

GRADE ONE: CHARACTERISTICS & NEEDS OF LIVING THINGS BOOKLET

TO THE TEACHER

Welcome! Thank you for selecting an education program at the Toronto Zoo. This booklet has been designed to help teachers enhance the educational value and enjoyment of the Characteristics & Needs of Living Things workshop. We recommend that workshop visits coincide with classroom studies of living things. This collection of activities has been designed to meet several expectations of the Grade One Science Curriculum. Our pre-visit activities have been developed so as to help students gain a foundation to help them more thoroughly understand what they will experience during the workshop. Additionally, follow-up activities have been provided to help students synthesize their observations and experiences. We hope you find this information useful and easy to incorporate into your classroom.

While visiting the zoo, students will have an opportunity to explore "Touch Tables". At these sensory centres; students will use their own senses to identify animals by feeling fur, feathers and hair, listening to animal sounds, and looking at various artifacts.

This booklet provides you with information on the following elements:

- ◆ Where the workshop fits in with the Grade 1 Science Curriculum
- ◆ Agenda for your zoo visit
- ◆ Suggested activities for both before and after your visit to the zoo
- ◆ Concepts and vocabulary covered in the workshop
- ◆ Internet Resources and
- ◆ Suggested books

WHERE DOES IT FIT IN?

Strand: Life Systems

Topic: Characteristics & Needs of Living Things

- ◆ To recognize and explore how animals move and use their senses to meet their needs.

Specific Expectations Met:

Understanding Basic Concepts

- ◆ Describe the different ways in which animals move to meet their needs.
- ◆ Identify the location and function of each sense organ.
- ◆ Classify characteristics of animals by using the senses.
- ◆ Identify and describe common characteristics of humans and other animals that they have observed, and identify variations in these characteristics.

Developing Skills of Inquiry, Design, and Communication

- ◆ Ask questions about and identify some needs of living things, and explore possible answers to these questions and ways of meeting these needs.

Relating Science and Technology to the World Outside the School

- ◆ Compare ways in which humans and other animals use their senses to meet their needs.
- ◆ Describe ways in which the sense can both protect and mislead.
- ◆ Identify ways in which individuals can maintain a healthy environment for themselves and for other living things.

AGENDA

Please note that the order or location of some of these activities may change due to construction, weather or animal health concerns. We can adapt the afternoon activities according to your priorities.

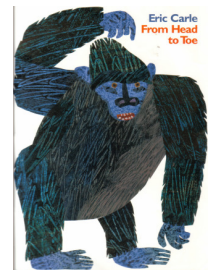
10:00	Welcome to the Toronto Zoo & outline of agenda Introduce concepts covered during the workshop: What do living things need for survival? Senses and Animal movement
10:30	Outdoor tour
12:00	Lunch. Please have everyone bring a lunch. <u>There will be no opportunity to go to the restaurant</u>
12:20	Sensory Centres – Touch Tables & Student Activities
12:45	Outdoor Tour
1:50	Certificate presentation and close of program

PRE-WORKSHOP ACTIVITIES

1. Eric Carle – “From Head to Toe”

This book is a great way to introduce your class to the topic of animal movement. While seated in your meeting / carpet area, encourage students to participate as you ask “Can you do it?” while reading to your class.

This book can be used as a lead in to discussing different ways animals move. Seals can “clap” their flippers, but what else do they use them for? What do other animals use to swim through the water?



Talk about and brainstorm with the class all the different ways that animals move. New terms can be introduced at this time. Examples include: walk, crawl, slither, gallop, jump, swim, leap and fly.

Idea for tying it all in:

In the gym, allow a few moments for free movement as we see all the different ways we can move. Next, have students pretend they are animals and move as that animal would. Choose a student to model a movement and have other students copy the movement. Act out each of the different ways animals moved as discussed in class.

Variation: Make cards with the movements words listed above written on them. Ask students to sit in a circle. Give each student one movement card. As the students show their cards, the teacher reads the movement. The student will act out the movement and name an animal that moves in such as way.

These additional activities provide an opportunity to meet several expectations from the Health and Physical Education Curriculum including:

Locomotion / Travelling Skills

- ◆ Travel in a variety of ways (e.g., leap, gallop) in different directions in response to signals;
- ◆ Travel in a variety of ways using different pathways,

Physical Activity

- ◆ Follow instructions, pay attention and attempt new activities.

2.Sensory Centres

Sensory centres are a wonderful activity for your students to practice using their senses in isolation from each other. At various stations through out the class room have sounds, tastes, visuals, smells and tactile experiences grouped for students to engage in. One suggestion would be to have a station for each of the senses. Have students identify objects that they are experiencing by using one or more of their senses.

Sight: Include close up photo graphs to identify everyday objects.

Sound: Pre-recorded sound clips can be used such as a train, animals, machines or any other objects that would be easily identifiable.

Smell: Place samples of spices, popcorn, wood shavings, vanilla in paper bags for children to smell. What happens if we plug our noses and try to smell?

Taste: Use bitter, sweet, salty and sour samples of items to taste. What happens if we plug our noses and try to taste?

Touch: A variety of common objects can be concealed in paper bags to see if students can identify them. Some suggestions include; wooden blocks, a carpet sample, play dough, wool and sand paper.

This activity can be used as a lead in on another day to discussing animal senses. How are they similar / different from ours?

3.KWL Chart – Animal Movement and Senses

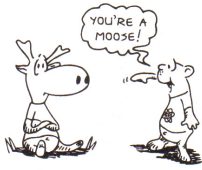
This activity will encourage students to practice making predictions and communicating their ideas to the class. It is an excellent opportunity for the teacher to assess the prior knowledge that students have regarding concepts covered in the workshop.

As a class, complete the first two columns of the KWL chart. The chart may be displayed in the class as a reminder of your upcoming visit to the Toronto Zoo. The final "Learned" column can be completed as a follow up activity to your visit.

What we KNOW	What we WANT TO KNOW	What we LEARNED

FOLLOW-UP ACTIVITIES

1. What Animal am I? (Science Is.... Pp. 99)



This activity will help build questioning skills in younger students. One person is chosen to be an animal, whispers to the student what animal they are. The "animal" returns to the group and answers questions from their classmates while they try to figure out what animal he / she is. For example; Can you fly? Do you have fur? Do you eat meat? The animal can only answer yes or no.

2. Sensory Scavenger Hunt

Pretend you are a wild animal exploring your territory. Go on a scavenger hunt around your schoolyard. What do you see? Hear? Feel? Smell? This is an activity that could be done at different points throughout the year to make note of seasonal changes.

If you are doing this activity within your classroom, you may wish to bring in other objects not normally found inside.

Idea for tying it all in:

Students may be asked to create a journal entry by drawing a picture and writing about what they experienced while on their scavenger hunt.

3. Animal Yoga (Science Is.... Pp. 100 - 101)

Can you stretch like a cat? Sit like a frog? Let the animals give you a lesson in relaxation and body awareness. (A soft surface such as a carpet or gym mats will be required.) Try the positions found at the end of this booklet. Always move slowly and smoothly; never stretching muscles until they hurt. Each position should be held for a slow count to 3 – 10. Don't forget to BREATHE!!



WALK LIKE A MONKEY: Stand very straight. Bend forward until your hands touch the ground while your legs remain straight. Walk around on all fours, keeping your legs as straight as possible (don't let your knees touch the ground!). Stop. While you keep your legs straight, slowly push yourself upright, lift your hands off the ground, and return to a standing position.

4. Graphing Animal Moves

This activity is an excellent way to tie your animal unit into the expectations of the Math strands of collecting, organizing and analyzing data as well as concluding and reporting on data.

Cut approximately 40 pictures of animals from magazines. Working as a group, how many ways can you group the animals? Try classifying the animals by colour, how they move, what they have covering their bodies or any other way that your students suggest.

Create a graphical representation of your findings as a whole class (i.e., bar graph). This would be a great lead in or review of graphing skills.

5. Word Search

A word search and answer key have been attached. Please feel free to copy and distribute this puzzle to your students. A suggestion for this activity may be for “busy work” for those who are looking for extra activities upon completion of assigned tasks.

The word search includes 15 vocabulary words that are tied directly to the workshop. There are **no** diagonal or backwards words included in the puzzle.

SUMMARY

The following is a general summary of the major concepts covered in the workshop.

Animal Needs

All living things need food, air, water and shelter for survival. Animals in the wild move around and use some pretty amazing senses to find all of these things on their own.

Animal Movement

Throughout the day, we will see some animals that move in some pretty interesting ways... flying, slithering, swimming, climbing and hopping. Other body parts that help animals move other than hands and feet will also be explored (wings, tails and fins).

Animal Senses

We use our senses to learn about the environment around us. They help keep us safe, find food and alert us to danger. Many animals have all the same senses as humans. Some animals have developed additional senses over time. Many animals have especially good hearing, sight or smell. Some animals have different ways of tasting or hearing other than with their mouths and ears. Throughout the workshop we will see some of these animals and learn about their amazing animal senses

VOCABULARY LIST

nocturnal	active at night
prey	an animal hunted or killed by another animal for food
predator	an animal that lives by killing and eating other animals
senses	how organisms learn about the environment around them. Through sight, hearing, smell, touch and taste we take in our surrounding to find food, keep ourselves safe and find shelter. <ol style="list-style-type: none">1. sight - The ability of our eyes to see those things around us.2. sound - The ability of our ears to hear the sounds around us.3. smell - The ability of our nose to smell all the different smells around us.4. touch - The ability of our hands and skin to feel the things around us.5. taste - The ability of our tongue to taste all the different foods around us.
shelter	something that provides protection or cover (e.g. from the weather, or predators)

RESOURCE LIST

All sites listed are great resources for teachers. While the majority of these sites are listed as for students; the reading level required is most likely above that of Grade 1 children.

<http://www.torontozoo.com/Animals/>

These pages are jam-packed with facts and descriptions of many of our most popular animals. We often add fact sheets to the collection so check back often.

www.nationalgeographic.com/kids/

National Geographic's site geared towards children complete with games, homework help, and activities. Get to know some of the most interesting and unusual members of the wild world—from cheetahs to crocodiles and whales to warthogs. Dive in to the Creature Feature for photos, video, audio, postcards, fun facts, and more!

<http://www.pbs.org/kratts/world/index.html>

This site contains an interactive world map that links to animals that live in different parts of the world. Animal descriptions include general profile, adaptations, interesting facts, and colour pictures.

www.greatsitesforkids.com

This site is a great starting point for all kinds of websites geared towards children. Site is organized by curricular areas or you can submit your own search criteria.

<http://school.discovery.com/teachingtools/teachingtools.html>

Quick and easy-to-use worksheet generators.

http://www.enature.com/guides/select_group.asp

This online field guide with over 4000 photographs of North American animals and plants. Site is very well organized.

Books

Bosak, Susan V. (2000). Science is.... 2nd Edition. Markam: Scholastic Canada Inc.

A source book of fascinating facts, projects and activities.

Grambo, Rebecca L. (1997). Eyes. Chicago: Kids Books Inc.

Find out about nature's most amazing animal eyes! From flies to eagles, from lizards to wolves, these eyes are big, bizarre, and powerful.

Swanson, Diane (1999). Noses that Plow and Poke. Toronto: Douglas & McIntyre Publishing Group.

Want to know who's nosy? Lots of animals are. They have noses for talking, noses for poking around – even noses for doing tricks. Of course, they also use a nose like you do: to breathe and smell.

Swanson, Diane (1999). Tails that Talk and Fly. Toronto: Douglas & McIntyre Publishing Group.

Tails are terrific. Animals use them in swimming, flying and talking.

Swanson, Diane (2000). Feet that Suck and Feed. Toronto: Douglas & McIntyre Publishing Group.

Feet are neat. Some are built for special jobs, such as climbing, jumping, swimming, or racing.

ANIMAL YOGA POSITIONS



FLY LIKE A BIRD: Hang your arms loosely at your sides. Lean forward and slowly lift your arms up behind you as high as possible. Hold, then relax in a standing position.



RELAX LIKE A JELLYFISH: Lie on your back. Shut your eyes, and relax all the muscles in your body. Pretend your body is made of jelly. Breathe slowly and deeply for several minutes.



YAWN LIKE A LION: Sit on your feet. Put your hands on your knees. Lean forward while opening your eyes and mouth wide. Stick out your tongue as far as possible. Let out a loud roar! Sit back and relax.



KNEEL LIKE A CAMEL: Kneel on the ground with your right hand resting on your right heel and left hand on your left heel. Raise your chest up, bend your head back, push your chest toward the sky, and hold. Return to a kneeling position and take your hands off your heels. Bend back slightly. Move one arm up over your head and hold it straight. Then try your other arm. Relax in a kneeling position.



WALK LIKE A MONKEY: Stand very straight. Bend forward until your hands touch the ground while your legs remain straight. Walk around on all fours, keeping your legs as straight as possible (don't let your knees touch the ground!). Stop. While you keep your legs straight, slowly push yourself upright, lift your hands off the ground, and return to a standing position.



BALANCE LIKE A STORK: Stand up straight with your arms at your sides. Slowly lift up one leg and balance on the other leg. Slightly bend the leg you're balancing on; bring your index fingers from both hands to your nose. Then lift up your bent arms. Hold. Return to a standing position and reverse legs.



STRETCH LIKE A CAT: Stand on all fours, with your back straight. Slowly raise your back up high and hold. Lower your back. Stretch out one leg until it's straight and hold. Then stretch the other leg. Relax on all fours again.



POSE LIKE A COBRA: Lie on your stomach. Move your hands under your shoulders. Push up on your hands and lift your head up and back. Push up until your arms are straight. Hold, then relax.



SIT LIKE A FROG: Sit with knees bent out and the soles of your feet touching each other. Use your hands to gently pull your feet in toward your body. Keep your back straight and flex your knees downward. Relax and sit comfortably.

Word Search

Animal Movement and Senses

** There are no diagonal or backwards words in this puzzle!



climb
eyes
fly
food
hear

jump
predator
prey
shelter
smell

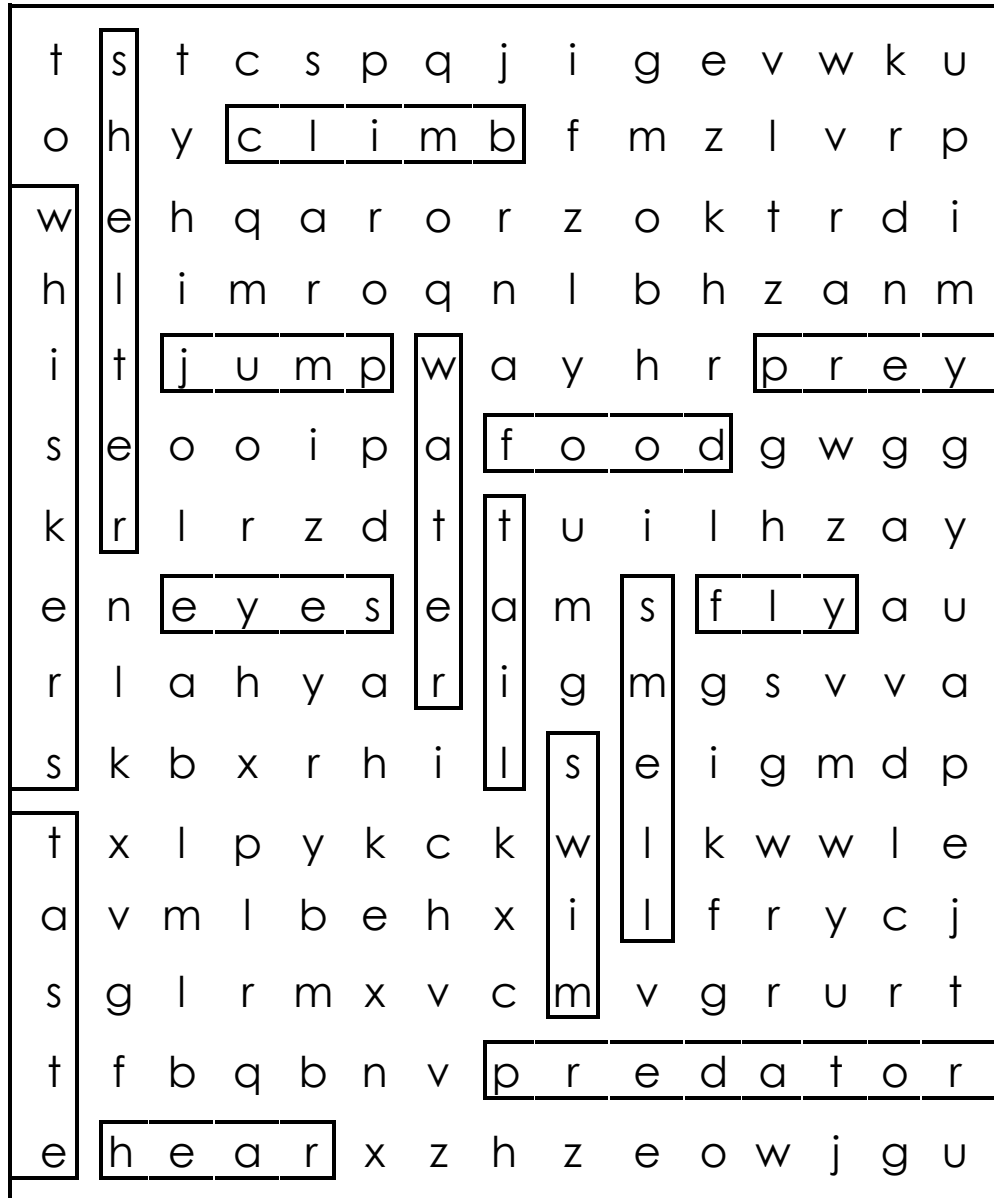
swim
tail
taste
water
whiskers

swim

Word Search

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