones, back bones, or even skulls.

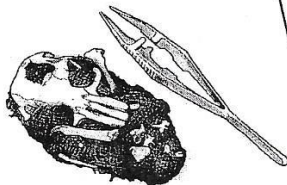
You are going to dissect your pellet and pull out as many bones as possible. If you're lucky, you may have enough bones to put together a whole animal skeleton.

Safety First

Your owl pellet is real, but it has been sanitized so it is safe for you to dissect. Even so, you'll want to be careful to stay clean. Always wear rubber gloves when dissecting your pellet. Never touch owl pellet parts to your face or mouth. Always wash your hands after you've handled an owl pellet or animal bones.

Work Slowly And Carefully

The bones in your owl pellet are very small. If you're not careful, you can lose or break them easily.

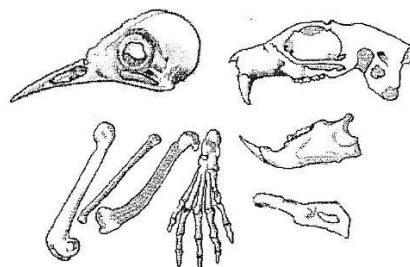


You will be given a pair of forceps and a probe. Use these tools to help you break apart your owl pellet and search for bones. Try to brush off as much of the hair, fur, and dirt as possible so you can see the shape of each bone.

Identifying the Bones

Look carefully at each bone. You may want to use a magnifying glass to see them more clearly. Try to match up the bones with the illustrations on the *Owl Pellet Bone Chart*. This will help to determine what type of animal skeleton you have found.

After you have recovered as many bones as possible, lay them out on a piece of paper. Try to build an entire animal skeleton. You may not have all of the necessary bones, but do the best you can.



The contents of each owl pellet will be different. Once in awhile an owl pellet may have more than one skeleton in it, or you may find only part of a skeleton. What types of bones will you find?

Owl Pellets: Teacher Notes

Appropriate Ages:

- Students of all ages enjoy owl pellets, and you can customize your lesson accordingly. A third or fourth grade teacher might choose to dissect owl pellets as part of a study of food chains and ecosystems. High school science teachers also use owl pellets for more advanced lessons on animal biology.

Purchasing Owl Pellets:

- Owl pellets can be ordered from educational supply stores. When you buy them in bulk, they may cost as little as \$2 or \$3 (USD) each.
- Larger pellets will cost more than small ones. Of course, large pellets usually contain more bones and bones from larger animals. Very small pellets sometimes do not contain a full animal skeleton.

Before the Dissection Activity:

- We recommend giving students some background on owls' hunting habits, and the owl digestive system. They should be aware that owls regurgitate undigestible animal matter in the form of an owl pellet.
- You may want to use the *Owl Pellet Sequencing* activity on SuperTeacherWorksheets.com.

Management Tips:

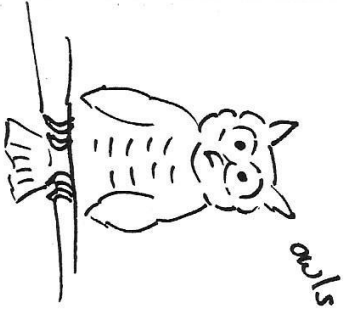
- It would be very difficult to complete an owl pellet lab in only one session. You may want to break up your owl pellet dissection lab into several class periods.
- Assembling animal skeletons can be difficult, especially if the pellet has skeletons from multiple animals in it. You may want to provide dark-colored construction paper for skeleton assembly. This will contrast against the white bones.
- When students have assembled a full skeleton, you may want to give them the option to glue it onto the paper with clear glue.
- Encourage students to work slowly and carefully. Rib bones break easily and can be difficult to dissect. Vertebrae are tiny and difficult to see, so students often overlook them.

More Fun Ideas:

- If you have a digital microscope attached to a classroom computer or interactive whiteboard with a document reader, you can allow students to examine the bones on a large screen.
- If you'd like the bones to be extra white, you may want to clean them and soak them in hydrogen peroxide. Of course, adult supervision is recommended.

Nocturnal

animals that hunt their food at night and rest during the day.



owls



mice



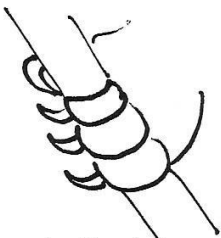
bats

Raccoons
Opossum
rats
voles
Skunks

Talons/Beaks



Beaks are sharp and hooked.



talons are razor sharp and hooked

These special parts help them catch, hold, and kill their prey.

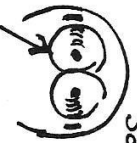
Wings/Ears



tufts (Not Ears)

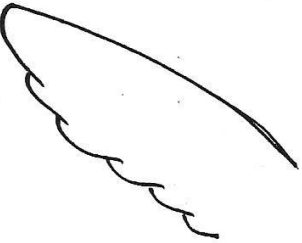
ears

Ears are on the sides of head.



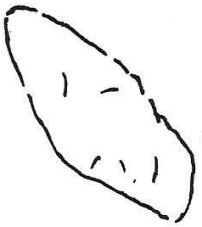
Saw-whet owl

feathers - they help the owls hear



Wings have special soft feather so owl can move. It's!

Owl Pellets



owl pellets are regurgitated parts of prey.

Inside you will find skulls, ribs, legs, beaks and vertebrae from small animals, like mice, voles, and birds.

Remove and place in mouse trap when you find them

Nocturnal

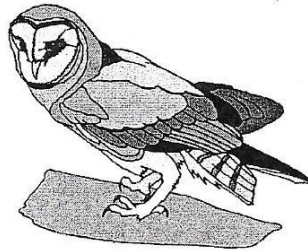
Talons/Beaks

Wings/Ears

Owl Pellets

Name _____ Date _____

OWLS



An owl is a bird. There are two basic types of owls: typical owls and barn owls. Owls live in almost every country of the world.

Owls are mostly **nocturnal**, meaning they are awake at night. Owls are **predators**- they hunt the food that they eat. Owls hunt for mice and other small mammals, insects, and even fish. Owls are well adapted for hunting. Their soft, fluffy feathers make their flight nearly silent. They have very good hearing, which helps them to hunt well in the darkness. The sharp hooked beaks and claws of the owl make it very easy to tear apart prey quickly, although owls also eat some prey whole.

Owl eyes are unusual. Like most predators, both of the owl's eyes face front. The owl cannot move its eyes. Owls are far-sighted, which means they can see very well far away... but they can't see up close very well at all. Fortunately, their distant vision is what they use for hunting, and they can see far away even in low light. Owls have **facial disks** around their eyes, tufts of feathers in a circle around each eye. These facial disks are thought to help with the owl's hearing.

Owls can turn their heads 180 degrees. This makes it look like they might be able to turn their heads all the way around, but 180 degrees is all the owl needs to see what's going on all around him.

Perhaps because of the owl's mysterious appearance, especially its round eyes and flexible neck, there are a lot of myths and superstitions about owls. Many cultures believe that owls are unusually wise. Because owls are nocturnal, some cultures associate owls with bad omens. The screech of the barn owl is considered by many to sound eerily human, like a person screaming. However, owls probably do not interact with the fates of humans at all. In fact, some owl species may become extinct because of humans.

Name _____ Date _____

ANSWER THE FOLLOWING QUESTIONS ABOUT OWLS

1. Which of the following is NOT true about owls?
 - a. Owls eat small animals.
 - b. Owls are able to fly silently.
 - c. Owls have the best hearing of all birds.
 - d. Owls have poor vision

2. What is the eyesight of the owl used for?
 - a. flying
 - b. hunting
 - c. sleeping
 - d. none of these

3. What is the purpose of this story?
 - a. to entertain
 - b. to inform
 - c. to persuade
 - d. none of these

4. What would be a good title for this story?
 - a. Owls Hunt At Night
 - b. Owls Can Fly Silently
 - c. Owls Are Interesting Animals
 - d. Owls Have Flexible Necks

5. What is a predator?
 - a. a small feather
 - b. an animal that hunts other animals
 - c. a small mouse
 - d. none of these

6. Which of the following IS true?
 - a. The facial disks of the owl help them to see.
 - b. Owls have a strong, bent beak.
 - c. Most owls hunt for food during the day.
 - d. Owls are dangerous to humans.

7. Why does it look like an owl can turn its head completely around?
 - a. They are able to turn their heads very quickly.
 - b. They have ears located on the sides of their head.
 - c. They can turn their heads 1/2 of the way around.
 - d. both a and c

• Reading Comprehension 3 Level 4

Directions: Read the passage. Then answer the questions below.

Most human beings are awake during the day and sleep all night. Owls live the opposite way. Owls are nocturnal. This means that they sleep all day and stay awake at night. Because owls are nocturnal, this means they must eat at night. But finding food in the dark is difficult. To help them, they have special eyes and ears.

Owls have very large eyes. These eyes absorb more light than normal. Since there is little light during the night, it is helpful to be able to absorb more of it. This helps owls find food in the dark.

Owls also have very good hearing. Even when owls are in the trees, they can hear small animals moving in the grass below. This helps owls catch their prey even when it is very dark.

Like owls, mice are also nocturnal animals. Mice have an excellent sense of smell. This helps them find food in the dark.

Being nocturnal helps mice to hide from the many different animals that want to eat them. Most of the birds, snakes, and lizards that like to eat mice sleep at night—except, of course, owls!

Questions

- 1) In paragraph 1, we learn that "Owls are nocturnal." The word *diurnal* is the opposite of the word **nocturnal**. Using information in the passage as a guide, we can understand that an animal that is *diurnal*
 - A. sleeps at night and is awake during the day
 - B. hunts during the day and is awake at night
 - C. sleeps every other night and is awake during the day
 - D. hunts during the day and night

- 2) Based on information in paragraph 2, it can be understood that an animal with small eyes
 - A. must be diurnal
 - B. has trouble seeing in the dark
 - C. can see very well at night
 - D. is likely to be eaten by an owl

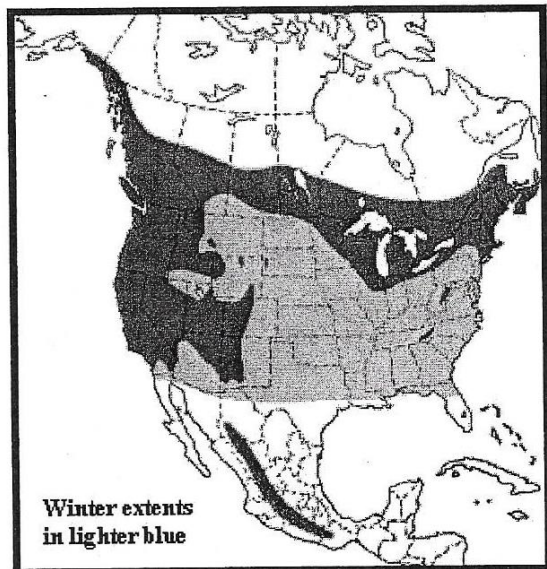
- 3) According to the passage, owls can find food in the dark using their sense of
 - I. sight
 - II. sound
 - III. smell
 - A. I only
 - B. I and II only
 - C. II and III only
 - D. I, II, and III

- 4) In paragraph 3 the author writes, "This helps owls catch their prey even when it is very dark." Based on its use in the passage, we can understand that **prey** is
- A. a noise that an animal makes during the night
 - B. a small animal such as a pet dog or cat
 - C. an animal that is hunted by other animals
 - D. an animals that hunts other animals
- 5) Based on information in the final paragraph, it can be understood that mice sleep during the day in order to
- A. find food that other animals can not
 - B. keep themselves safe
 - C. store energy for night time activities
 - D. release stress
- 6) Based on information in the final paragraph, it can be understood that
- A. owls hunt mice
 - B. mice can hide from owls
 - C. mice and owls both hide from birds, snakes, and lizards
 - D. birds and snakes often hunt lizards
- 7) If added to the end of this passage, which of the following conclusions would fit best?
- A. The owl is a nocturnal animal. This means it is active at night. The owl's excellent sense of sight and sound enable it to find food in the dark.
 - B. Mice are nocturnal animals. This means they are active at night. Similar to the owl, mice use their excellent sense of smell to find food in the dark.
 - C. Both mice and owls are nocturnal. This means they are active at night. Because these animals are active at night, they must sleep during the day. This makes them especially vulnerable to attack from diurnal animals.
 - D. Some animals are nocturnal. This means they are active at night. The owl and the mouse are good examples of nocturnal animals that use their senses to find food in the dark.

Northern Saw-whet Owl Biology

A Reference for North and Central American Owls

Northern Saw-whet Owl - *Aegolius acadicus*



Other Common Names: Acadian Owl (*acadicus*); Queen Charlotte Owl (*brooksi*); Kirkland's Owl; Saw-filer; Whetsaw; White-fronted Owl; Sparrow Owl.

Subspecies: There is only one recognized race of Northern Saw-whet Owl on mainland North America and Mexico. There is another recognized race that is restricted to the Queen Charlotte Islands of British Columbia. These are the only two races of Northern Saw-whet Owl. The Saw-whet Owls are found nowhere else in the world but there is another species of Saw-whet Owl found in Central America (Unspotted Saw-whet Owl - *Aegolius ridgwayi*) that appear somewhat similar to the deep brown *brooksi* race of the Charlotte Islands.

A. a. acadicus is found from Southern Alaska south to Southern California and New Mexico. It also stretches from British Columbia to the East Coast of Canada and through the Northeastern U. S. In its winter range the Saw-whet stretches across the Southern U. S. and into

some of Northern Mexico. There are also resident birds in the Central Mexican Highlands.

Measurements and Weights:

Wingspan: 17 - 20 in.

Length: 7 - 8.5 in.

Tail 2.5 - 2.9 in.

Average Weight:

Male: 2.7 oz.

Female: 3.25 oz.

Description: This is a small owl that lacks ear tufts. The Saw-whet has a proportionately large head and prominent facial disk. The color of the Saw-whet varies as far as the amount of cinnamon or red tones in its rich dark brown backside. It has scattered large white spots on its nape and backside (scapulars, primaries, and secondaries). Its crown has fine white streaks and the tail has 2 to 3 broken white bars. Its under parts are white with thick reddish-brown streaks (noticeably more reddish or cinnamon in color than the backside). The prominent facial disk varies in its amount of white in the disk although can be a light tannish-brown. Above bill and eyebrows white sometime referred to a conspicuous white "V" from the base of the bill up and over the eyes (the amount of white in the disk also determines how obvious this is). The bill is black and the iris is lemon yellow. The *brooksi* race is darker, has fewer white markings, and orange-buff under parts. The noticeable distinctions between the similar but slightly larger Boreal Owl (that often inhabits the same range) are: the Saw-whet's black bill and Boreal's yellow bill; the streaks on the Saw-whet's crown versus spots on the Boreal's; the Saw-whet also lacks the black outer facial rim of the Boreal Owl.

Young: The juveniles lack the white marking on the backside except for small amounts on the wings and

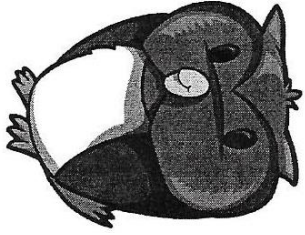
tail. The undersides (lower chest, flanks, and belly) are tan to light brown. The upper chest and head are darker brown (appears to be wearing a dark brown hood). The facial disk is black or brownish-black. Strong contrasting white above the bill and into the eyebrows (bold white "V"). Variable amount of white also below the eyes, sides of the bill (cheeks), and into the mustache.

Habitat: The Saw-whet Owl is a forest or woodland inhabitant of varied elevation and vegetation. The eastern birds are often found (at least in the winter) at lower elevations although the Saw-whets in the coastal ranges of the Pacific can inhabit very low elevations also. In general western birds are associated with mature forests from 1,000 to more than 10,000 feet in elevation. Lower habitats may be used in the winter months. The birds seem to avoid large unbroken stands of pine and prefer a mix with deciduous trees. It is said to be quite tame and approachable in the daytime where it will often perch quite low (maybe as low as 5 feet off the ground). Winter roosts can take allot of searching to find, since it disperses widely, although they may be used year after year and may show large concentrations of pellets and white wash.

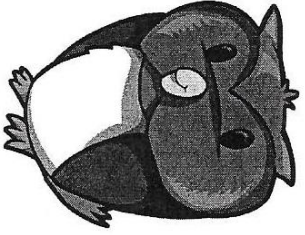
Food and Feeding: The Saw-whet's diet consists mostly of mice although other small mammals and some birds will also be eaten. Usually 70 to 80% of their diet consists of woodland mice with voles being favored second. The remainder of their diet consists of other small mammals and a small percentage of birds. The *brooksi* race is also known to take significant amounts of invertebrates including spiders, insects, and amphipods (marine crustaceans). This small owl has also been reported to take mammals as large as flying squirrels and birds as large as Rock Doves and Northern Cardinals. It has very good night vision and exceptional hearing.

Breeding: This small owl nests almost exclusively in woodpecker holes with Northern Flicker holes being preferred most. The breeding season lasts from about March through July and this is the only period when the birds are vocal. The remainder of the year the birds are completely quiet which can make locating them very difficult outside of breeding season except in areas where they tend to collect during migration. Clutch size is generally 5 to 6 eggs although 4 to 7 are common. The incubation period is 26 - 29 days and the young fledge at 27 -34 days old. The female leaves the nest when the youngest nestling is about 18 days old to roost elsewhere. The male will continue to feed the young, even after the female is gone, for at least a month after fledging.

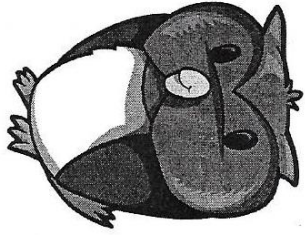
Movements and Life Span: The Saw-whet is often resident in its breeding range, particularly in the west. The northern and eastern populations tend to at least partially, move south in the winter. These movements extend into the Southern States and even into Northern Mexico. This is thought to be the most migratory of the non-insectivorous owls in North America although most of the movements have only been studied in the east and much of the western birds are only altitudinally migrant. Most migrants are also juvenile birds. Fall migration extends from September to December and spring movements are from March to June. The longest recorded life span for a wild owl is only 7 years although captive owls have lived for 17 years.



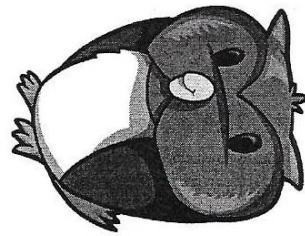
www.ActivityVillage.co.uk



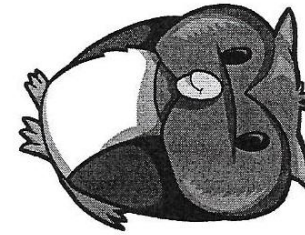
www.ActivityVillage.co.uk



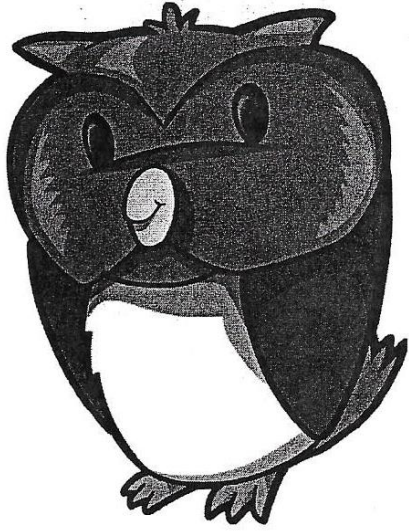
www.ActivityVillage.co.uk



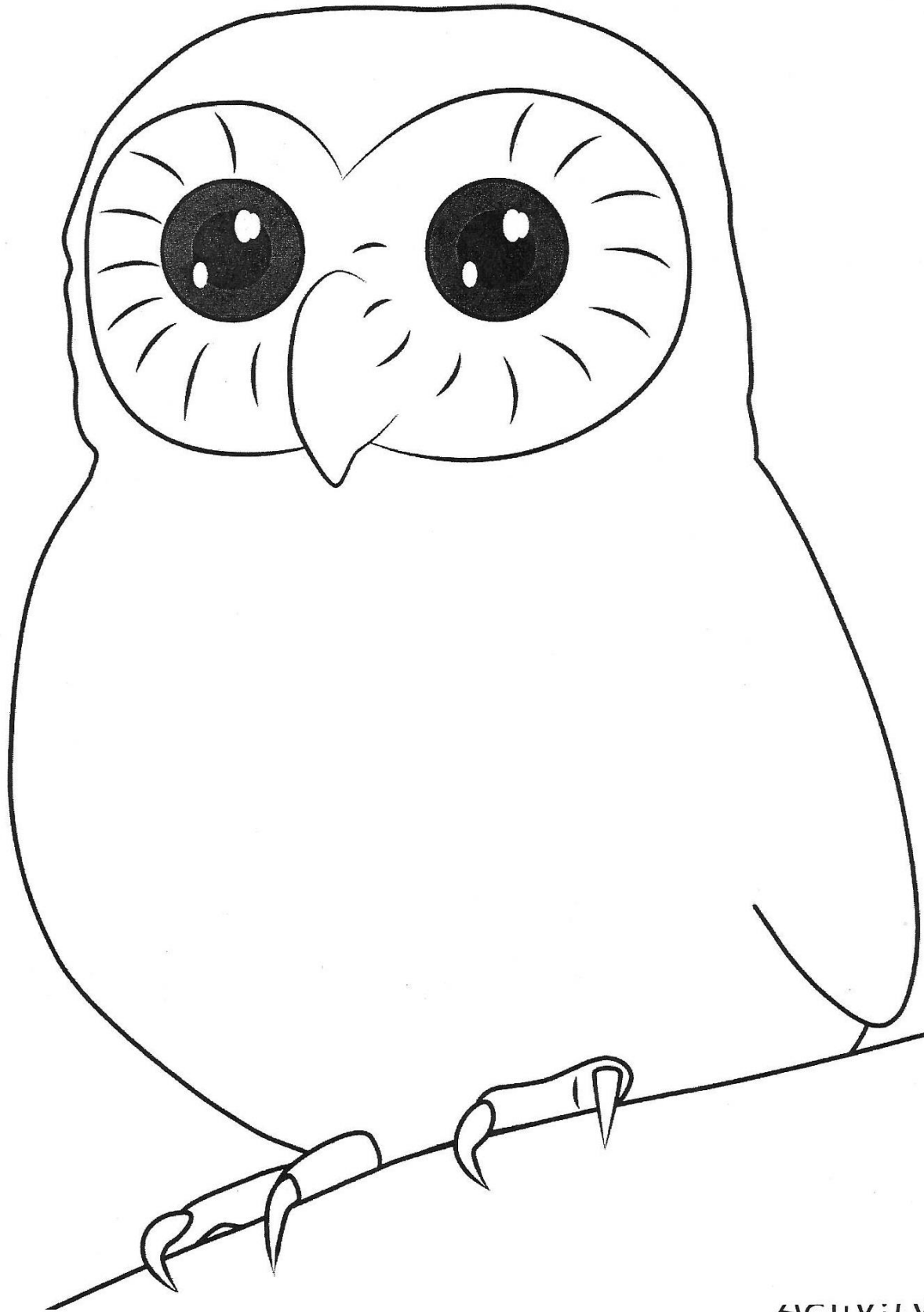
www.ActivityVillage.co.uk

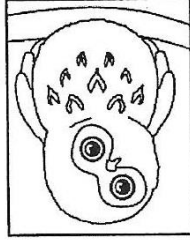


www.ActivityVillage.co.uk

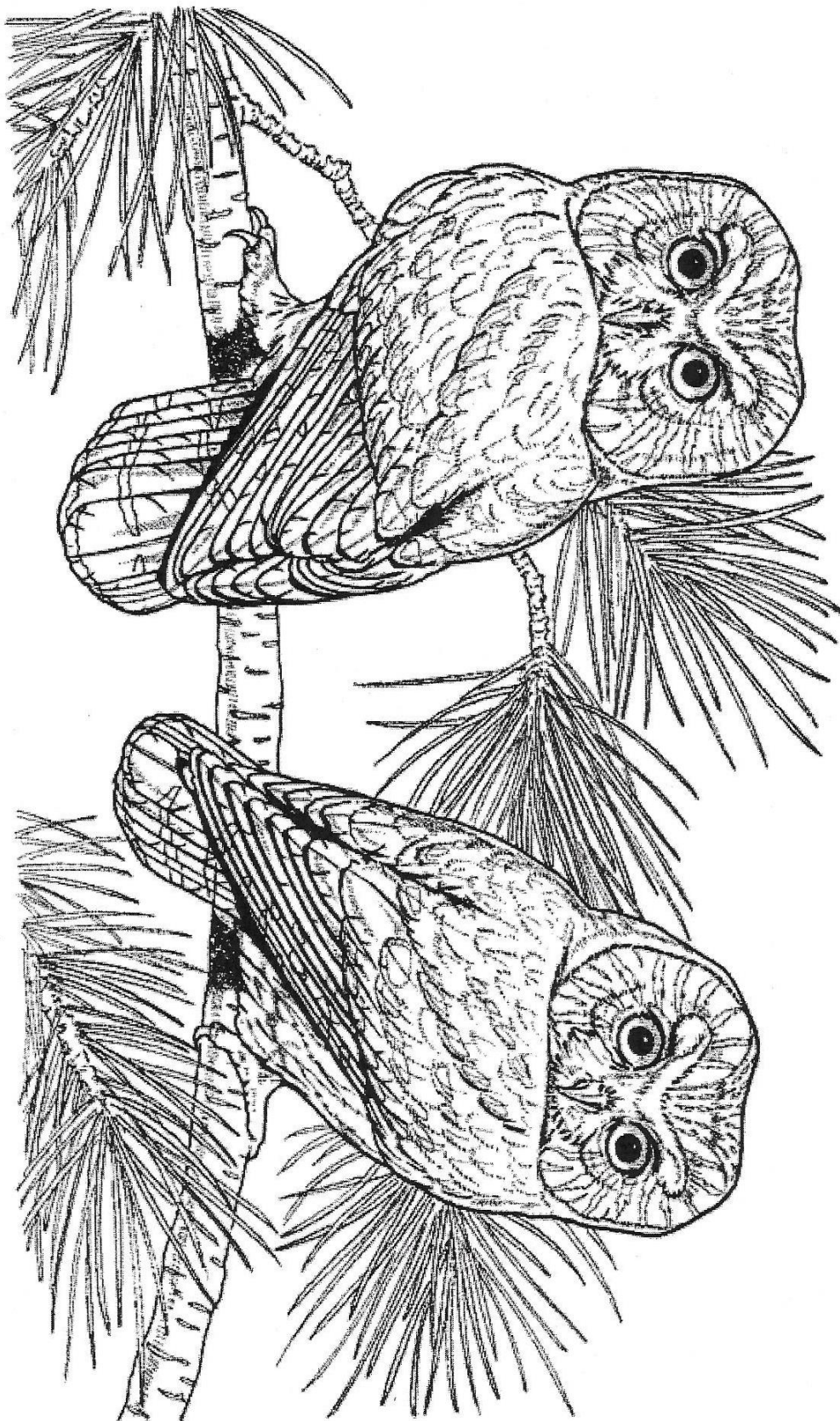




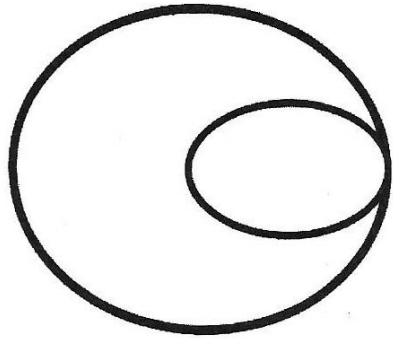




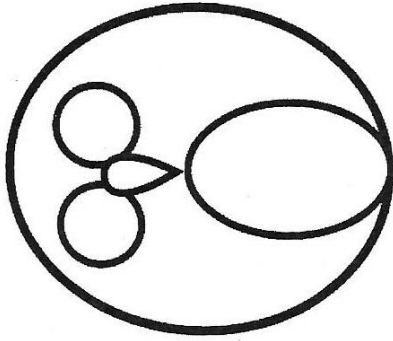
Northern Saw-Whet Owls



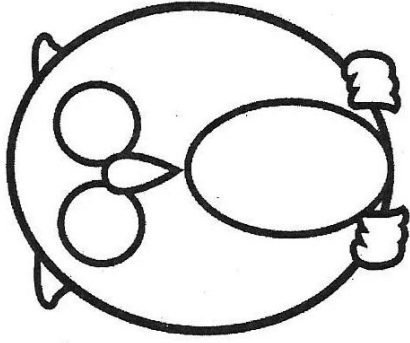
Learn to Draw an Owl



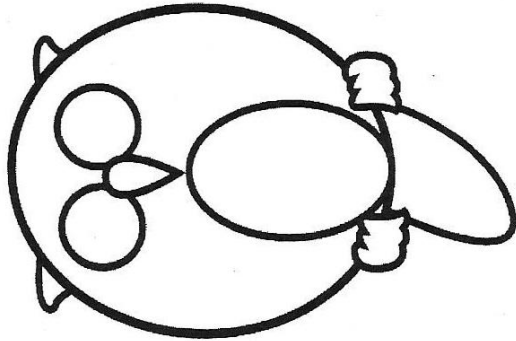
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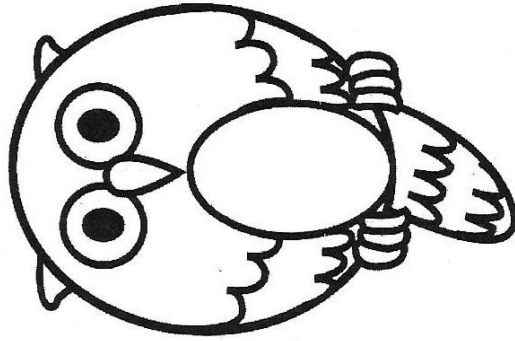
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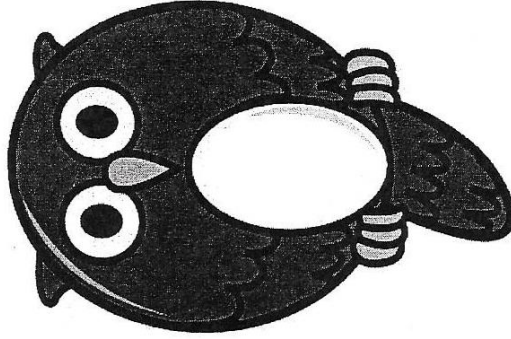
3



4



5



6

HOW TO DRAW AN OWL

1



2



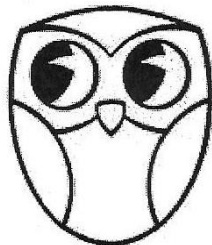
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4



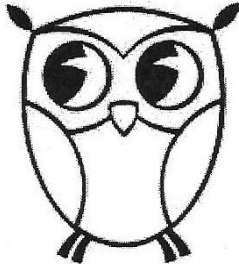
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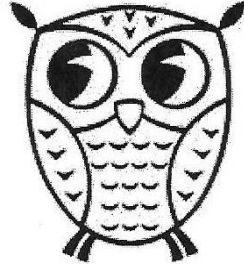
6



7



8



HOW TO DRAW AN OWL

1



2



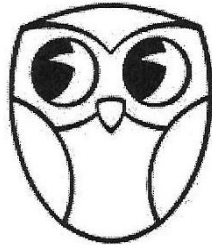
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4



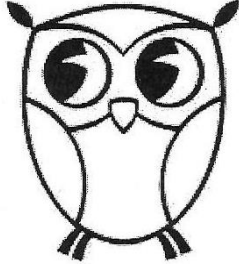
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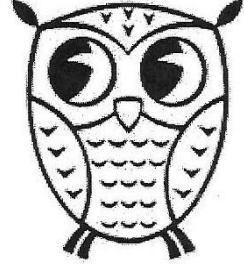
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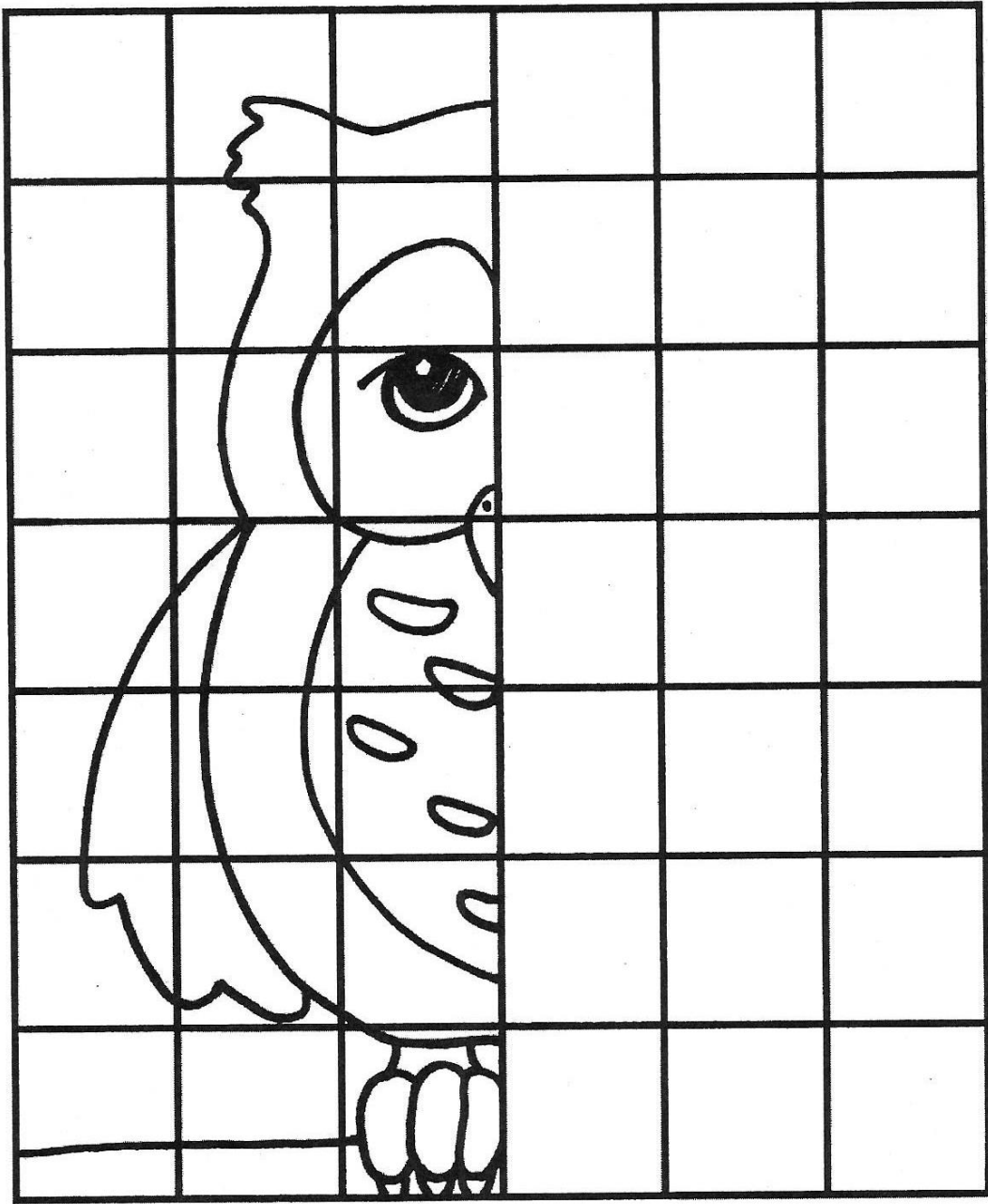


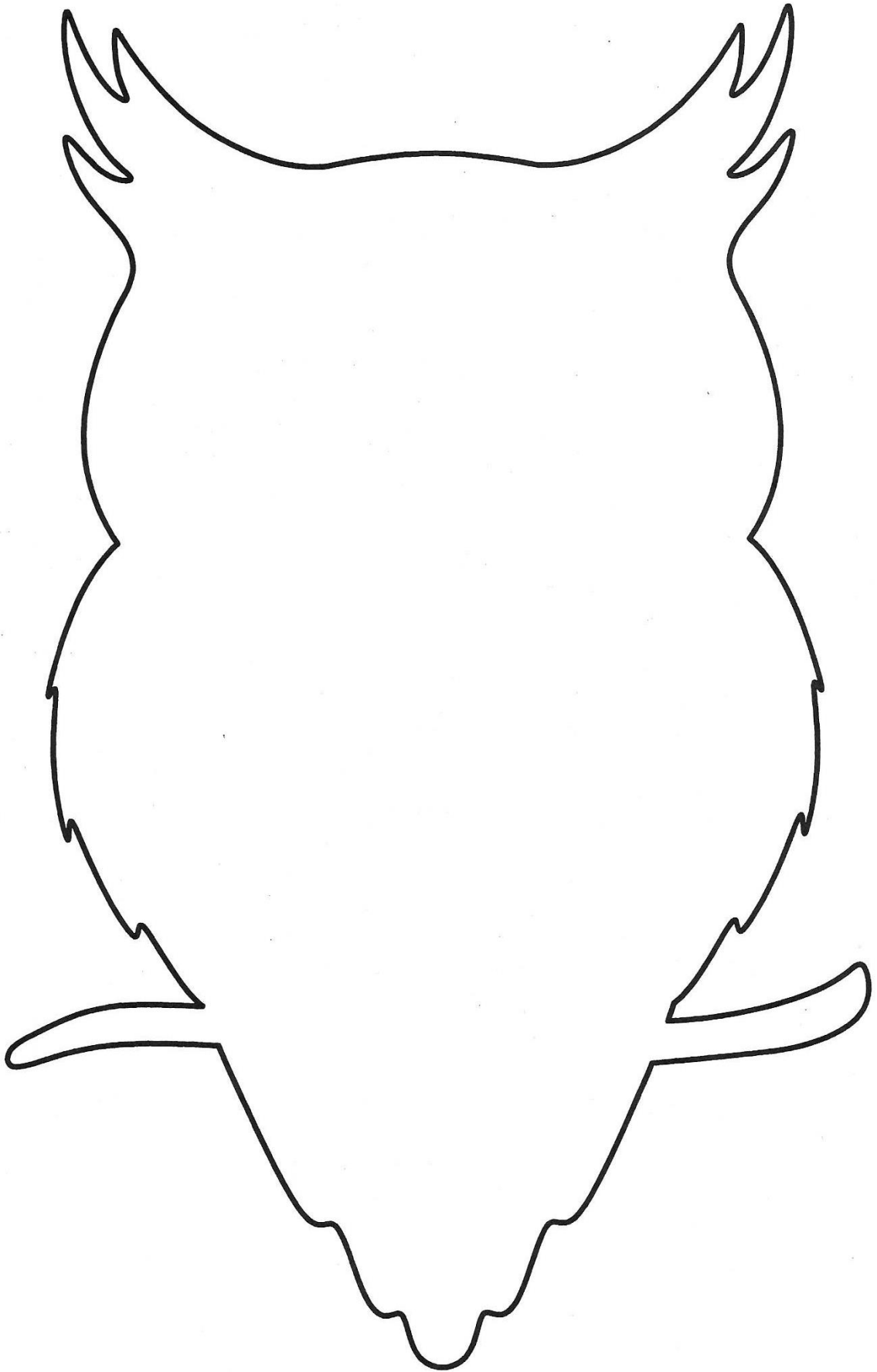
7



8







Pinecone Owlet Craft/Ornament

Supplies:

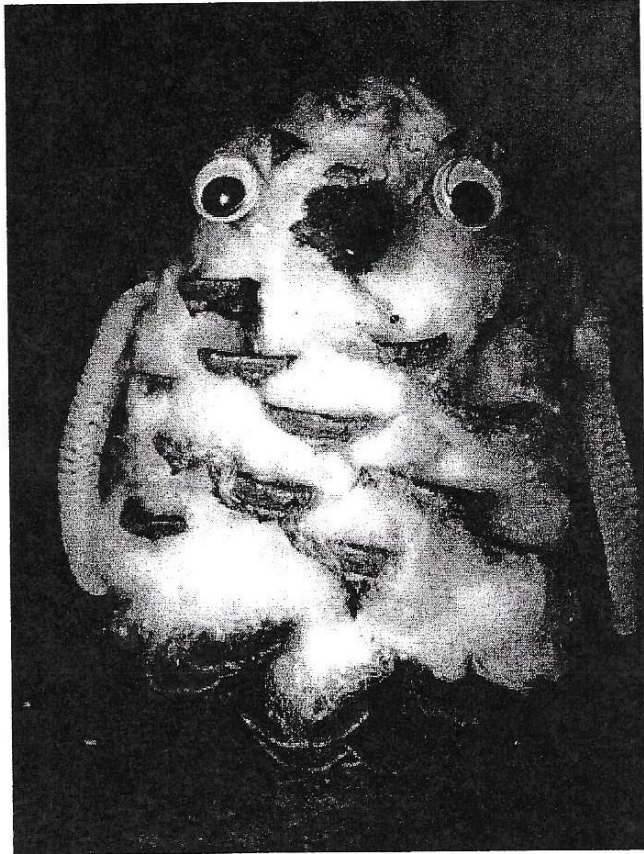
Pinecone (short fat kind)

Cotton balls

Google Eyes

Orange Construction Paper

White Feathers



Instructions:

1. Pull apart cotton balls and stuff into pinecone. Go slowly and push little pieces deep into pinecone to look like downy feathers.
2. Add google eyes and a triangle beak.
3. Glue two small white feathers to sides as little wings.

Optional

- A. Owlet can be used as an ornament by hot gluing the pinecone to a spring clothespin before starting the project (or after).
- B. Owlet can also be hung by tying or gluing a string to top.



Put String Through Holes

Printable OWL MASK

© 2009-2010 AnimalJr.com

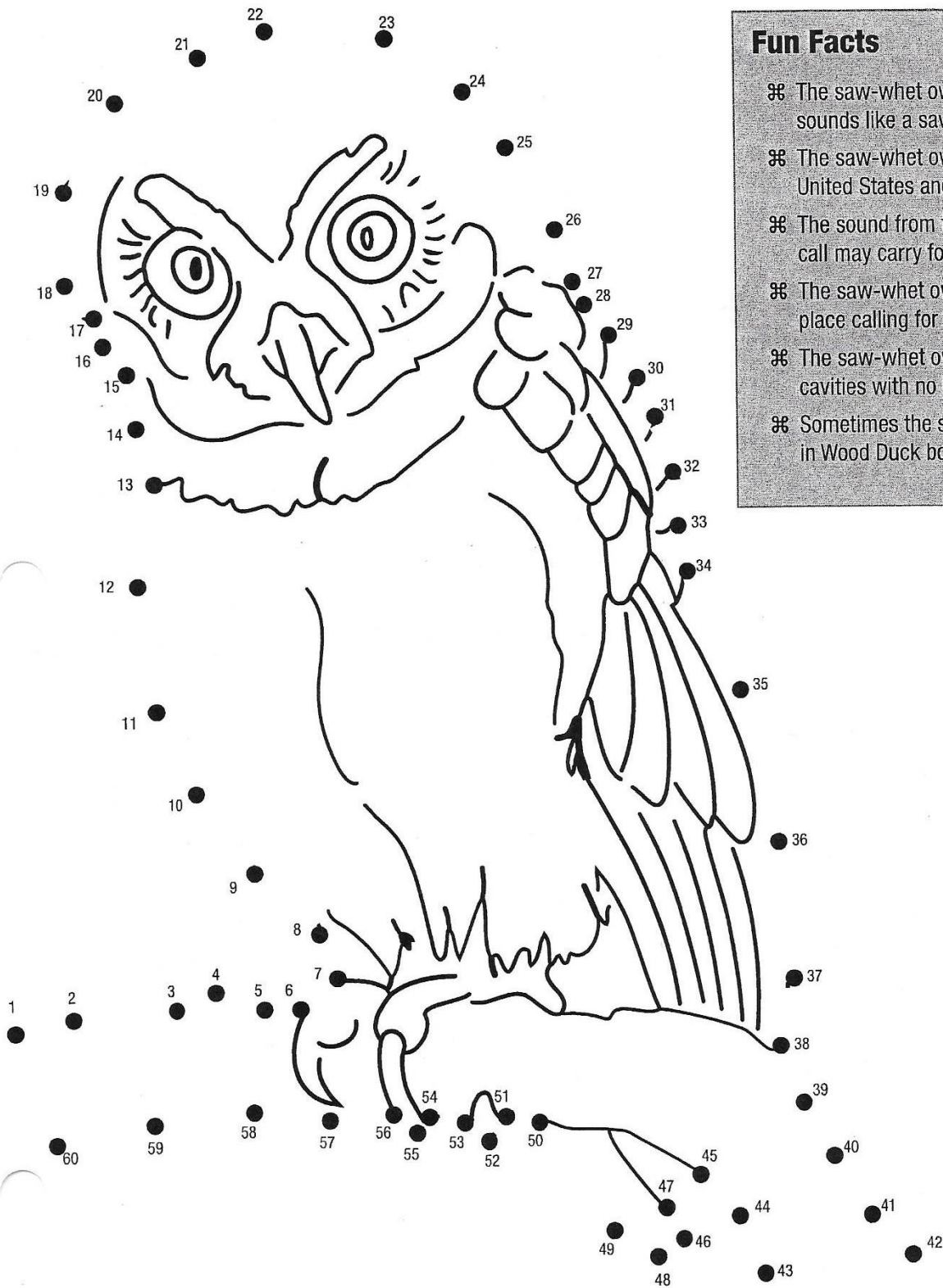
Cut Along Outside Line



Northern Saw-whet Owl

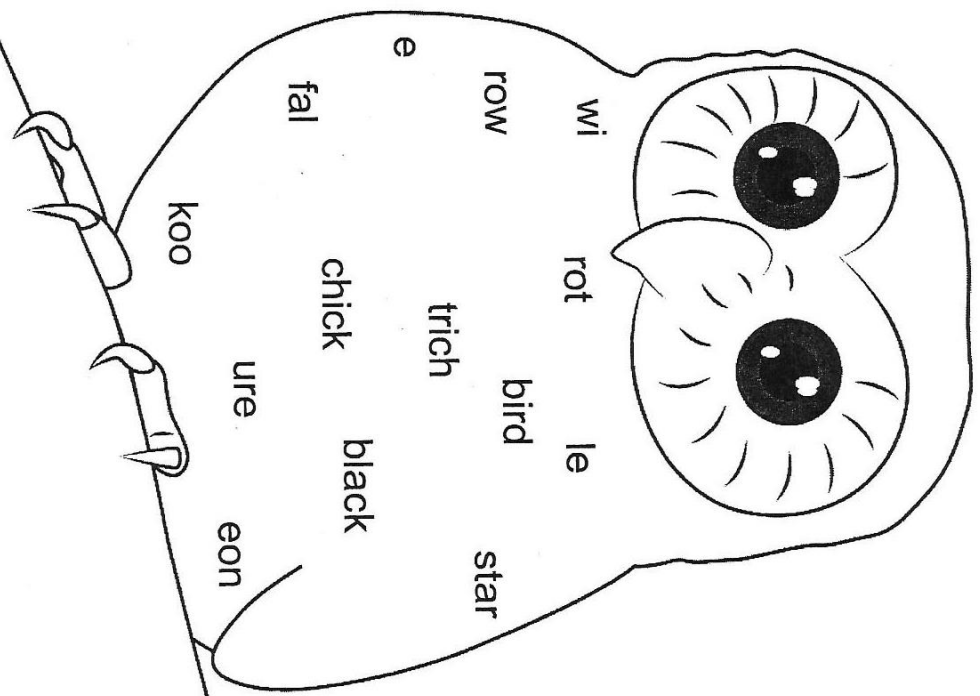
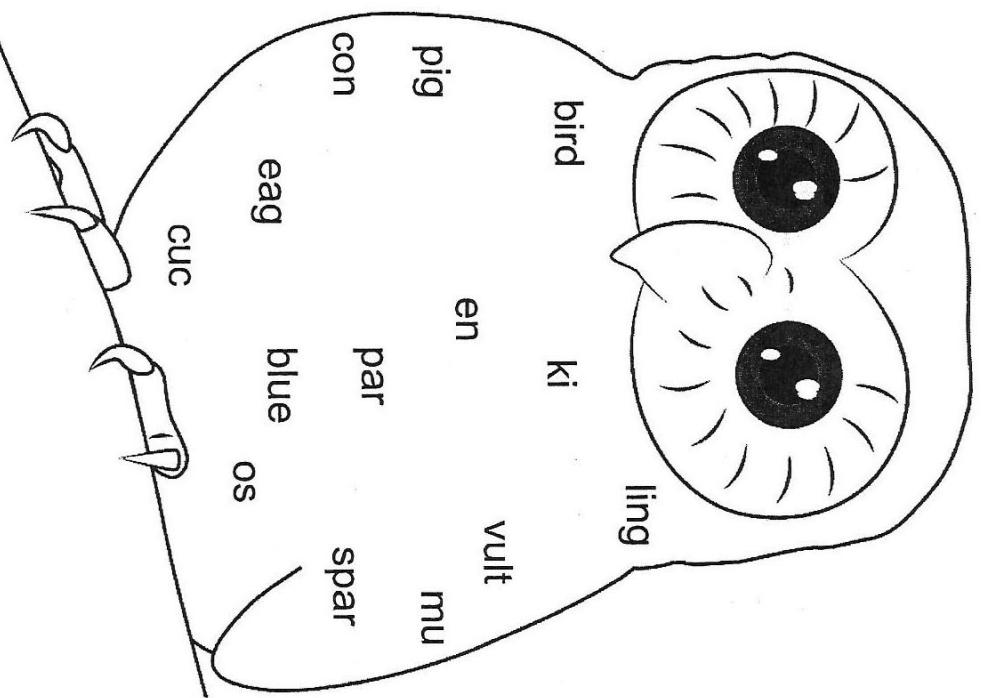
Fun Facts

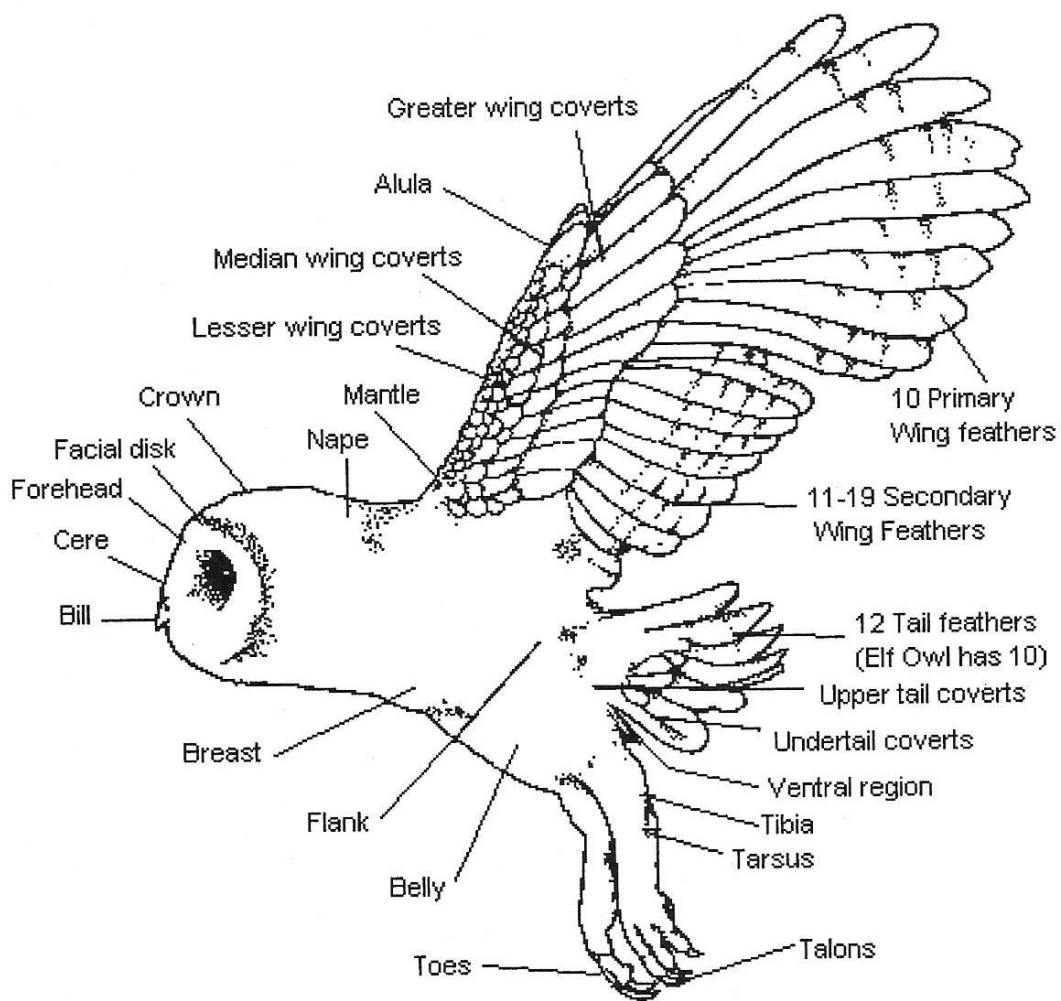
- ⌘ The saw-whet owl's mating call sounds like a saw being sharpened.
- ⌘ The saw-whet owl lives in northern United States and southern Canada.
- ⌘ The sound from the saw-whet owl call may carry for over 1/2 mile.
- ⌘ The saw-whet owl can sit in one place calling for hours at a time.
- ⌘ The saw-whet owl nests in tree cavities with no lining.
- ⌘ Sometimes the saw-whet owl nests in Wood Duck boxes.

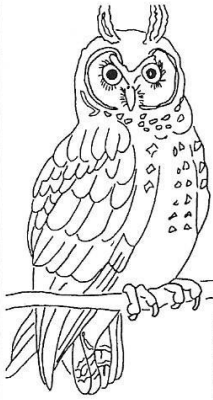


Bird Word Match Up

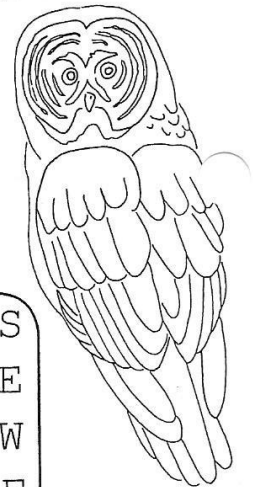
Can you match up the pairs of syllables, taking one from each owl in no particular order, to find the names of well-known birds from all over the world?





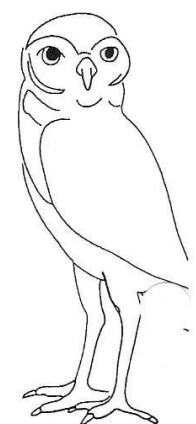
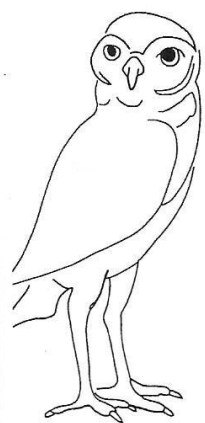


Owls



Circle the names and words about owls in the wordsearch.

Y	K	O	E	W	S	C	R	E	E	C	H	Q	U	O	O	S
S	M	M	A	B	L	N	Y	Z	H	I	X	G	M	H	T	E
Q	Q	F	X	F	R	O	O	W	S	U	G	T	B	E	B	W
A	K	M	V	G	K	R	N	W	C	A	S	M	Z	K	M	F
U	N	C	E	C	P	T	A	G	Y	B	O	Z	L	W	X	R
G	N	J	C	X	J	H	I	P	E	I	K	H	X	B	J	B
F	C	Z	Q	M	D	E	S	J	T	A	W	I	B	F	H	M
A	S	N	L	A	Y	R	V	W	Z	O	R	S	D	D	T	O
H	M	L	S	T	Q	N	S	X	X	M	R	E	Z	S	O	H
T	K	H	H	Y	O	H	F	I	E	A	P	E	D	W	C	J
N	L	Z	G	R	E	A	T	G	R	A	Y	S	I	T	H	K
F	B	U	R	R	O	W	I	N	G	G	P	C	W	A	M	
X	S	H	E	M	W	K	R	H	A	D	M	E	T	H	Q	B
O	R	T	A	Y	L	Z	K	P	E	A	Y	C	I	J	C	D
F	E	A	T	H	E	R	S	I	L	E	N	T	Y	S	Q	I
P	L	L	H	B	S	A	W	W	H	E	T	A	H	L	I	V
A	F	O	O	A	E	B	G	Q	Q	X	N	C	J	Q	O	W
Z	R	N	R	R	V	A	D	L	K	P	L	L	Y	E	M	O
N	K	S	N	R	P	R	K	R	E	J	C	E	P	I	L	I
P	P	A	E	E	T	N	A	J	U	L	H	D	V	P	Q	L
M	U	M	D	D	J	J	W	P	G	C	B	U	L	C	X	W
J	X	A	V	U	F	R	P	V	U	D	F	T	Q	B	Y	C



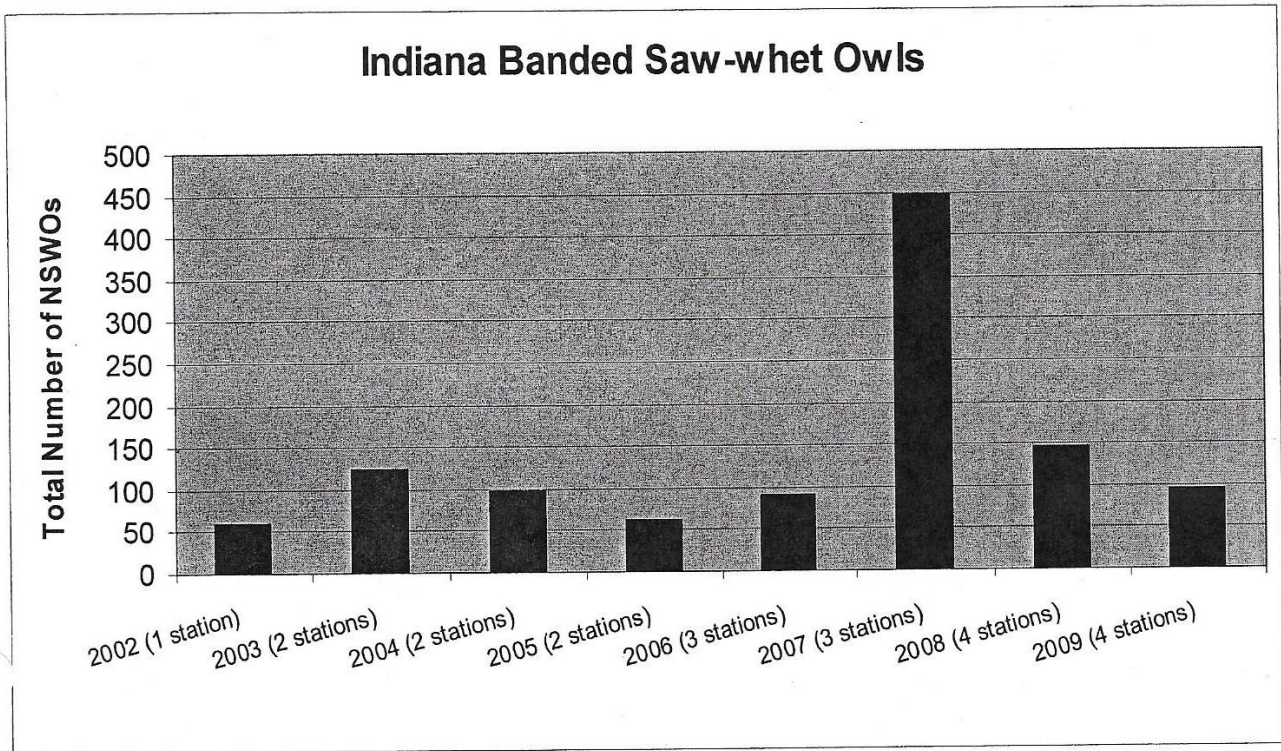
Barn
Burrowing
Feathers
Long Eared

Barred
Great Gray
Northern Hawk
Silent

Talons
Beak
Elf
Great Horned

Owl
Saw Whet
Snowy

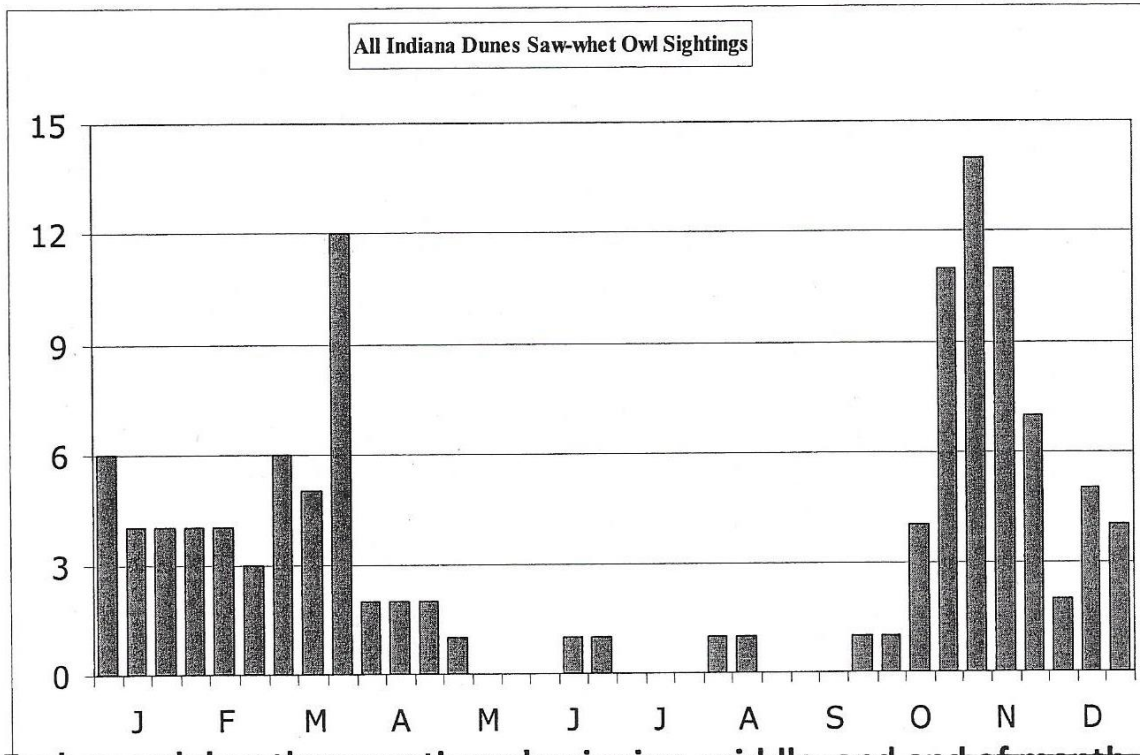
Total Number of Saw-Whet Owls Banded from 2002-2009



1. How many owls were captured in 2003? 2006?
2. How many banding stations were operating in Indiana in 2008?
3. What year shows an increase in the number of owls banded?
4. The increase in owls tells scientist that a larger number of owls migrated in a certain year. Why would this information be important? Do you think there will be other years with a sharp increase?

Name _____

Saw-Whet Owl Monthly Sightings Bar Graph

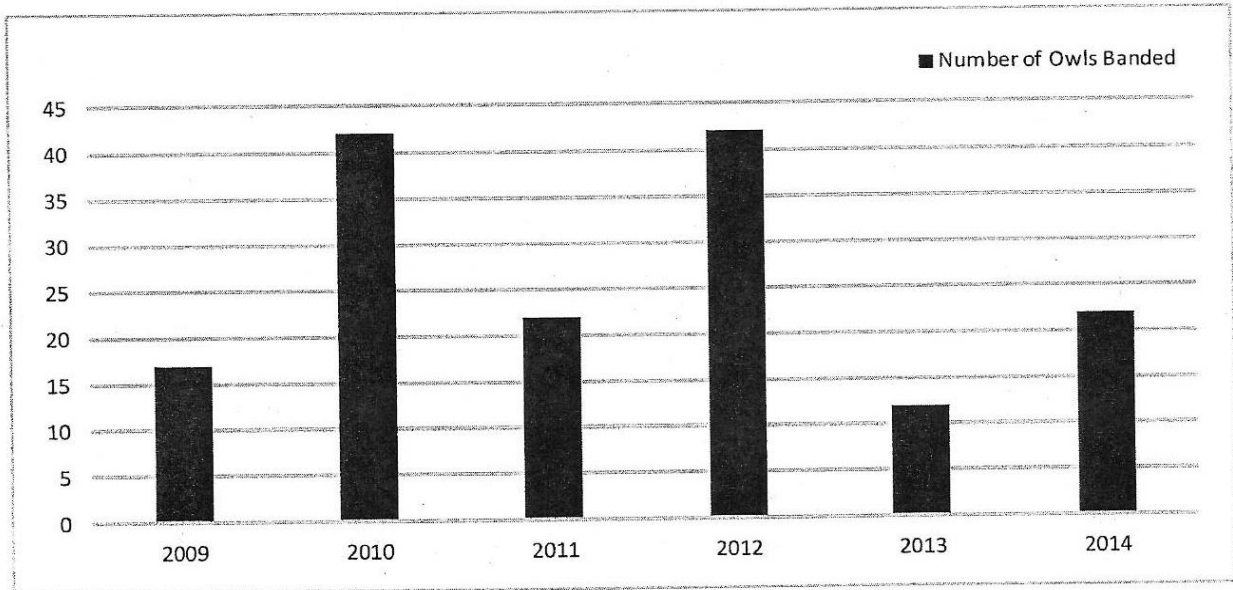


Each month has three sections, beginning, middle, and end of month.

1. When is the best months to see a Saw-Whet Owl?
2. When would you most likely not see a Saw-Whet Owl?
3. How many owls were seen in June, July, and August combined?

Name _____

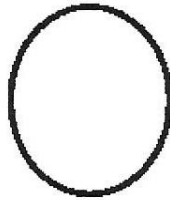
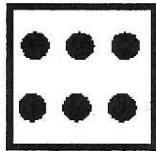
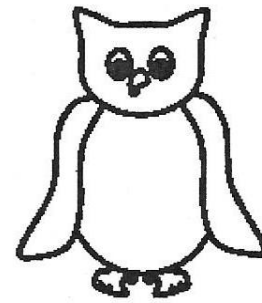
Number of Northern Saw-Whet Owls Banded 2009-2014 at The Indiana Dunes State Park



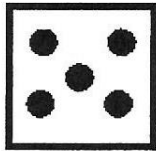
1. How many years have they banded Northern Saw-Whet Owls at the Indiana Dunes State Park?
2. In which year(s), were the MOST owls banded?
3. In which year(s), were the LEAST owls banded?
4. Were more owls banded in even numbered years, or odd numbered years?
5. How many more owls were banded in 2012 than 2014?
6. Following the trend, should 2015 be a good year for banding or not? Explain.

Roll an Owl

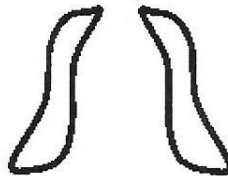
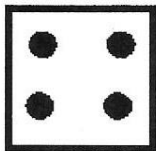
Each number must be rolled in order.



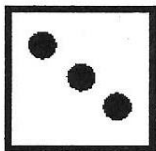
body



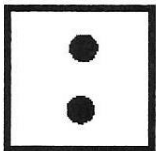
head



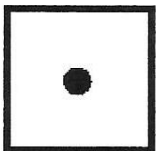
wings



eyes



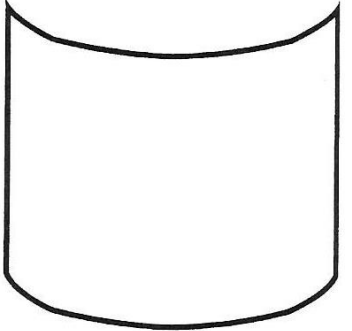
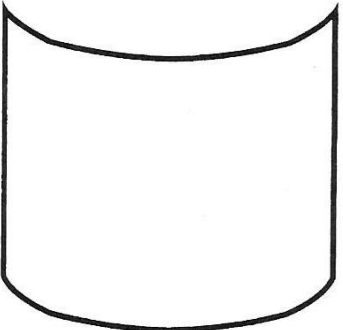
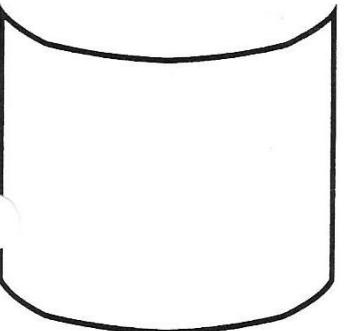
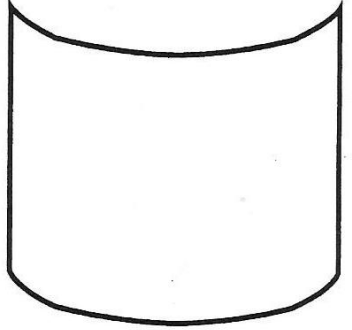
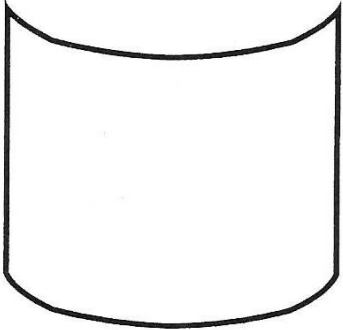
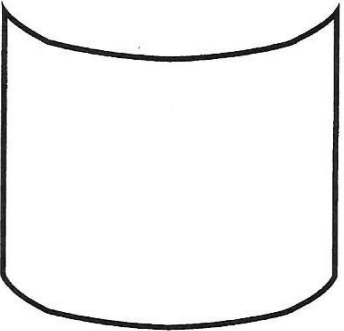
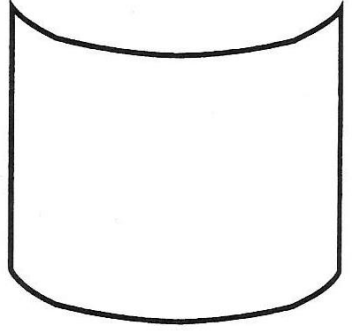
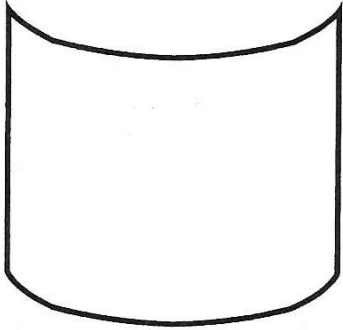
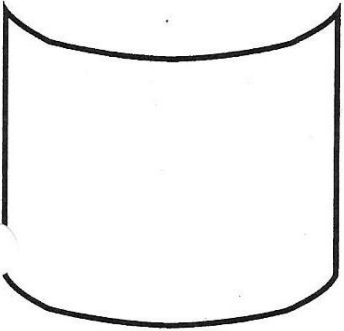
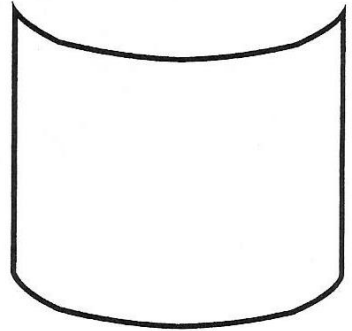
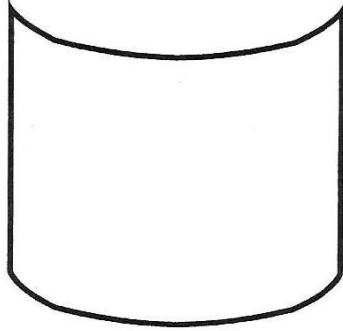
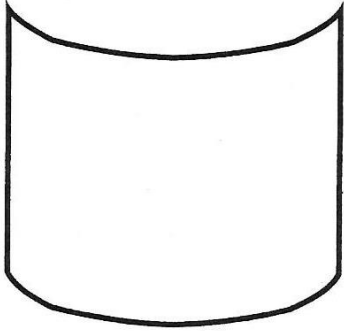
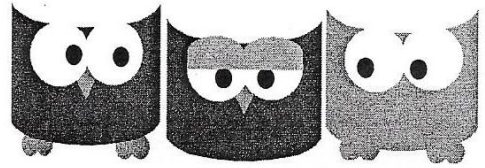
beak

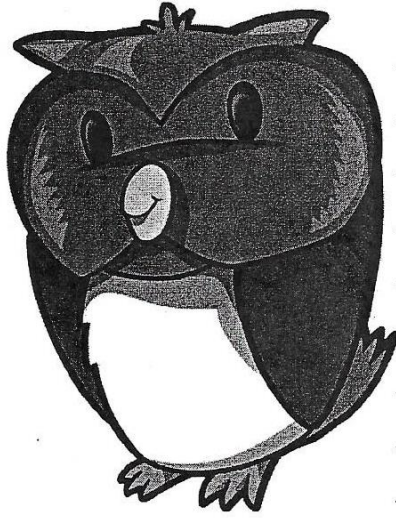


feet

For more creative learning ideas check out
www.makinglearningfun.com

Hoot Hoot! Owl Templates





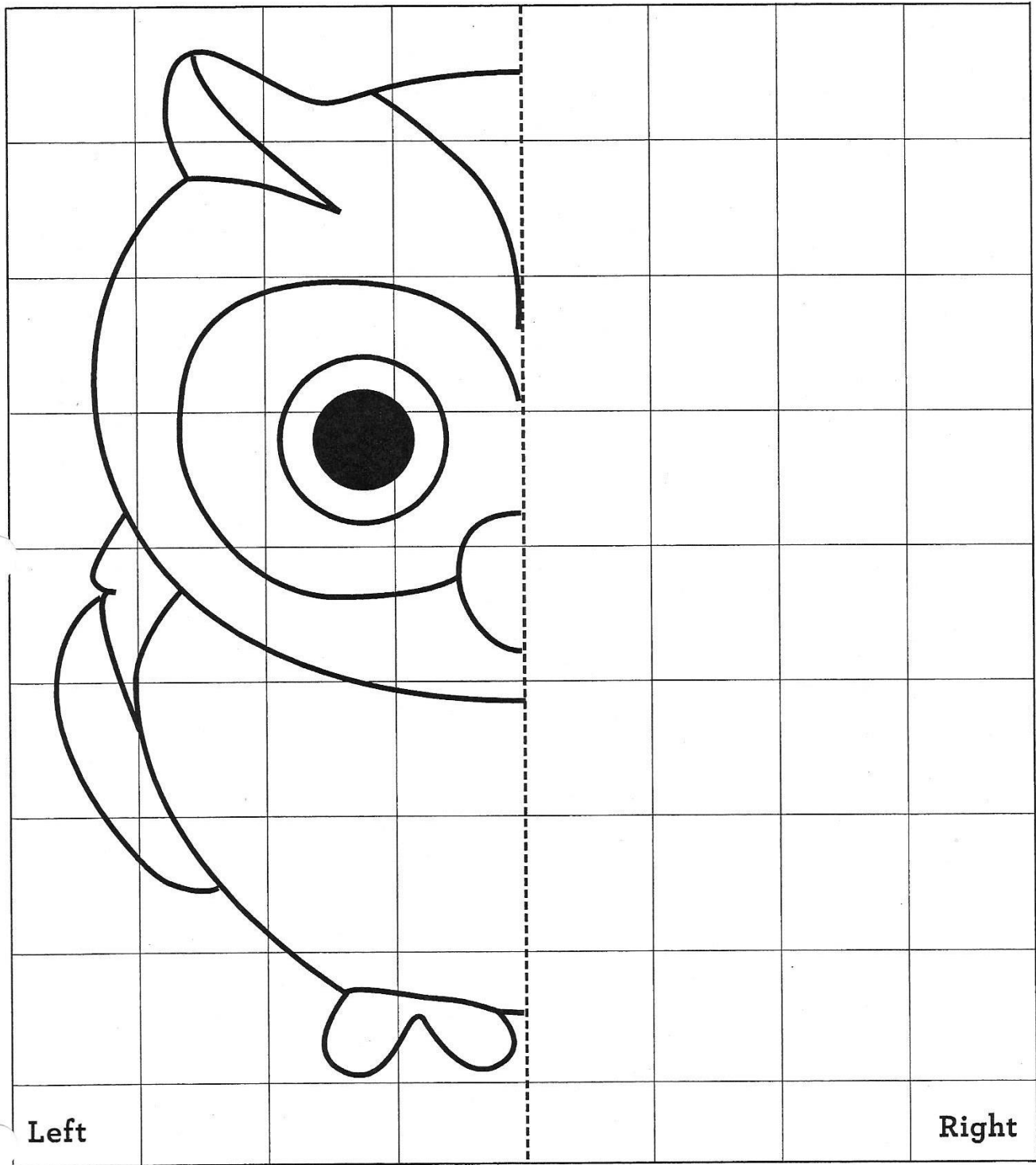
Handwriting practice lines consisting of a solid top line, a dashed middle line, and a solid bottom line.

Handwriting practice lines consisting of a solid top line, a dashed middle line, and a solid bottom line.

Name _____

Date _____

Practice in Symmetry: Use the grid below to draw a *mirror-image* of the owl's left side on the blank side of the axis.



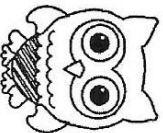
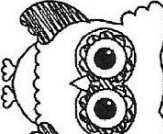






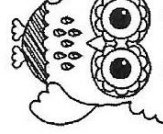
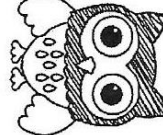



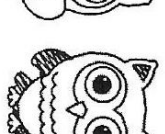





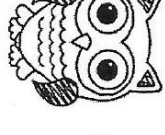
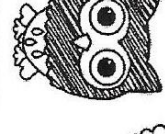

Left

Right

Axis

Ordinal Owls

Fill in the blanks and then follow the instructions below.

										
<input type="text" value="1st"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="4th"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="9th"/>	<input type="text"/>
										
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="14th"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

1. Colour the second owl blue
2. Draw a ring around the fifth owl
3. Draw a square around the seventh owl
4. Colour the tenth owl yellow
5. Colour the eleventh owl green
6. Draw a line underneath the twelfth owl
7. Colour the fourteenth owl orange
8. Colour the sixteenth owl yellow
9. Colour the last owl red
10. How many owls?

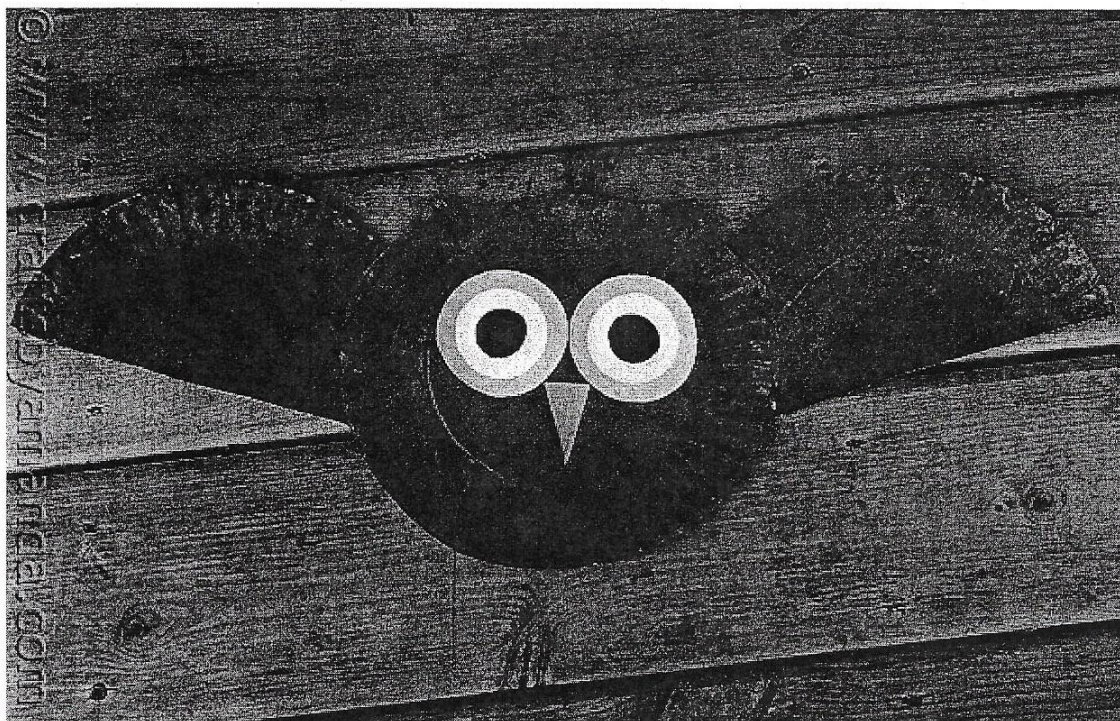
Paper Plate Owl

Supplies:

3 white paper plates

Brown Paint

Construction Paper



Instructions:

Paint 2 plates brown and let dry.

Cut one paper plate in half.

Trim top of other plate to create top of head and ears.

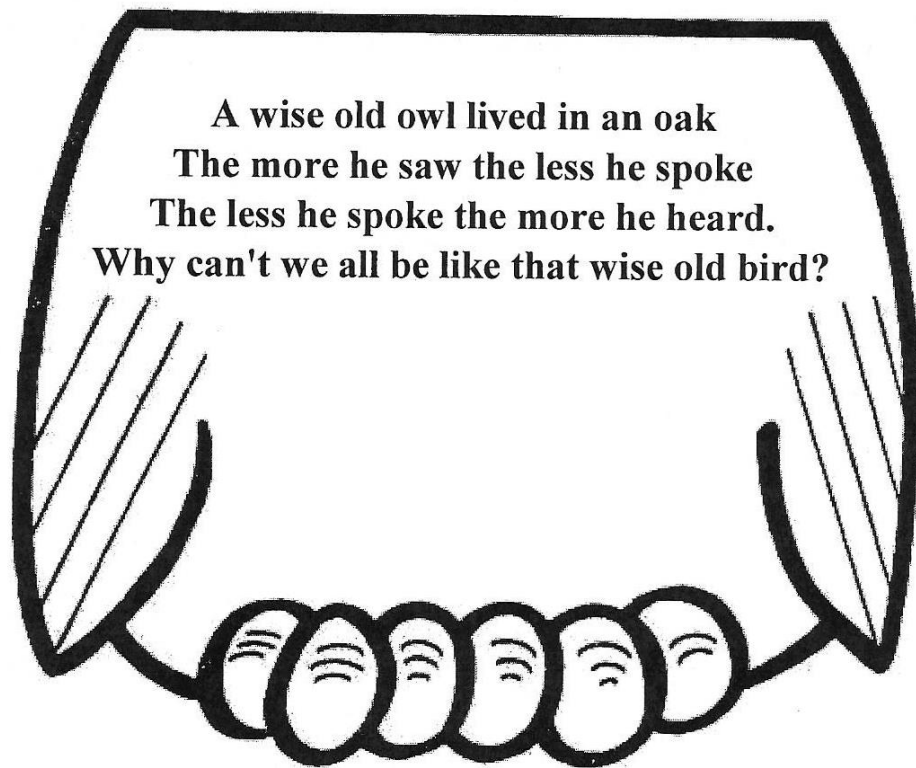
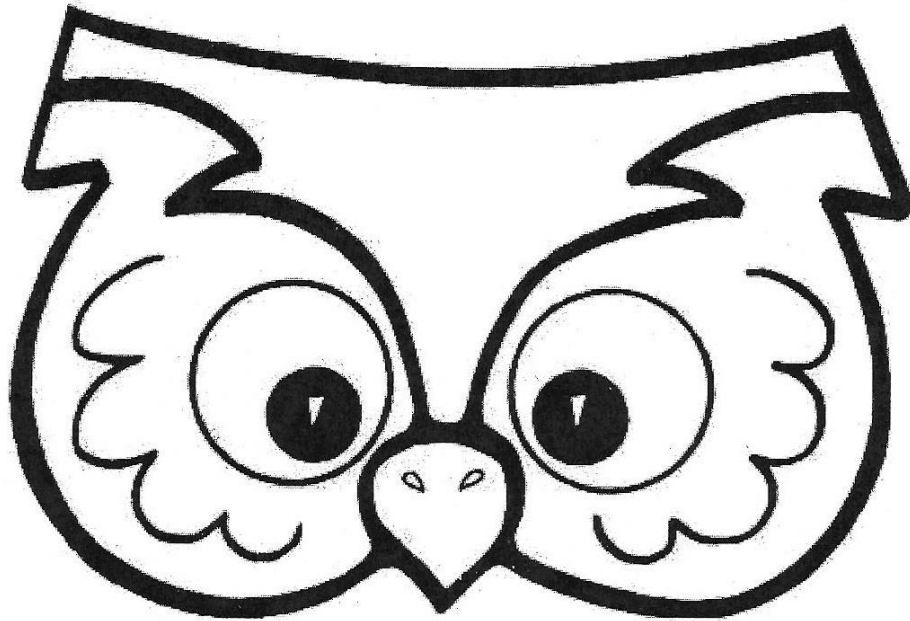
Cut two sets of eyes and a beak.

Glue Eyes and beak to plate.

Glue or staple wings onto body.

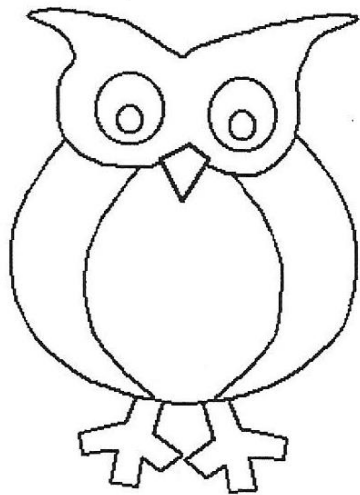
Add a string to hang (optional).

Owl Puppet

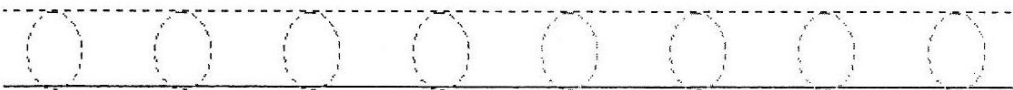
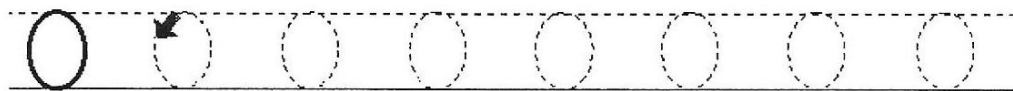
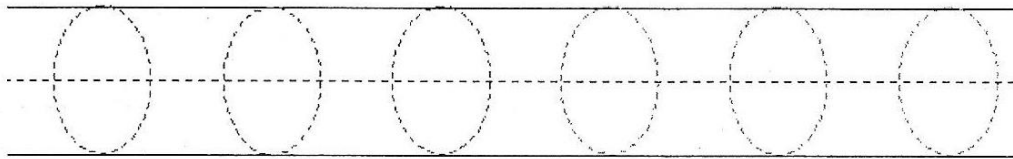
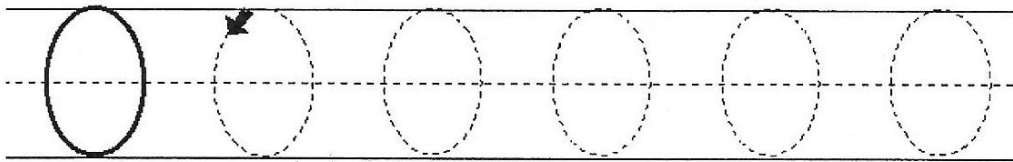


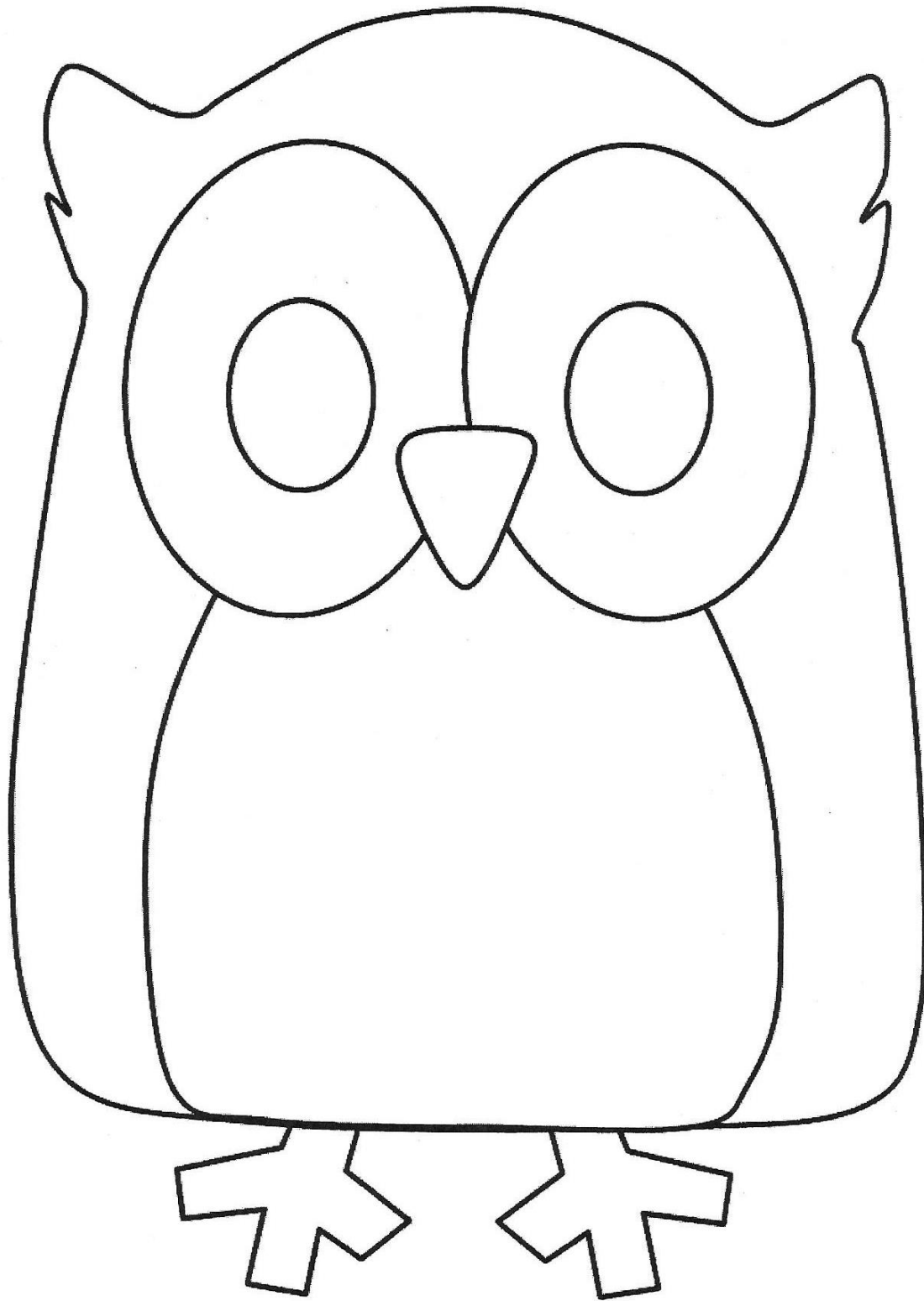
A wise old owl lived in an oak
The more he saw the less he spoke
The less he spoke the more he heard.
Why can't we all be like that wise old bird?

Use with a paper bag.



O IS FOR
OWL





An Owl is a Bird

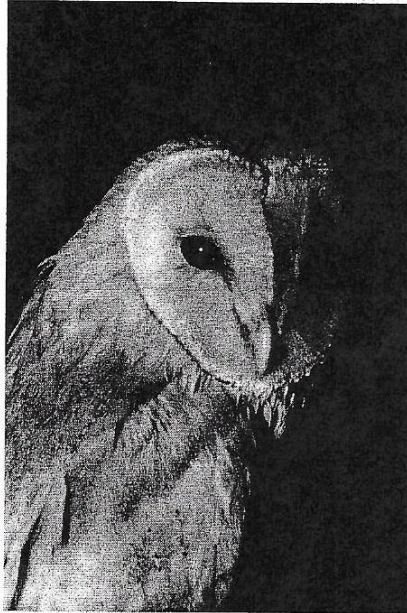


Photo Credit: Shah Jahan

An owl is a kind of bird. It hunts for other animals to eat. It likes to hunt at night.

Some parts of an owl's body help it hunt. An owl has big eyes. It can see well in the dark. An owl's wings have soft feathers. They let an owl fly quietly. An owl can turn its head almost all the way around. That helps it find animals. An owl has sharp claws. They help the owl catch small animals. An owl has a strong beak. The beak helps it carry its food.

Name: _____ Date: _____

Directions: For questions 1-4, circle the correct answer.

1. What kind of animal is an owl?

- a) a reptile
- b) a bird
- c) a mammal

2. The passage describes how an owl hunts for food. When do owls hunt for food?

- a) during the day
- b) at night and during the day
- c) at night

3. An owl has body parts that can help it hunt in the dark. Which information shows this is true?

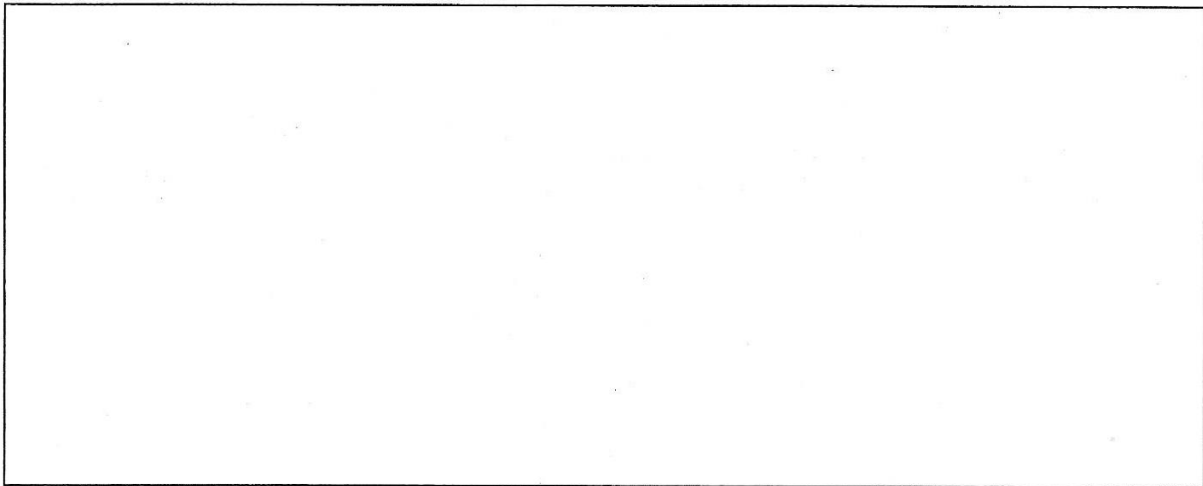
- a) An owl has big eyes that help it see well in the dark.
- b) An owl is a kind of bird.
- c) An owl hunts for other animals to eat.

4. What is "An Owl is a Bird" mainly about?

- a) what owls eat
- b) how an owl hunts
- c) what owls do when they are awake

5. A) What body parts help owls catch and carry the small animals that they eat for food?

B) Draw a picture of an owl catching its food or carrying it away.



6. What did you learn from "An Owl is a Bird"?

7. Class Discussion Question: Explain why it might be important for an owl to fly quietly with its soft feathers while it is hunting for food.

Teacher Guide & Answers

Note to Teacher: Read each question out loud to your students and have each student complete the worksheet independently. For questions 5 A) and 6, you can have students draw their answers, answer orally, or write their answers depending on your students' progress. If you have them write their answers, you may want to write the word(s) on the board for them to copy. Question 7 is a class discussion question.

Passage Reading Level: Lexile 380

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