



**Educational Package of Suggested Activities for
GRADE SIX**

WELCOME TO SAFARI NIAGARA

A class visit to a zoo or nature park such as Safari Niagara is an excellent learning opportunity for students in any grade level. For many grades the experience can fulfill program goals or expectations from Ministry of Education Curriculum Documents, notably Science and Technology 2007 and Social Studies 2004.

Even where, at a particular grade level, there is no direct link to the curriculum documents there are opportunities for you, the teacher, to connect pre visit, on-site and post visit classroom activities to the hands-on experience of the day. The management of Safari Niagara recognized these direct and implied connections beginning with the inception and opening of the park. To assist you in planning for your visit we assembled a team of teachers at all grade levels to produce materials which will hopefully be of use to you. These curriculum materials have been upgraded several times as Ministry of Education documents were revised. However, the suggested activities remain essentially the same because good teaching ideas are forever!

You may note that the format of the attached materials can vary from grade to grade. This reflects the philosophy, experience and teaching styles of the writers. It is expected that in using the materials you will adapt them to your own classroom environment, picking and choosing those most suited to your style.

Regardless of how you plan to enhance your visit to our facility by classroom activities the fundamental truths remain. Zoos and nature parks today are becoming both a last refuge for many endangered species and a hope for their recovery at some point in the future. Humankind must accept the responsibility for the recovery of the planet. The closer we can get our students to physical contact with the real world and the wonders of nature the more they will, as adults, appreciate the gravity of this task.

GRADE 6 – UNDERSTANDING LIFE SYSTEMS : BIODIVERSITY

Fundamental Concepts

Big Ideas

Systems and Interactions

Biodiversity includes diversity of individuals, species and ecosystems

Sustainability and Stewardship

Classification of the components within a diverse system is a beginning point for understanding the interrelationships among the components.

Because all living things are connected, maintaining diversity is critical to the health of the plant

Humans make choices that can have an impact on biodiversity.

OVERALL EXPECTATIONS

By the end of Grade 6, students will:

1. Assess the human impacts on biodiversity, and identify ways of preserving biodiversity;
2. Investigate the characteristics of living things, and classify diverse organisms according to specific characteristics;
3. Demonstrate an understanding of biodiversity, its contributions to the stability of natural systems, and its benefits to humans.

SPECIFIC EXPECTATIONS

1. Relating Science and Technology to Society and the Environment

By the end of Grade 6, students will:

- 1.1 analyze a local issue related to biodiversity taking different points of view into consideration, propose action that can be taken to preserve biodiversity, and act on the proposal
- 1.2 assess the benefits that human societies derive from biodiversity

2. Developing Investigation and Communication Skills

By the end of Grade 6, students will:

- 2.1** follow established safety procedures for outdoor activities and field work
- 2.2** investigate the organisms found in a specific habitat and classify them according to a classification system
- 2.3** use scientific inquiry/research skills to compare the characteristics of organisms within the plant or animal kingdoms
- 2.4** use appropriate science and technology vocabulary, including classification, biodiversity, natural community, interrelationships, vertebrate, invertebrate, stability, characteristic and organism, in oral and written communication
- 2.5** use a variety of forms to communicate with different audiences and for a variety of purposes

3. Understanding Basic Concepts

By the end of Grade 6, students will:

- 3.1** identify and describe the distinguishing characteristics of different groups of plants and animals, and use these characteristics to further classify various kinds of plants
- 3.2** demonstrate an understanding of biodiversity as the variety of life on earth, including variety within the species of plants and animals in communities, and among communities and the physical landscapes that support them
- 3.3** describe ways in which biodiversity within species is important for maintaining the resilience of those species
- 3.4** describe ways in which biodiversity within and among communities is important for maintaining the resilience of these communities
- 3.5** describe interrelationship with species and between species and their environment and explain how these interrelationships sustain biodiversity
- 3.6** identify everyday products that come from a diversity of organisms
- 3.7** Explain how invasive species reduce biodiversity in local environments

4. Language

By the end of Grade 6, students will:

Reading

- ✓ Read independently, selecting appropriate reading strategies
- ✓ Decide on a specific purpose for reading and select material that they need from a variety of appropriate sources
- ✓ Understand vocabulary appropriate for this grade level
- ✓ Plant a research project and carry out the research

Writing

- ✓ Communicate ideas and information for a variety of purposes and to specific audiences
- ✓ Organize information to convey a central idea, using well-linked paragraphs

Oral and Visual Communication

- ✓ Ask and answer questions to obtain and clarify information
- ✓ Communicate the main idea about a topic
- ✓ Follow up on others' ideas, and recognize the validity of different points of view in group discussions or problem solving
- ✓ Recognize and interpret figurative language (i.e. simile)

5. The Arts

By the end of Grade 6, students will:

Visual Arts

- ✓ Describe how line is used to describe the viewer's attention
- ✓ Demonstrate understanding that shading creates the illusion of depth
- ✓ Identify things to be considered when placing a sculpture in a specific location

Fundamental Movement

- ✓ Perform movement skills in the kind of combinations that are requires in a variety of modified games, dance and outdoor pursuits

Active Participation

- ✓ Apply living skills including interpersonal skills in physical activities

6. Social Studies

By the end of Grade 6, students will:

Canada and its Trading Partners

- ✓ Describe the ways in which Canada's connections to the United States and at least one country from another region of the world

Aboriginal Peoples

- ✓ Identify ways in which the environment molded Canadian Aboriginal cultures

SUGGESTED PRE-VISIT ACTIVITIES

If you plan to use the activities described in this package it is important to you Safari Niagara's visit to have completed the following tasks with your class:

- Classification of animals (appendix A)
- Characteristics of vertebrates
- Assign the following animals for your class to research so that when they visit the zoo, they will be able to describe the animal to the rest of the class from their research (TOUR GUIDES):
 - Bear, camel, giraffe, jaguar, lynx, monkeys, hippopotamus, lion,, wolves, tiger and bobcat
- Refer to the animal list provided. Choose animals and research that would be important to Canada to feed them (e.g. bananas and oranges (see appendix B)
- Make a list of animals that are common to Canada, United States and one other country. This could be presented in a chart form.
- Select two animals from the list provided and compare climate of Southern Ontario to that of the region in which they originated (see appendix B)
- For teachers who have take a Project WILD workshop from the Canadian Wildlife Federation, your visit will be an opportunity to discuss many concepts from the manual. You may wish to engage your students in predator/prey activities such as Oh Deer, Quick Frozen Critters or Deadly Links. Zoos around the world today are becoming a sanctuary for many species. Activities from Section Four: Management and Conservation, such as Here Today, Gone Tomorrow, Who Lives Here or Planting Animals could be used
- Choose an animal that could be a problem or threat to your community. Divide the class into citizens and conservationists and allow pupils to debate what should be done about this (e.g. there is a black bear hanging around the local landfill site, several elk have escaped from a game farm)
- Are Safari Niagara animals related? Research like animals to determine their relationships (e.g. lion, tiger, jaguar)

ON-SITE ACTIVITIES

In order to complete the tasks successfully, you should have the following items:

- Sketching pencils
- Binder with blank/lined paper

When you arrive at Safari Niagara, it is important to take a few minutes to regroup, sit and review behavioural expectations in relation to the property and the animals. As well, it gives your students a chance to ask questions.

Birds of Prey

- Compare the birds' beaks to the kitchen utensils (e.g. knife, scissors, etc)
- Observe the wing span of these animals. Categorize the birds into headings such as soaring, gliding, diving
- Observe the wing span and discuss how they adapted to flight

Primates

- This is the first location where the students will present their research findings to the rest of their class(your students become TOUR GUIDES for the remainder of the class at this time)
- Sit and create stories that might have been told by each animal to their group as ancient tribes handed down their history. This is meant to be a fun exercise.
- Discuss why some of these animals can't be housed together. This is a good time to mention the food chain.

Large Cats and Wolves

- Pencil sketch and animal emphasizing shading
- Discuss animals using some of the following questions:
 - What might they eat?
 - Why is there an outside fence around the cage?
 - Is the location in the woods a suitable location?
 - Wolves do not eat plants but need plants to survive in nature. Explain.

Giraffe/Hippopotamus/Rhinoceros/Bears

- Continue use of TOUR GUIDES
- Create an animal with some physical features of three animals and give it an appropriate name (e.g. beagirappo)
- Discuss:
 - Parts of the world each animal originated
 - Black bear controversy in Northern Ontario and impact on the environment
 - How these animals have special adaptations to their environment (e.g. long neck of the giraffe, thick skin of the hippo)

Pond

- Discuss and point out the ecosystem of the pond. Be sure to mention the importance of non-living objects

Sculptures

- Assemble in a sculpture area to:
 - Describe how line is used to direct the viewer's attention
 - Identify things Mr Rod Dowling considered before locating the sculptures within the park
- Observe and continue to compare like animals as mentioned previously
- Continue to use TOUR GUIDE

Follow up

- Review classifications of animals
- Give examples of animals you have seen at Safari Niagara that would fit into these classifications
- Did you see any animals/birds that were free to roam about Safari Niagara

POST-TRIP ACTIVITIES

Language

- Create a menu for feeding one of the animals. Make it resemble a menu in a restaurant as if the animal had many items to choose from
- Write a story about one of these suggested themes:
 - Safari Niagara's animal dreams
 - A wildlife magazine article
 - The diary of a Safari Niagara animal (see appendix D)
- Remind the students that people are mammals as well. Discuss ways in which people are confronted with problems just like other animals. How do people deal with defending themselves? People can talk their way out of problems. Can animals do this? How do people and animals compare in their responses to problems?
- Write poems describing your visit to Safari Niagara (see appendices E/F)
- Elicit notable quotes from your class which were inspired by your trip to Safari Niagara. Make a bulletin board to display them.
- Create CD covers that advertise a song that relates to Safari Niagara's animals
- Design a vocabulary quiz based on your visit to Safari Niagara. For each word provide a phonetic pronunciation and four closely related meanings, one of which is correct.
- Use vocabulary learned at the zoo to enhance your Language Program. Discuss the difference between homophone (deer, dear) and homographs (swallow- more than one meaning) Create rhyming pairs of words using the names of Safari Niagara's animals. Research the root words for the names of some animals or the origin of these names. Refer to appendices G/H/I.

Visual Arts

- Create tactile story of the visit to Safari Niagara for students in a primary class
 - Choose several animals
 - Print a short story or poem of each on the bottom of the page
 - Draw a picture of the animal on top of the page
 - Use material such as cloth or cardboard to cover parts of the animal
 - Assemble the pictures into a booklet
 - Visit a primary classroom and read the stories
- Create an artwork that has a hidden animal in it such as an amphibian. Discuss the importance of colour to camouflage for an animal
- Have students make models of animal or the artwork design of Rod Dowling. Here is a recipe for making modelling clay:
 - Thoroughly mix together 500ml of white flour, 50 ml of table salt, 400 ml of baking soda, 250 ml corn starch and 300 ml of water
 - Place mixture in a sauce pan and warm over medium heat, stirring until the mixture has consistency of dry dough
 - Place clay on a plate and cover with a damp cloth until it is cool.
 - When cool use to create your model. Allow to dry before applying paint

Science and Technology

- Discuss how special adaptations of animals allow them to survive in the particular environments. What special adaptations do people have that allow us to inhabit so many different environments?
- Since there are many different habitats, no single animal species could exist in all of them. Each animal has developed certain characteristics that allow it to survive. Design an animal that could live in more than one habitat (e.g. a desert and a swamp/a mountain and a plain)
- Use models, charts or diagrams to compare the skeletal systems of humans and other animals. How are they similar? How do they differ?

Social Studies

- There are many animals at Safari Niagara which come from other parts of the world. On a map of the world locate the origin for as many animals as you can find from appendix B

- There are often stories in the newspaper of exotic animals which are born in zoos around the world. In some cases the two parents are from different zoos in different countries. Research how zoo administrators are attempting to preserve species in this way. How do these exchanges help foster better relations between countries?

Health and Physical Education

- Have the students imitate the movement of various animals seen at Safari Niagara. Put the movement to music
- Use activities from Project WILD such as Oh Deer to stimulate outdoor games

Appendix A1- Research

Animal Classification

There are two major divisions in the animal kingdom; those without backbones and those with backbones. Animals with backbones can be divided into five groups (called CLASSES); Amphibians, Fish, Reptiles, Birds and Mammals.

Look at the list of animals below and sort them according to the class in which they belong.

Amphibian	Fish	Reptile	Bird	Mammal

Anaconda
Gnu
Stingray
Wallaby
Mud Puppy

Salamander
Egret
Turtle
Bullfrog
Osprey

Crocodile
Herring
Iguana
Toucan
Yak

Cougar
Shrew
Cockatoo
Opossum

Bat
Horned Toad
Mackerel
Sturgeon

Appendix A-2 - Answers

Animal Classification

There are two major divisions in the animal kingdom; those without backbones and those with backbones. Animals with backbones can be divided into five groups (called CLASSES); Amphibians, Fish, Reptiles, Birds and Mammals.

Look at the list of animals below and sort them according to the class in which they belong.

Amphibian	Fish	Reptile	Bird	Mammal
Bullfrog Mud Puppy Salamander Horned Toad	Stingray Mackerel Herring Sturgeon	Anaconda Iguana Crocodile Turtle	Egret Cockatoo Toucan Osprey	Bat Shrew Opossum Yak Cougar Gnu Wallaby

Anaconda
Gnu
Stingray
Wallaby
Mud Puppy

Salamandor
Egret
Turtle
Bullfrog
Osprey

Crocidile
Herring
Iguana
Toucan
Yak

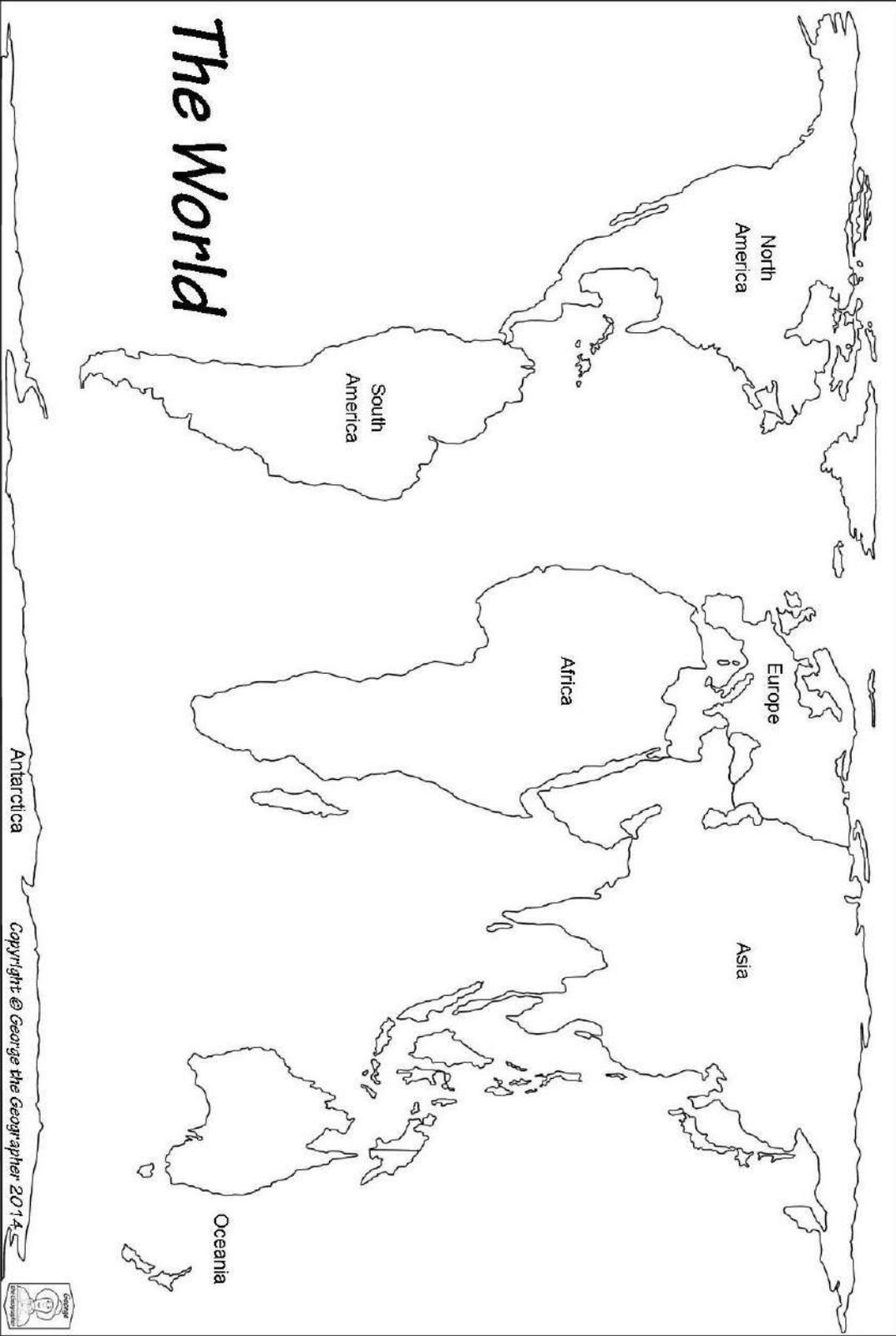
Cougar
Shrew
Cockatoo
Opossum

Bat
Horned Toad
Mackerel
Sturgeon

Appendix B- A list of Animals at Safari Niagara

African Hunting Dog	De Brazza's Monkey	Prenhensile Tailed Skink
African Leopard	Donkey	Red Footed Tortoise
African Lion	Eagle Owl	Red Kangaroo
African Spurred Tortoise	Eclectus Parrot	Red Panda
Albino Hognose	Emu	Red River Hog
Alpaca	Fallow Deer	Reindeer
American Badger	Florida Sandhill Crane	Ring-Tailed Lemur
American Golden Eagle	Gila Monster	Rosella
American Red Fox	Giraffe	Rough Legged Hawk
Amur Leopard	Goeldi's Monkey	Royal Python
Andean Condor	Goffin's Parrot	Sacred Ibis
Argus Monitor	Grants Zebra	Savannah Uromastyx
Bactrian Camel	Great Horned Owl	Scarlet Ibis
Barbary Ape	Greater Flamingo	Scarlet Macaw
Barn Owl	Greater One Horn Rhino	Serval Cat
Bearded Dragon	Grey Wolf	Siamang Gibbon
Bengal Tiger	Harris Hawk	Six Banded Armadillo
Black & White Ruffed Lemur	Hippopotamus	Slender Tailed Meerkat
Black Bear	Honduran Milk Snake	Snowy Owl
Blue Bellied Roller	Indian Sarus Crane	Southern White Rhino
Blue Gold Macaw	Japanese Macaque	Spotted Jaguar
Blue Tongue Skink	Lar Gibbon	Striped Skunk
Brazilian Tapir	Leopard Gecko	Stuarts Milk Snake
Brown Lemur	Malagasy Tree Boa	Swift Parrot
Budgerigar	Military Macaw	Syrian Brown Bear
Bush stone Curlew	Miniature Horse	Turkey Vulture
California Kingsnake	Miniature Zebu	White Ibis
Canadian Bobcat	Mississippi Map Turtle	Wildebeest
Canadian Lynx	Moluccan Cockatoo	Yellow-Naped Amazon
Cape Thick Knee	Musk Ox	
Common Eland	Mute Swan	
Common Raven	Nilgai	
Cougar	Northern Bald Eagle	
Dark Handed Agile Gibbon	Nubian Goat Cross	
	Ostrich	
	Prehensile Tailed Porcupine	

Appendix C



Appendix D

GET THE INSIDE STORY

Pretend you are a reporter. Interview a Joey (a baby kangaroo) inside it's mother's pouch.

Write 5 questions you would like to ask and the 5 possible answers the Joey would give. Your 5 questions should begin with the words who, what, where, when and why.

Interviewer: Who _____

Joey: _____

Interviewer: What _____

Joey: _____

Interviewer: Where _____

Joey: _____

Interviewer: When _____

Joey: _____

Interviewer: Why _____

Joey: _____

Appendix E- Poetry

LATERN POEMS- A lantern poem is a Japanese Poem written in the shape of a Japanese Lantern. The shape comes from the number of syllables in each line:

- Line 1 has one syllable
- Line 2 has two syllables
- Line 3 has three syllables
- Line 4 has four syllables
- Line 5 has one syllable

Here are some examples. Try writing your own LATERN POEM about an animal.

Bats Swooping In the night Catching insects YUM!	My Panda Is black and white, soft, a cuddly bear.
--	---

HAIKU- a Haiku is a Japanese poem which is only three lines long. Each line has a special number of syllables:

- Line 1 has five syllable
- Line 2 has seven syllables
- Line 3 has five syllables

Here is an example. Try writing your own HAIKU about an animal.

Swinging in the trees Hanging around upside down Monkeys can be clowns
--

Appendix F- More Poetry

CINQUAIN- A cinquain is a simple, five line poem. Each line has a specific numbers of syllables and purpose:

Line 1 is the title and has two syllables

Line 2 is a description and has four syllables

Line 3 is the action and has six syllables

Line 4 is how you feel about the title and has eight syllables

Line 5 is another word for the title and has two syllables

Here is an example. Try writing your own cinquain about another creature.

Cheetah Graceful and quick Stalking and chasing prey Such beauty and yet so deadly Track Star

STAIR POETRY_ a stair poem is one on which the ideas build up like stairs. Each stair has a specific purpose.

Step 1- is the animal name

Step 2 – are three describing or action words

Step 3- the place you would find the animal

Step 4- another name for the animal

Here is an example of a stair poem. You can write your own as well

Gentle Giant Deep in the ocean Diving, swimming, eating Whale
--

Appendix G- Homophones and Homographs

HOMOPHONES are words that sound alike but are spelled differently and have a different meaning. Many names of animals have a homophone partner.

Here are some examples. Circle the homophone which is the name of an animal in each pair

DEER OR DEAR

HORSE OR HOARSE

BORE OR BOAR

WHALE OR WAIL

ANU OR KNEW

In the spaces provided below list other pairs of homophones. They do not have to be animals.

_____	or	_____

HOMOGRAPHS are words that have two or more different meanings. Here are some examples.

On a separate piece of paper use each word in two sentences to show the different meanings. One sentence must refer to something about animals/

SCALES

SWALLOW

CALF

SEAL

BAT

Appendix H- Humorous Rhymes

Words that have the same meaning are called SYNONYMS. Here is a rhyming synonym:

A humorous rabbit is a funny bunny.

Match up the following pairs by joining them with lines

Insects trousers

Rabbit's seat

Dog kiss

Night bird scream

Insect medicine

Artificial rattler

Overweight rodent

Extra cub

Stinker's bed

Fortunate fowl

Escaped bird

Face snake

Owl howl

Spare bear

Lucky ducky

Hare chair

Skunk bunk

Ant's pants

Fat rat

Loose goose

Pooch smooch

Bug drug

Make rhyming pairs for these:

A cat's glove is a kitten _____.

An inexpensive lamb is a _____ Sheep.

A pallid sea mammal is a pale _____.

A damp house animal is a wet _____.

A healthy dog is a sound _____.

A dwelling for mice is a mouse _____.

Appendix I 1- Marvelous Marsupials

Hopping to Homophones

Homophones are also called Homophones. These are words that sound the same but have different spellings and different meanings. For example, **no** and **know**. We **know** that **no** male marsupials have pouches.

Read the following informative sentences on marsupials. Then underline the correct word, use a dictionary where necessary.

1. (Their, They're, There) are about fifty different kinds of kangaroos.
2. (Male, mail) (Red, read) kangaroos can hop great distances.
3. Rock wallabies are very agile and (their, there, they're) (feet, feat) are adapted (for, four, fore) climbing.
4. The rat kangaroo is unlike a true rat because (its, it's) (tail, tale) is completely hairy.
5. The large eyes of the cuscus make is better able to (sea, see)(inn, in) the dark rather than daylight.
6. Cuscus is a popular (form, forum) of (meet, meat) sold in New Guinea.
7. Marsupial cats usually have six to (ate, eight) young at a time.
8. Koalas spend most of their days and (nights, knights) among the tree tops.
9. The thick (fir, fur) on the koalas protect them in all kinds of (whether, weather).
10. Wombats are pig-like animals (which, witch) have a thick (course, coarse) coat of (hare, hair).

Appendix I -2- Answers

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