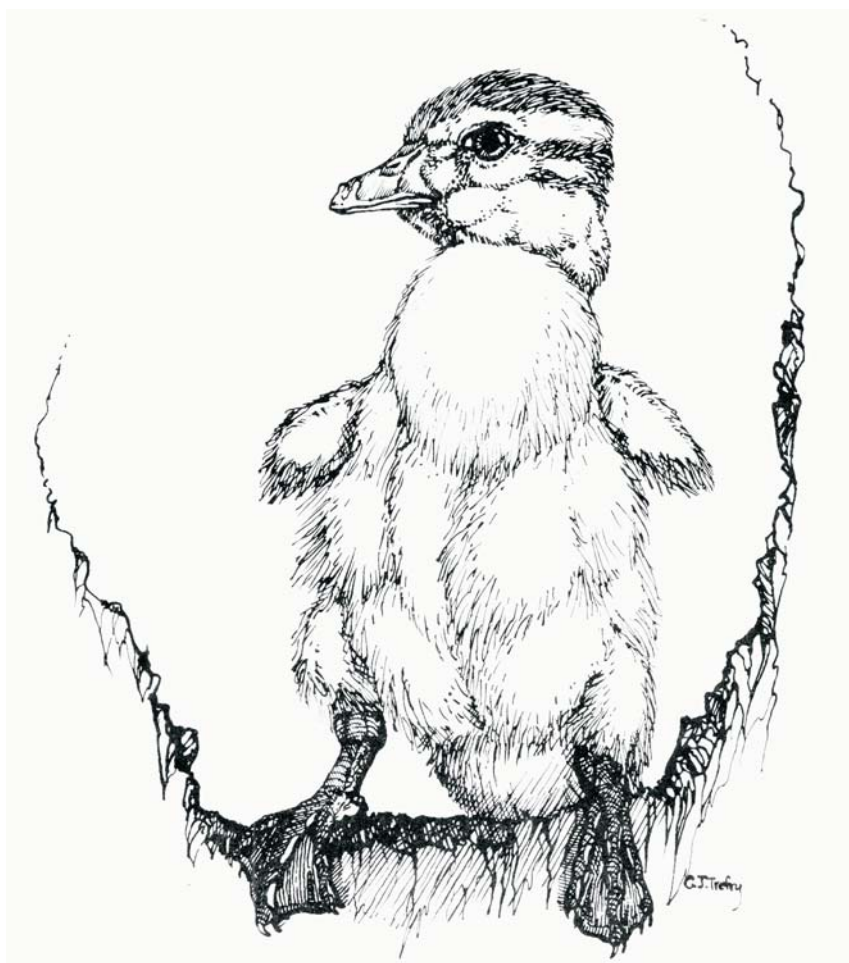




BRITISH COLUMBIA
WATERFOWL SOCIETY

JUST HATCHED

Teacher resource pages to help young children explore the life cycle of birds, different bird types of nests, and what baby birds need.



Ducks Unlimited Canada

This resource guide has been developed through a partnership education program between the British Columbia Waterfowl Society and Ducks Unlimited Canada.

We gratefully acknowledge the financial assistance provided for this program development by the Vancouver Foundation and the BC Habitat Conservation Trust Fund.

INTRODUCTION

Just Hatched provides basic fact sheets, lesson plans, activity sheets and graphics for teachers of young children planning to learn about the life cycles of birds. Many preschool, kindergarten and early primary grade classes visit the Sanctuary in spring when young Mallard ducklings, Canada Goose goslings and even young Sandhill Cranes are commonly encountered.

This package includes a suggested procedure for conducting a basic pre- and post- evaluation of the class and materials to support the following topics:

The Value of Camouflage in the Bird Life Cycle

The Different Types of Nests Birds Build

Amazing Facts About Eggs

Hatching

The Needs of Growing Baby Birds

PLUS

Vocabulary

Using Our Senses

Poetry Ideas

Arts & Crafts

The Story of Duck-Duck

Please visit our website (<http://www.reifelbirdsanctuary.com>) to download the free colouring books from the Teacher Resource pages and to find other websites to explore for more background information on these topics.

SPRING-TIME AT THE SANCTUARY

It was early spring at Reifel Sanctuary. The parking lot and ponds were buzzing with activity. Ducks were looking for safe places to make their nests. "Duck-duck" the mallard was upset. All the good nest sites she saw were taken, so she had to keep walking through the Sanctuary looking for a good place to build her own nest.

Her mate followed her along the trail. He watched as she picked a nest site close to the base of the Observation Tower. She liked it. It had tall, dense patches of grass to help hide the nest and was only a few steps from the water.

First, "Duck-duck" made a small hollow among the grasses. Then she lined it with leaves and dry grass from nearby. Then, she sat on her nest beside the Observation Tower and started to lay her eggs. Laying eggs made her tired. She could only lay one big white egg a day. She mixed in some of her own down and feathers after a few eggs had been laid. When "Duck-duck" had to leave the nest to look for food, she hid the eggs inside the down to keep them warm and safe from danger.

At last, "Duck-duck's" nest was full of eggs. She had laid 12 eggs. Now incubation began. "Duck-duck" sat on her eggs and kept them warm for 4 weeks. Her mate did not stay and help. He went off to the ponds to hang out with the other male ducks. Soon he would begin to moult, or shed his old feathers, and grow new ones. His shiny green head would start to look patchy, then he would shed his wing feathers, but in a few months he would have grown all brand new shiny feathers to replace these.

Duck-Duck's Nest

"Duck-duck" sat on her eggs all day and all night. At night she would hear raccoons and coyotes creeping through the grass. Even though she was scared, she did not move, and they never spotted her. School children came running down the path to the Observation Tower, and climbed to the top. Still, she did not move, and they never spotted her.

After 28 days, "Duck-duck" heard "peep, peep" sounds coming from her eggs. The next day holes appeared in some of the eggs. Soon her nest was full of ducklings. All 12 of her eggs had hatched into bright yellow downy ducklings with patches of brown on their head and backs. Before long, her babies were following her out of the nest and down the path to the pond, where she would show them how to feed.

Duck-Duck's Ducklings

SHAPE POEM

Draw around a template of a bird. Brainstorm for 'describing' words.

List words on chalkboard or large chart.

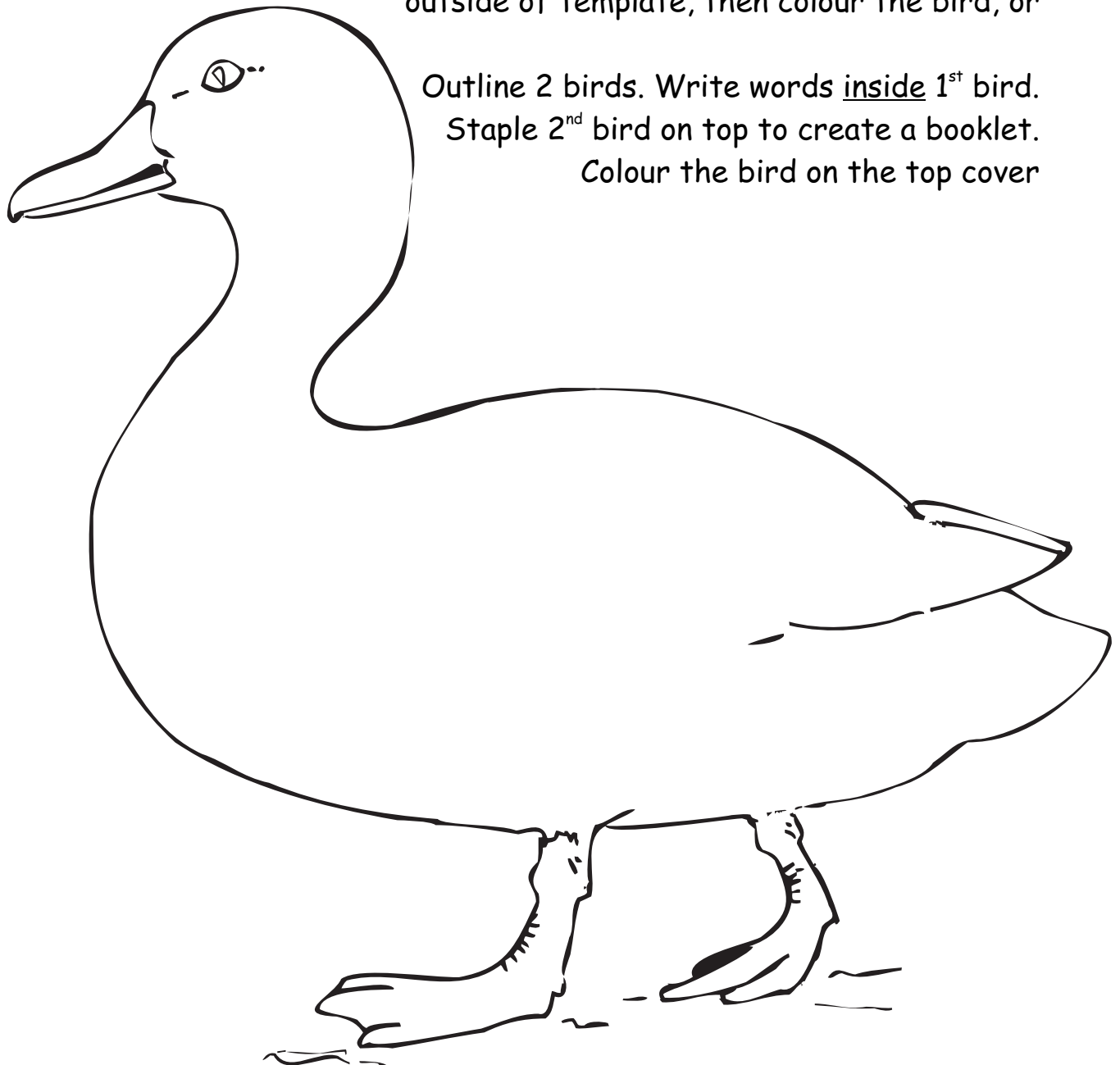
Students may choose to:

Outline 1 bird and write words around outside of template, then colour the bird, or

Outline 2 birds. Write words inside 1st bird.

Staple 2nd bird on top to create a booklet.

Colour the bird on the top cover



YOUNG BIRDS AND YOUNG HUMANS

There are over 50 species of birds nesting regularly at the Sanctuary. The most obvious ones are often the ones who defend large territories around their nest site and who guard their young when they have left the nest. The less obvious ones are those species who nest out of sight and spend several weeks bringing food back to feed their hungry growing young at the nest site.

Young children are often completely unaware of two important considerations during their Sanctuary visit: that birds may attack if their nest site or young are under threat; and that people can seriously harm small birds and nests just by trying to handle them, approaching too close to a nest site, or disrupting family groups.

Our staff and volunteers are the judges of appropriate contact between our small bird residents and our small human visitors. Please follow instructions.



DON'T TREAD ON ME

Learning outcome: to promote and practice fine motor and coordination skills necessary when first meeting the ducks at the Sanctuary. (Ducks can suffer crippling injuries when trodden on. Students may face an angry goose if they stand between her and her goslings.)

Materials: Use these templates, then cut out feet, ducks and ducklings from construction paper. The rules are:

You cannot step on duck feet
You cannot separate a mom and babies

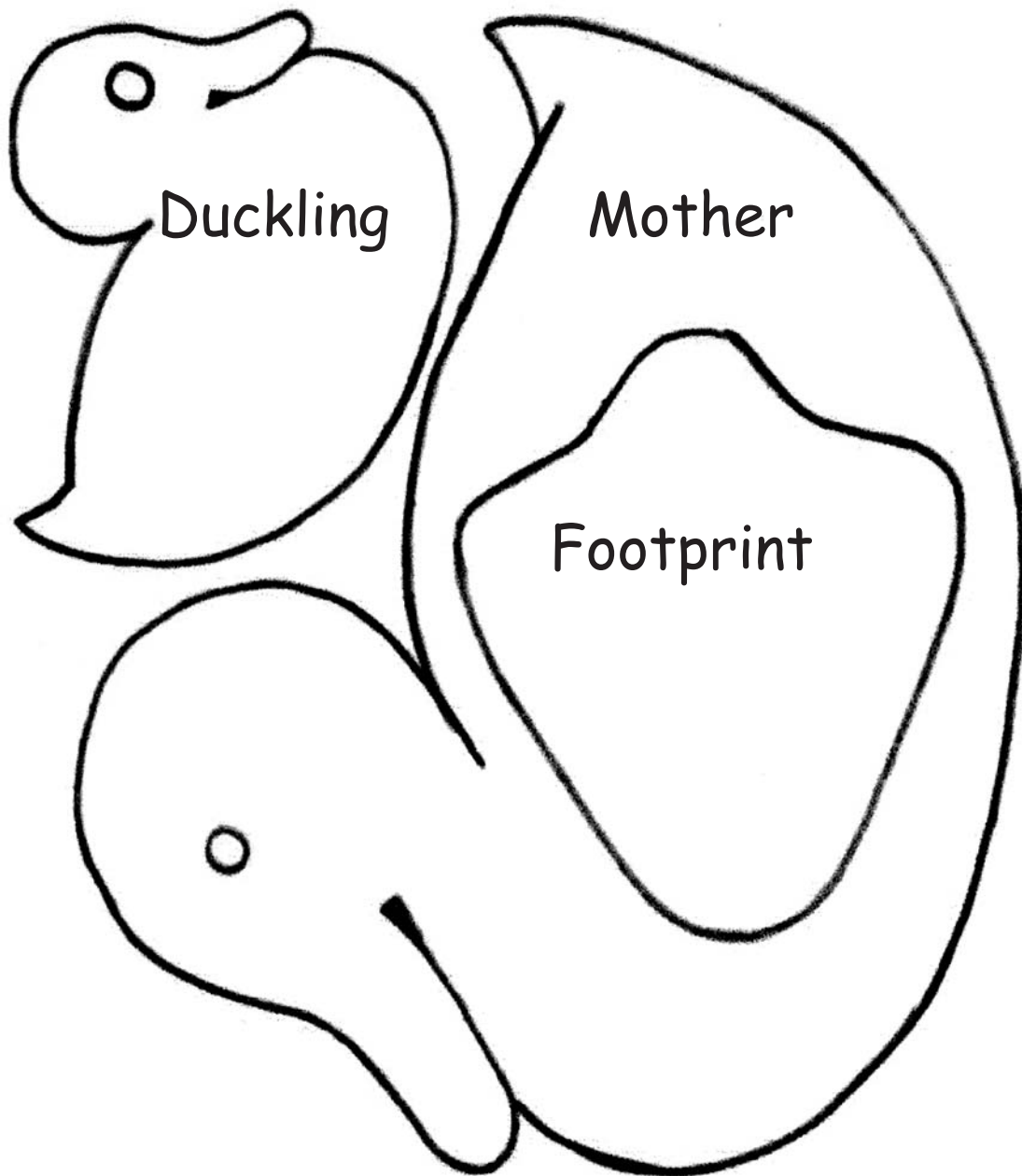
Activity: Students will arrange paper ducks, ducklings and feet over entire gym floor, creating family groups, single ducks or pairs of feet. The teacher will demonstrate rules and students will practice them while walking slowly. Teacher sings song instructing students how to move around gym, e.g.

Hey, Jimalong, Jimalong Josie, Hey, Jimalong, Jimalong Joe.
Slither like a snake, Jimalong Josie.
Slither like a snake, Jimalong Joe.

Walk like aduck. Skip like amudskipper
Crawl like acrab, Jump like afrog, rabbit, kangaroo
Step backwards like aheron. Tiptoe like amouse

Students move ducks onto $\frac{1}{2}$ of gym floor to simulate crowded conditions. Repeat song and actions.

Templates for Don't Tread on Me" Game



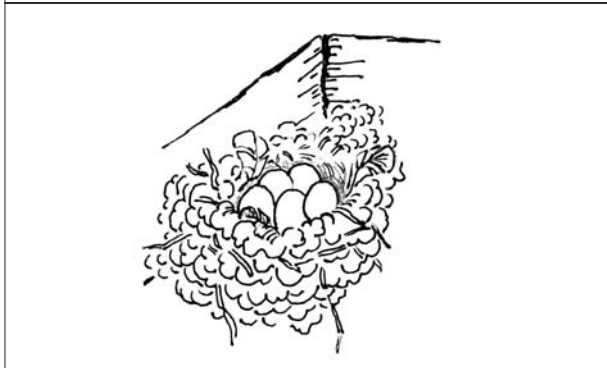
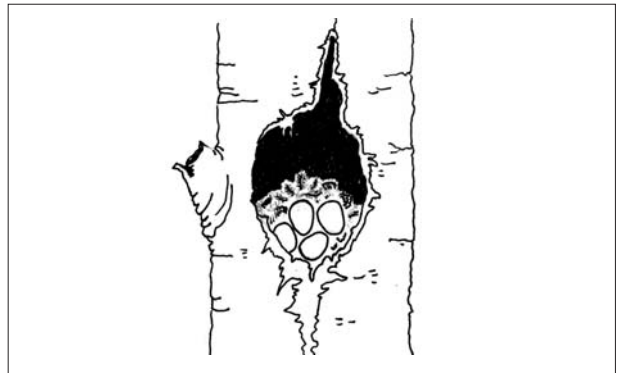
ALL SORTS OF DIFFERENT NESTS

DID YOU KNOW.....?

- * Killdeers make no nest at all, just a scrape in the ground.
- * Loons lay their eggs on flattened vegetation right at the shoreline.
- * Mallards choose a dry site away from the marsh, flatten the plants into a shallow basin and pull grass and plant material into it.
- * Coots and grebes make a floating "raft" in the middle of the marsh by piling up aquatic plants until there is an "island" above water.
- * The ancient murrelet (a small seabird) nests underground in burrows in the mossy forest floor of coastal islands.
- * Herons and eagles make large stick platform nests in trees. The offering of sticks to their mates is often part of their courtship.
- * Finches and sparrows make grassy basket-shaped nests lined with soft material. Robins make similar baskets but line them with mud.
- * Barn swallows make a shallow bowl-shaped nest entirely of globules of mud and usually build this on the side of buildings.
- * Marsh wrens make more closed in nests of marsh plants, and orioles and bushtits manufacture elaborate woven hanging nests which dangle from the tree branches.
- * Woodpeckers hollow out holes in trees for nest sites, but there are many other birds which also modify existing holes, and they are all called cavity nesters.
- * Wood ducks, chickadees, tree swallows, wrens, house sparrows, and barn owls all use tree cavities in the Sanctuary.
- * Kingfishers dig nest holes in the soft claybanks overlooking rivers.

MATCH THE BIRD TO THE NEST

Birds build different kinds of nests to suit their needs. If the babies leave the nest the same day as they hatch, they don't need a fancy nest. Most birds need to hide from predators. They learn to camouflage their nests, or build them in places the predator can't reach. See if you can match these nests with the birds that made them (see bird pictures and clues on the next page).



Drawings by Sue Earles

Clues

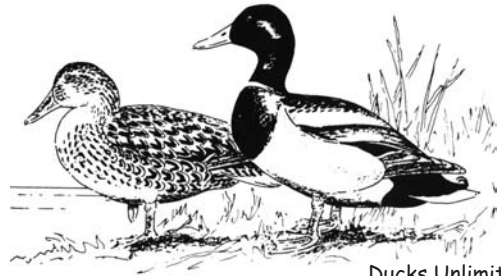
1. Coot



Ducks Unlimited

1. I build a floating nest on water.

2. Mallard



Ducks Unlimited

2. I build a nest on the ground, hidden in the grass.

3. Chickadee



3. I like to make a little moss-lined nest in a tree cavity.

4. Swallow



4. My mud nest is on a house or in a barn.

5. Wren



Nola Johnston

5. I weave my nest in the marsh reeds.

6. Robin



Nola Johnston

6. In the tree branches my cup-shaped nest is lined with mud.

GLOSSARY

Altricial:	baby birds which are not able to see, move or feed, and are dependant on parents
Camouflage:	colours or patterns that help birds blend in with their environment.
Down:	the first soft feathers covering a baby bird.
Duckling:	a baby duck.
Egg tooth:	a bump on a chick's upper beak that it uses to crack its way out of the egg.
Fledgling:	a young bird that has just learned to fly and has left the nest.
Gosling:	a baby goose.
Hatch:	when the baby bird cracks the egg to get out.
Incubate:	to keep eggs warm until they hatch.
Nestling:	a baby bird that is too young to leave the nest.
Precocial:	baby birds that are able to see, move and feed themselves as soon as they hatch.
Clutch:	a set of eggs laid in a nest.

VOCABULARY

bird

egg

eggshell

nest

duckling

chick

nestling

owlet

gosling

nestbox

birdhouse

clutch

hatch

eggtooth

down

feathers

camouflage

eye

beak

incubate

altricial

brood

precocial

chick

gape

develop

Add these words to spelling lists, journal writing "word bank" or make a chart of "bird words."

TRIVIA QUIZ

All these words and their meanings can be found in the Glossary. Print the letter for the correct answer in the box

	Clutch	a.	A baby bird's first soft feathers
	Nestling	b.	Able to blend in with the environment
	Hatch	c.	Someone who studies birds
	Egg Tooth	d.	Baby bird too young to leave the nest
	Down	e.	Where a bird lays her eggs
	Incubate	f.	When the baby bird gets out of the egg
	Ornithologist	g.	Bump on a chick's upper beak
	Nest	h.	Young bird that has left the nest
	Camouflage	i.	To keep eggs warm until they hatch
	Fledgling	j.	A set of eggs

Answers from top: j, d, f, g, a, i, c, e, b, h.

WORDSEARCH

e	y	d	n	c	h	d	v	f	p	e	g	o	b	a
e	g	w	u	c	h	g	e	r	h	g	n	v	c	p
g	o	a	t	c	i	i	e	a	z	g	i	b	z	x
d	o	a	l	y	k	c	c	o	n	s	l	q	d	d
t	h	s	t	f	o	l	k	k	n	h	g	b	w	g
r	s	g	l	c	u	i	i	y	u	e	d	z	f	n
j	p	e	i	i	r	o	d	n	x	l	e	n	n	i
u	j	a	n	x	n	e	m	r	g	l	l	m	l	l
c	l	p	y	y	k	g	n	a	q	j	f	t	z	t
l	a	i	c	i	r	t	l	a	c	k	d	l	b	s
e	g	g	t	o	o	t	h	c	l	u	t	c	h	e
t	o	c	k	x	s	e	t	a	b	u	c	n	i	n

All of the words from the glossary are hidden in this wordsearch.

altricial camouflage chick clutch down duckling
 eggshell eggtooth fledgling gosling hatch
 incubate nest nestling precocial

Answers

e	y	d	n	c	h	d	v	f	p	e	g	o	b	a
e	g	w	u	c	h	g	e	r	h	g	n	v	c	p
g	o	a	t	c	i	i	e	a	z	g	i	b	z	x
d	o	a	l	y	k	c	c	o	n	s	l	q	d	d
t	h	s	t	f	o	l	k	k	n	h	g	b	w	g
r	s	g	l	c	u	i	i	y	u	e	d	z	f	n
j	p	e	i	i	r	o	d	n	x	l	e	n	n	i
u	j	a	n	x	n	e	m	r	g	l	l	m	l	l
c	l	p	y	y	k	g	n	a	q	j	f	t	z	t
l	a	i	c	i	r	t	l	a	c	k	d	l	b	s
e	g	g	t	o	o	t	h	c	l	u	t	c	h	e
t	o	c	k	x	s	e	t	a	b	u	c	n	i	n

AMAZING FACTS ABOUT EGGS

- * One ostrich egg has the same volume as 24 hen's eggs (1.7kg.)
- * Almost 80 bird species lay their eggs in another species nest. (cuckoo, cowbird).
- * Most small eggs take an hour for the chick crack its way out.
- * A Gray partridge lays the largest clutch of eggs, 15-19.
- * The hummingbird's eggs are the size of a pea, 6.35mm long.
- * A Wandering Albatross has the longest incubation period (75-82 days).
- * The Bald eagle has the largest nest, 2.9m wide, 6m deep.
- * The smallest nest belongs to a hummingbird, thimble sized.
- * A record life span for the Great Blue Heron was 23 years and 3 months.
- * Most birds, except birds of prey, will lay a 2nd clutch of eggs if the first is destroyed.
- * The Ruddy Duck lays the biggest eggs compared to her body size. 6 of her eggs weigh more than she does.
- * Precocial birds spend more time developing inside the egg. When hatched they leave the nest right away and learn to feed themselves.
- * A Hummingbird's nest is made of plants and down, held together with spider webs.

CAMOUFLAGE & HIDDEN EGGS

During the nesting season, incubating parents, eggs and young are all at risk of being attacked by predators. They need to remain at the nest site for weeks and can't just fly off when a potentially dangerous animal is too close. As a result, the female of most bird species usually has camouflage colouring to help make herself and the nest less noticeable to predators.

Birds that lay their eggs in nests on the ground are more at risk from predators like raccoons, snakes, herons and rats. Their eggs are often coloured in patterns which help camouflage them, and their nests are well-hidden in their surroundings.

Instructions to students:

Use the egg template, or hard-boiled hen's eggs.

Decide if your egg will be hidden in gravel or grass.

Cut out and colour the paper eggs.

Half the students will hide their eggs on a section of grass playing field or gravel area, and the other students have 10 minutes to find the eggs.

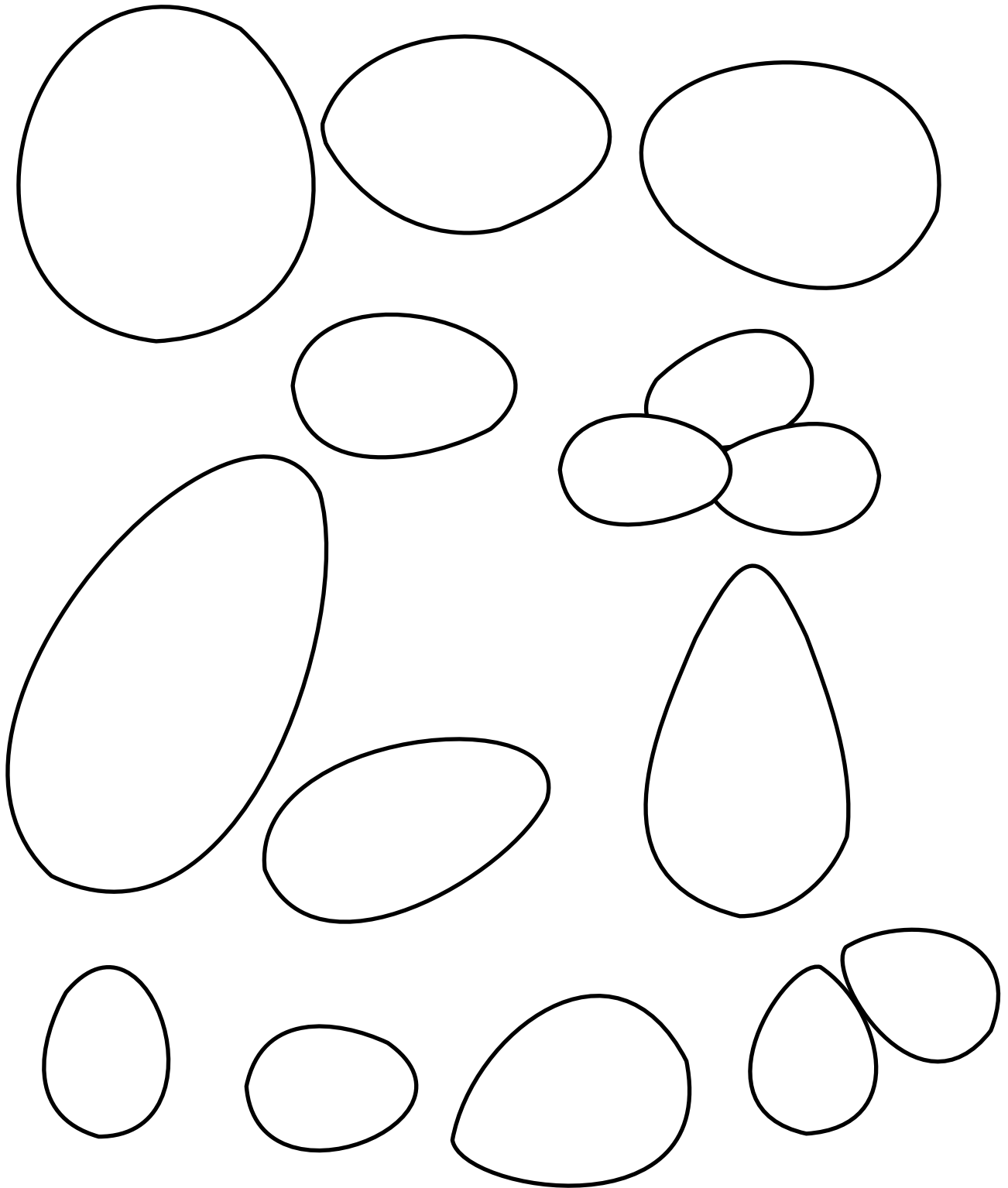
Assessment: students can brainstorm their own marking criteria, e.g.

- Careful cutting
- Neat colouring
- Realistic colouring
- Excellent camouflage
- Hard to find

This activity could be individual or a group activity.

Students could work while listening to a tape or CD of bird song.

Hidden Eggs Template



HATCHING HOW TO 'S

Hatching: The hatching process may take one hour, or all day. There is not much space inside an egg, but the chick must first make an opening using its egg tooth (a sharp bump on the end of the beak.) Now the chick will chip away at the shell until it has cut a circle. Next, the chick will push its way out of the shell. The mother has not helped, so the chick looks tired and wet.

First days: Some chicks are blind and helpless when they hatch. The scientific name for these dependant baby birds is altricial. They have only a few fluffy feathers, their eyes are closed, they are very weak and cannot feed themselves. A few weeks later their eyes are open, they are as big as their parents and have a full set of feathers.

The small songbirds are examples of this kind of rearing of young. It is important that their "nurseries" or nest sites with young are not intruded upon so that parents can keep young birds warm and well fed.

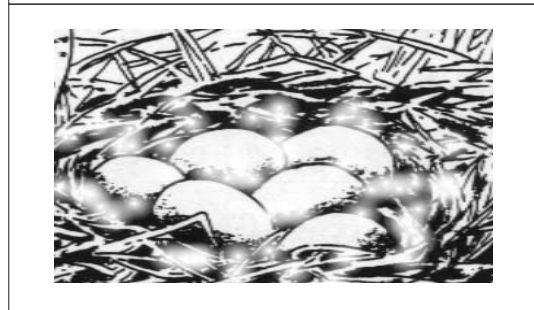
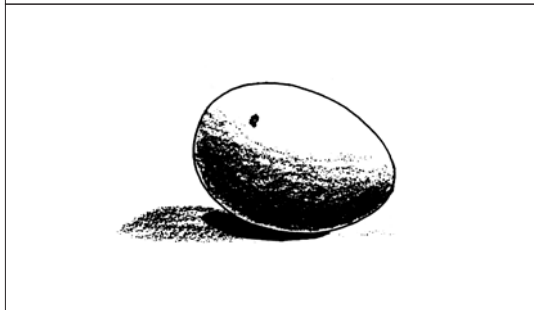
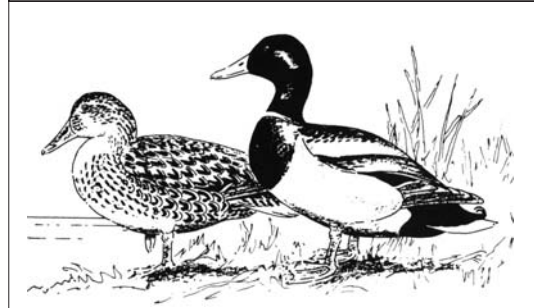
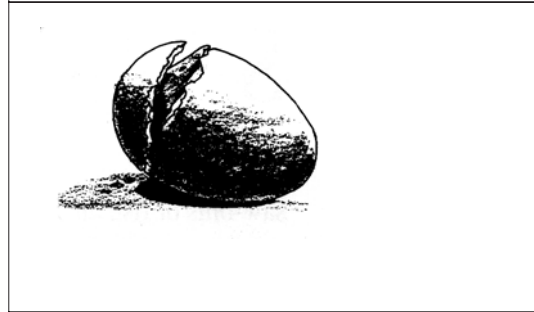
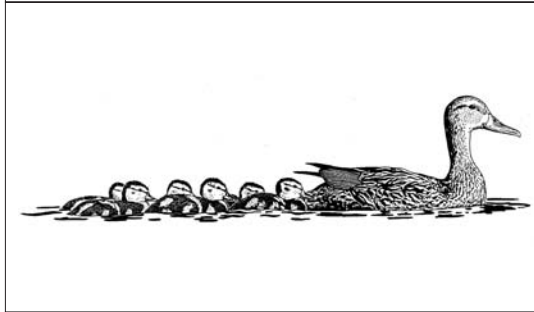
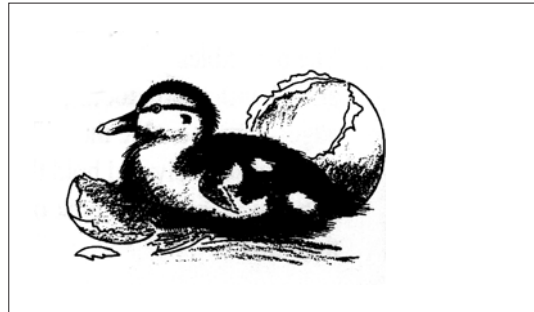
In contrast, precocial chicks spend a longer time growing inside the egg. When they hatch, they are covered with down to keep them warm. Their eyes are open and they can move about.

At the Sanctuary, all young waterfowl and other wetland birds such as the Sandhill Cranes are examples of the precocial type of young. They leave the nest within a few days of hatching, and although they are in the care of their parent(s), they feed for themselves almost immediately. It is important that these types of young birds not be separated from their parent(s), as they are very vulnerable to predators and exposure when left alone.

LIFE CYCLES

Can you put these eggs in a circle to show the "Life Cycle" of ducks?
Start with the pair of ducks and put them in the right order to end up with the family, which will grow up up and make their own nests some day. You can cut the pictures out and glue them in the right order on a clean sheet of paper.

Drawings courtesy of Ducks Unlimited



EXPLORING OUR SENSES

Name _____

Date _____



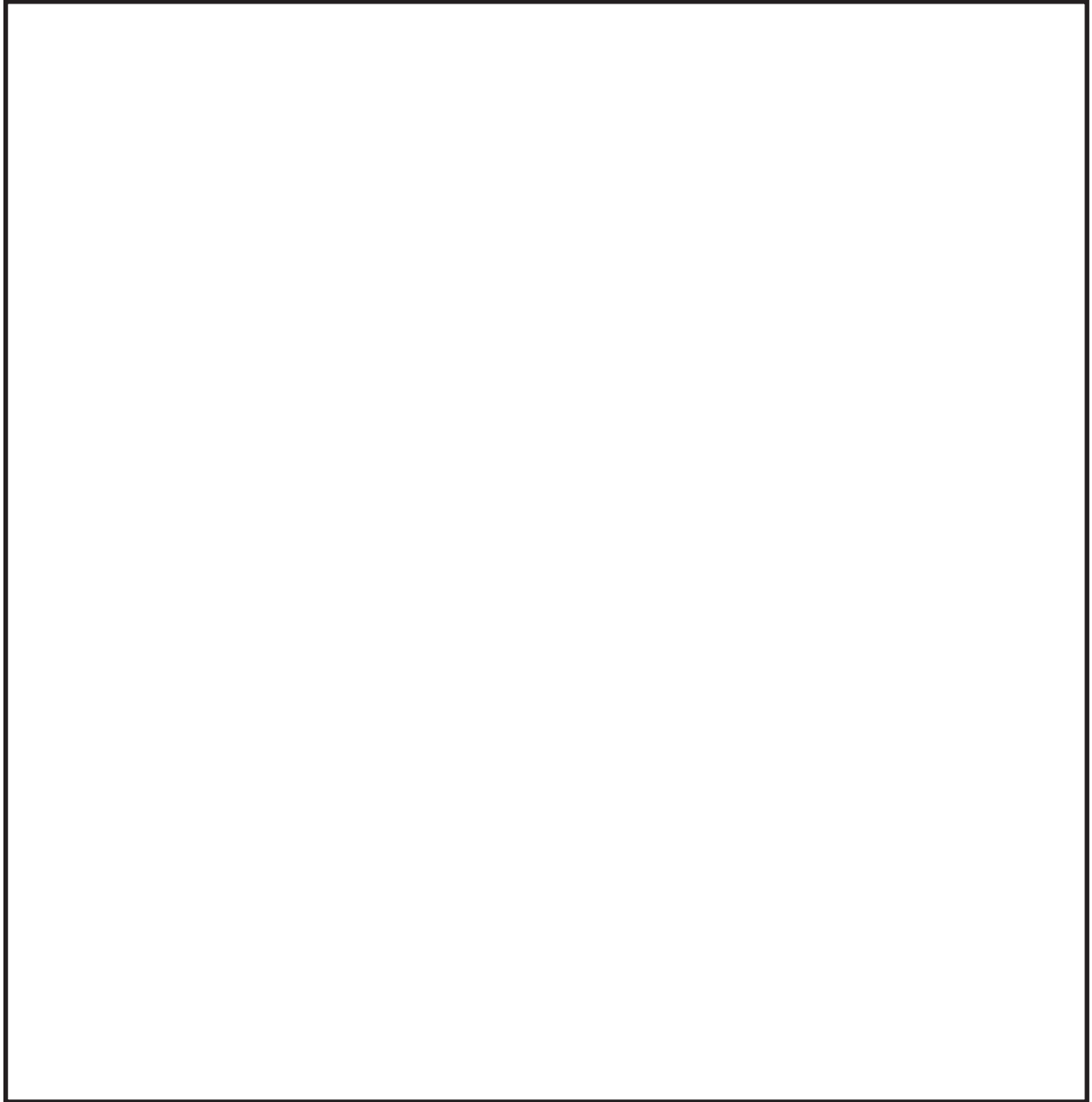
Finish these sentences:

When I watch a baby bird I see _____

If I could touch a baby bird it would feel _____

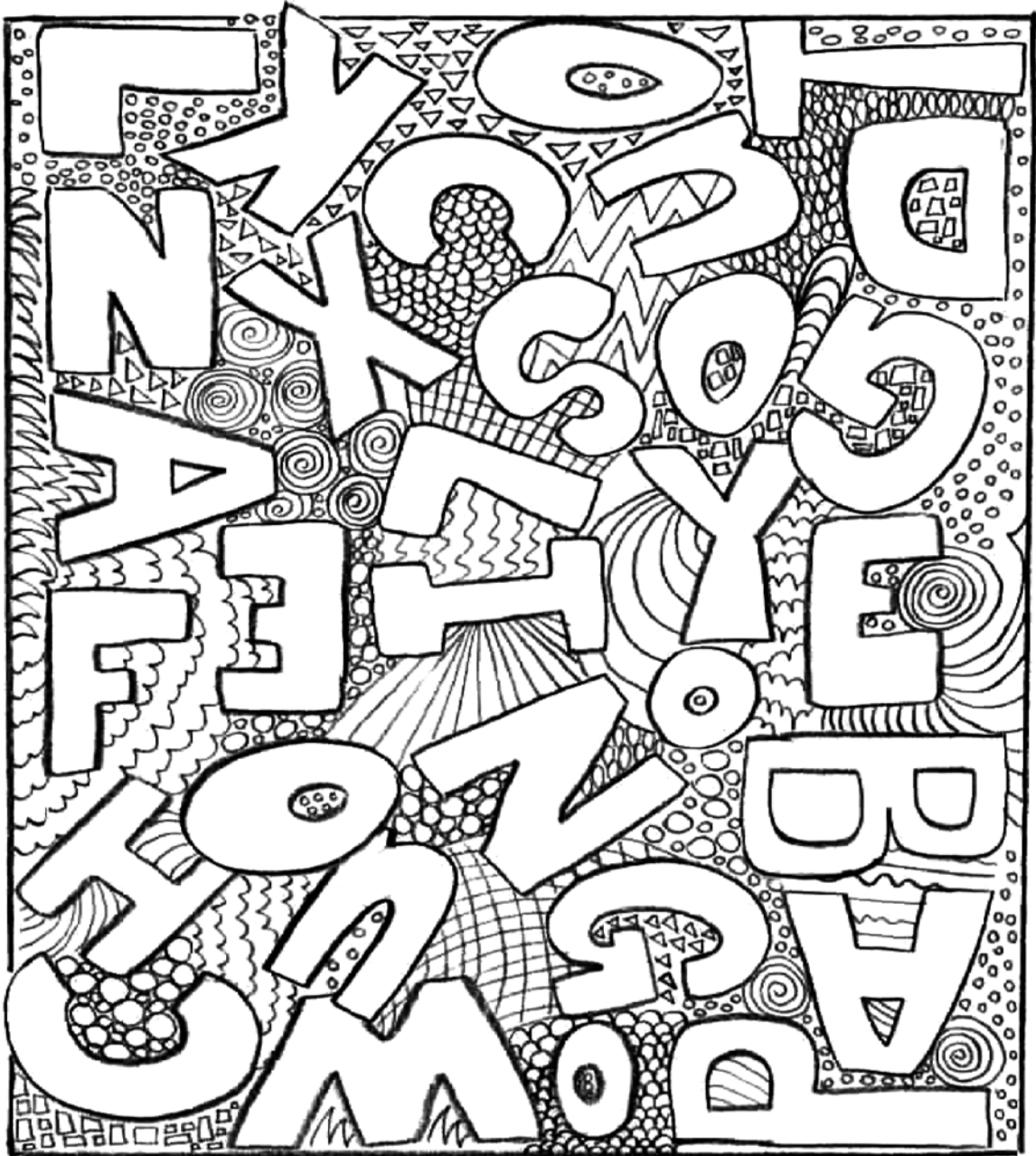
When I listen to a baby bird I can hear _____

Draw a picture of the baby bird in the box below



PUZZLE

Can you find the baby bird name hidden in this puzzle?

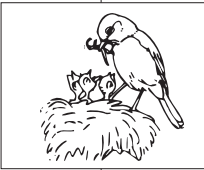


(Answer: Another name for a baby goose)

PRE- AND POST- ASSESSMENT

Photocopy a picture of baby birds into the centre of an 11x17 sheet of paper. Have students write what they already know about baby birds on this page, in pencil. Students could 'brainstorm' for more ideas, and teacher could record facts on chalkboard, also providing help with spelling. Collect these sheets and retain them for post-assessment. Have students add all the things they have learned about baby birds in a different colour pen or pencil. This technique can also be used for the evaluation of progress on other topics such as bird nests.

Possible layouts (to enlarge to 11" X 17")

Name _____		Date _____	
<div>What do we know about baby birds?</div>			
<div></div>			

Name _____

Date _____

What do we know about baby birds?



Name _____

What do You Know about Baby Birds

WHAT DO BABY BIRDS NEED?

Learning Outcome.

- Students will demonstrate knowledge of what baby birds need to survive and will develop a greater understanding of the life cycle.

Activity 1.

The students will form groups and make lists of what they think baby birds need to survive.

Procedure.

The teacher will record student's initial findings on a chart or chalkboard.

Activity 2.

Students watch video on baby birds.

Students research baby birds on Internet or books.

Procedure.

Teacher will add student's findings to chart.

Evaluation:

Students fill in Venn diagram comparing needs of human baby and baby birds.

All baby birds need **protection** from enemies (predators).

All baby birds need **food**.

All baby birds need **warmth** and a **clean environment**.

All baby birds need to be taught how to look after themselves.
(**independence**).

Name _____

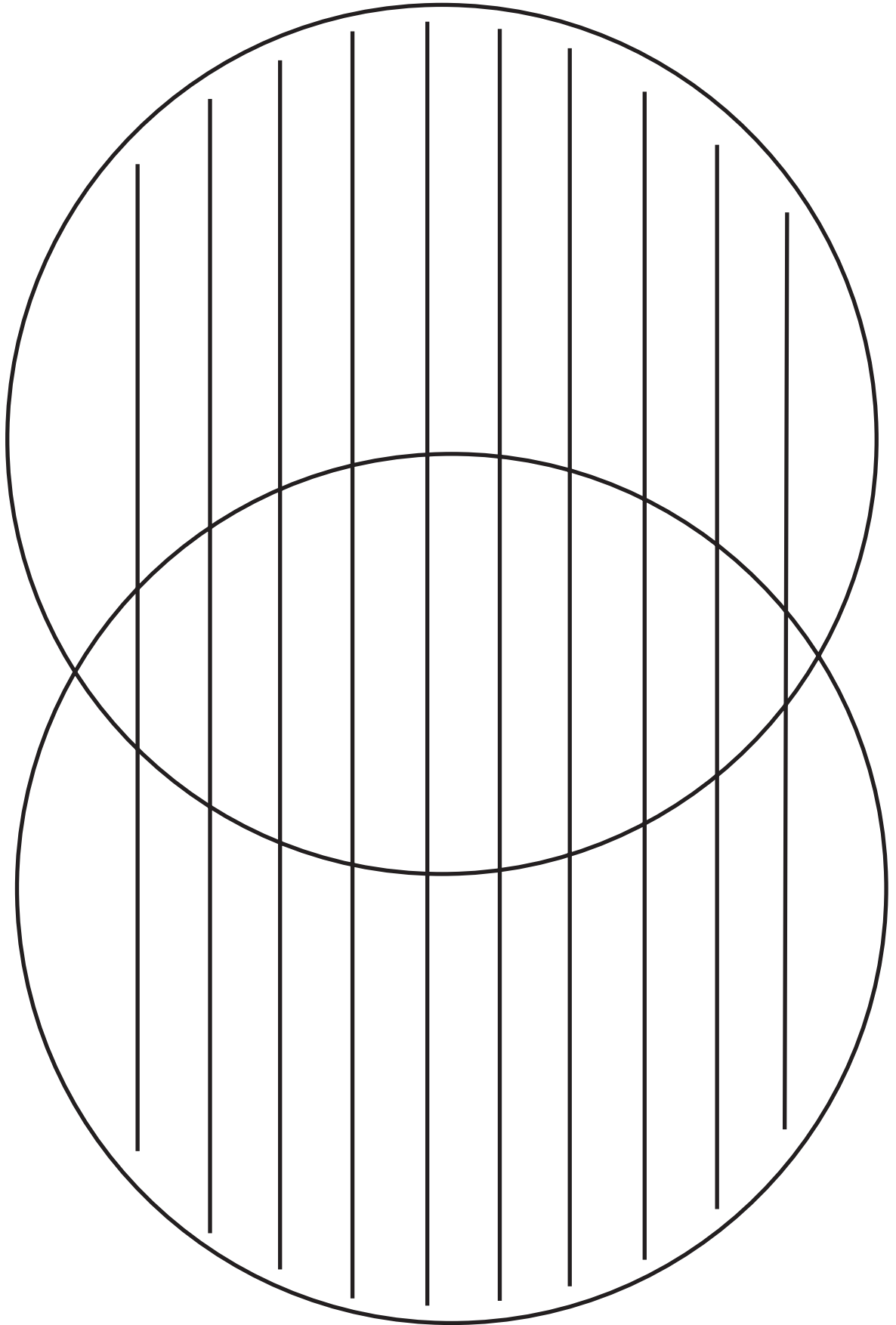
Date _____

Venn Diagram

Different

Same

Different



WHAT DO BABY BIRDS EAT?

Use scissors to cut out these words. Study the food words and decide which ones baby birds will eat. Glue the words under the correct headings. (Baby birds eat... Baby birds don't eat)

popcorn

seeds

caterpillars

spiders

cookies

chips

voles

moths

worms

chocolate

candy

water bugs

mosquitoes

fish

fries

aphids

butterflies

snails

mice

nectar

hot dogs

spaghetti

Name _____

Date _____

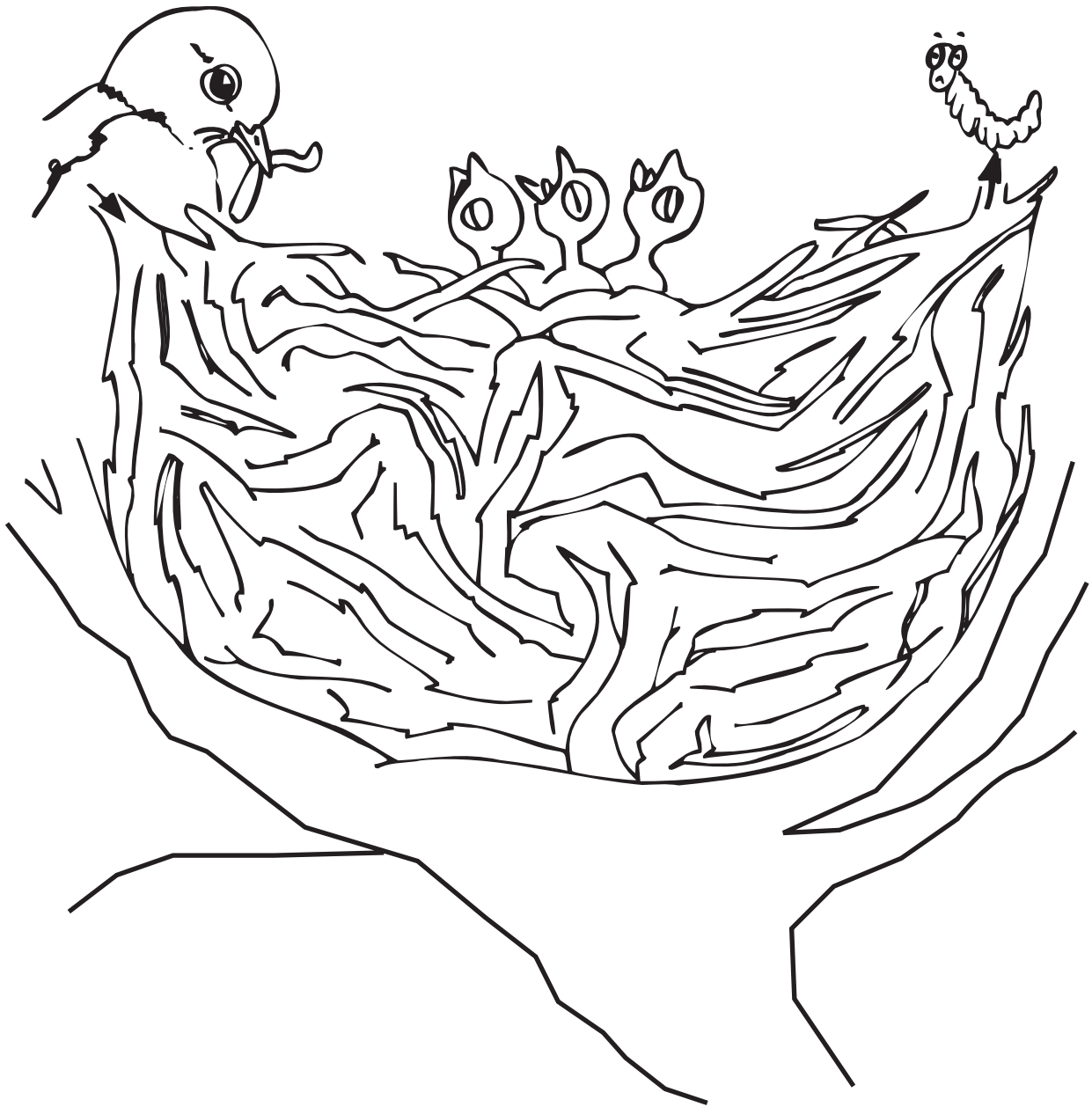
What do Baby Birds Eat?

Baby birds eat.....

Baby Birds don't eat.....

MAZE PUZZLE

Help this mother bird find her way through the maze to the yummy worm!

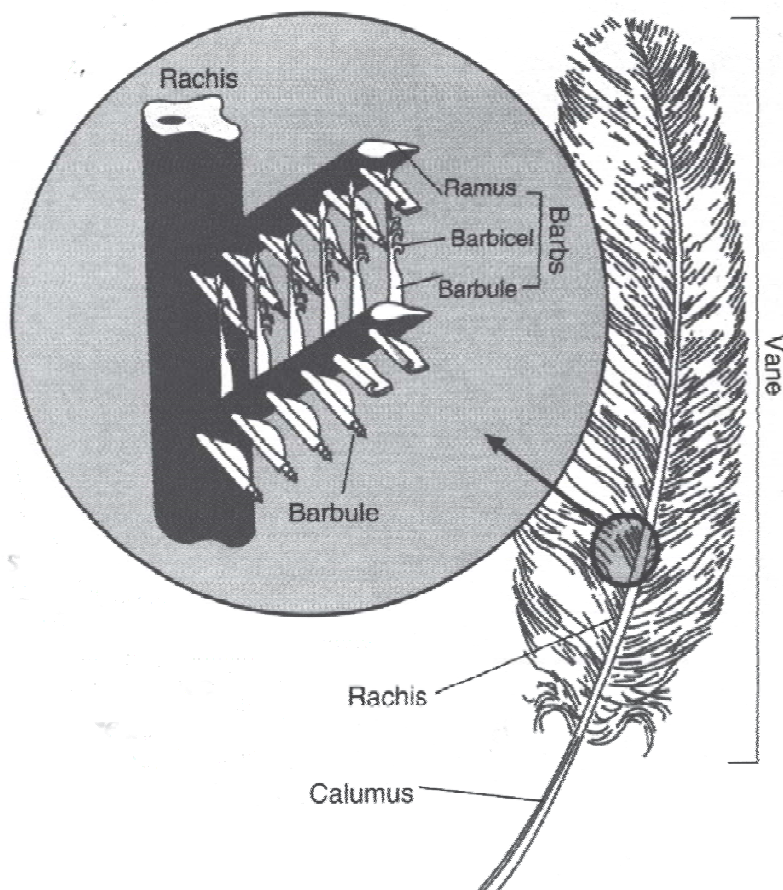


BIRDS OF A FEATHER

Did you know...

It is critical that young birds get lots of protein so that their feathers develop properly to keep them warm and allow them to fly.

Throughout their life cycle, birds are constantly growing new feathers.



Hummingbirds have 1000 feathers, whereas Trumpeter Swans have more than 25,000.

Feathers are shed or "moulted" regularly because they wear out.

Birds comb or "preen" feathers with their beaks and feet to re-arrange and oil them after flying or swimming.

Each feather consists of lots of threadlike branches which lock together with tiny hooks to help keep the feather shape.

Close-up view of a feather

(as adapted from **Understanding Waterfowl**, by Keith McKnight, in Ducks Unlimited Nov/Dec 2000 Issue, page 30)

MY FEATHER COLLECTION

At the Sanctuary in early summer, you can find many feathers on the ground. In late June, none of the Sanctuary's Canada Geese can fly. They are either too young to have grown wing feathers, or are adult birds who have shed their old flight feathers and are growing new ones. Mallards are moulting all their showy feathers of their head and chest and even their curly tail feathers!



Can you find 3 types of feathers and glue them to the circles? For an extra challenge, try draw a line to show where they came from on the bird.

(Illustration from **Wildlife & Farms**, 1993 by Ducks Unlimited Canada).

BABY BIRD POEMS

There are many different types of poems. Haiku, Pyramid and Acrostic are easy to create using the words you have learned about baby birds.

Haiku. Line 1 5 syllables	Baby ducklings go,
Line 2 7 syllables	Waddling, following, searching,
Line 3 5 syllables	Where mother duck goes.

Clap to check you have the correct number of syllables.

Pyramid. Line 1 - 1 noun, (the subject of this poem)
Line 2 2 words describing the subject
Line 3 3 verbs (action words) about the subject
Line 4 2 short statements or questions.

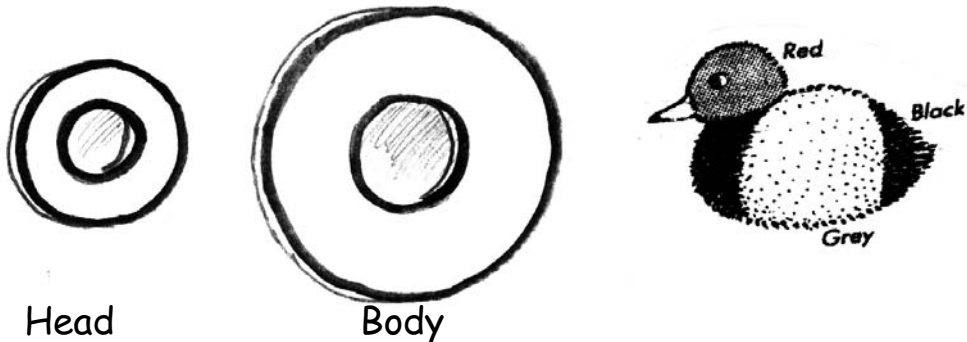
Nestling,
Helpless, small.
Cheeping, begging, sleeping,
Busy feeding, growing fast.

Acrostic. Duckling
Under mother's wing
Cheeping constantly
Keeping in
Line
Identical
Neat
Going away.

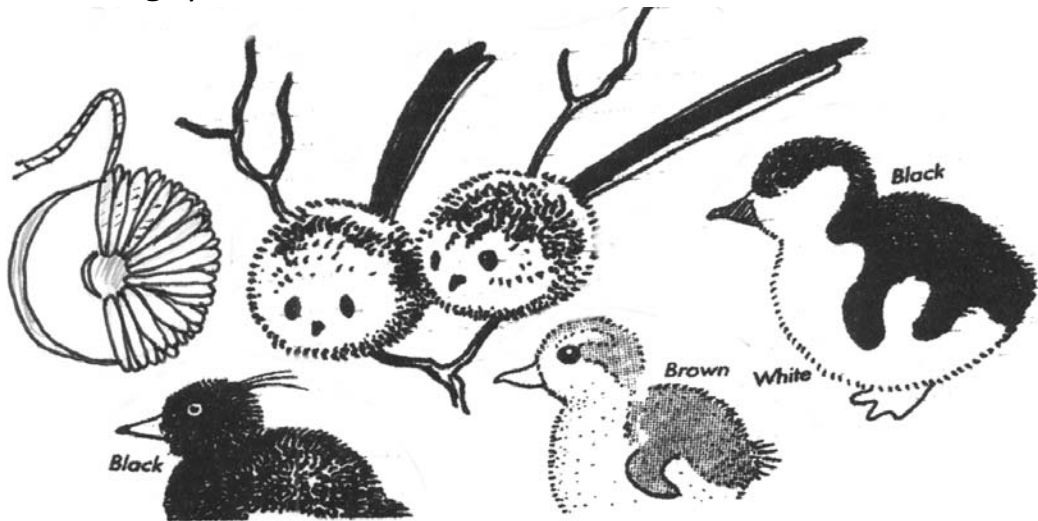
WOOLY POMPOM BIRDS

Materials: 2 large and 2 small cardboard circles,
with holes in centre.

Scissors, craft glue, yarn, beads (for eyes)



Method: Thread yarn through hole and around 2 card circles.
Continue until card is thickly covered. Use different colour yarn to suit
your bird. Using scissors cut the yarn between the outside edges of
the circles. Slide a length of yarn between the 2 card circles and tie
tightly in a knot, so all the yarn in the pompom is held secure. Pull the
card circles away, fluff up and trim the pompom. Repeat these steps
with the smaller circles to make the head. Glue the body to the head.
Add cardboard feet and beaks. Glue on beads for eyes. Display your
birds on a twig, piece of bark or make a nest for them.



RESOURCES

The Kids Canadian Bird Book

By Pamela Hickman, Kids Can Press. ISBN 1-55074-334-1
Ages 7-11. Information, amazing facts, projects.

Bird, Eyewitness Series

ISBN 0-7737-2177-0. Publisher -Stoddart
All ages, general information, eggs, nests, young.

Canadian Birds (Nature Canada Series)

By Colleayn O. Mastin, Grasshopper Books Publishing,
ISBN 1-895910-07-02 Focus on variety of BC birds.

Birds Eyewitness Explorers

By Jill Bailey & David Burnie
ISBN 0-7737-2578-4. Publisher Stoddart.
Age 5-10. Information & activities, nests, eggs, flight.

Baby Animals - Ducklings

By Kate Perry. Publisher-Barron's Educational Series
ISBN 0-8120-1489-8
Ages 5-8 How ducklings are hatched,fed,fly,communicate.

First Field Guide Birds

National Audubon Society. Published by Scholastics.
ISBN 0-590-05482-1
Good 1st field guide, easy to read information.

Ornithology

By Ellen Doris. ISBN 0-500-19008-9

Age 7-11. Science, experiments, projects, nests.

Focus on Birdwatching

By Rob Hume. Published by Hamlyn Children's Books. 1992

ISBN 0 600 57366 4. Photography, info. equipment, bird ID.

Gr. 1-7. Recommended *

Introducing Birds, Hands On Nature Series.

By Pamela Hickman

ISBN 0 921217 93 5.

Eyewitness Handbooks. Birds' Eggs

By Michael Walters.

ISBN 0 7737 2596 2 (Gr. 3-12)

Photographs of bird's eggs, information, descriptions.

Birds, Nests and Eggs.

By Mel Boring. Creative Publishing International.

ISBN 1 55971 624 X (Gr. 1-4)

How and where birds build their homes, raise their young.

CD. Wetland Symphony

Ducks Unlimited

Birdsong with background music.

CD. /Tape 'Solitudes, Pacific Suite'

Birdsong with music.