

# APPENDIX 1

## Ontario Curriculum Guidelines





# **EASTERN MASSASAUGA RATTLESNAKE CURRICULUM GUIDE AND THE ONTARIO CURRICULUM: LINKS AND APPLICATION**

The following is a summary of rattlesnake curriculum activities and their links with The Ontario Curriculum. Please note that while some grade levels do not have explicit Science and Technology curriculum links, many of the activities connect well with other grade levels through other subject areas. We encourage you to incorporate relevant and interesting activities into your unit lessons. Not only will you be satisfying required learning outcomes for Ontario, you will also be fulfilling the need for awareness of one of Ontario's threatened species.

## **GRADE 1**

### **MONSTROUS APPETITES**

#### **SCIENCE AND TECHNOLOGY**

##### *LIFE SYSTEMS*

- identify food as a source of energy
- identify the sun as a principle energy source
- describe sensitivity to heat and cold
- understand the need for different forms of energy
- identify the sun as a source of heat and light

#### **MATHEMATICS**

##### *DATA MANAGEMENT AND PROBABILITY*

- interpret displays of data using concrete materials, and discuss the data
- pose questions about data gathered

### **MAKING SCALES**

#### **SCIENCE AND TECHNOLOGY**

##### *LIFE SYSTEMS*

- classify characteristics of animals
- describe the different ways in which animals move
- identify and describe similarities and variations between human and animal characteristics
- identify and describe patterns of living things

##### *STRUCTURES AND MECHANISMS*

- explain the structure and function of different structures
- identify structural and functional similarity
- identify geometric shapes

## **THE ARTS**

### *VISUAL ARTS*

- produce two- and three-dimensional works of art that communicate ideas for specific purposes
- use the elements of design (colour, line, shape, form, space, texture), in ways appropriate for this grade, when producing and responding to works of art
- describe the texture of various familiar objects using vocabulary and terminology appropriate for this grade
- identify the elements of design in familiar environments

## **SNAKESKIN SHEDDING SPEEDWAY**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- describe the different ways in which animals move
- identify and describe similarities and variations between human and animal characteristics
- compare changes in humans and animals as they grow

### **HEALTH AND PHYSICAL EDUCATION**

#### *ACTIVE PARTICIPATION*

- follow instructions, pay attention, and attempt new activities
- work co-operatively with others
- demonstrate respect for others in group situations

#### *FUNDAMENTAL MOVEMENT SKILLS*

- demonstrate the principles of movement using locomotion/travelling, and stability skills

## **CAN YOU FIND ME?**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- identify the location and function of sense organs

#### *ENERGY AND CONTROL*

- describe how our senses help us perceive heat

#### *MATTER AND MATERIALS*

- identify the senses and describe how they help to recognize materials

## **FEEL THE VIBRATIONS**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- identify the location and function of each sense organ
- describe how animals use their senses to meet their needs

#### *MATTER AND MATERIALS*

- identify the properties of materials
- identify properties of materials that are important to their functioning
- describe various materials using information gathered by the sense

## **GRADE 2**

## **MAKING SCALES**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- identify and describe major physical characteristics of different types of animals
- identify and describe behavioural characteristics
- classify animals using observable characteristics
- describe changes in the appearance and activity of animals throughout their lifecycles
- describe responses and adaptation to the environment

### **THE ARTS**

#### *VISUAL ARTS*

- produce two- and three-dimensional works of art that communicate ideas (thoughts, feelings, experiences) for specific purposes and to familiar audiences
- use the elements of design (colour, line, shape, form, space, texture), in ways appropriate for this grade, when producing and responding to works of art
- identify the elements of design in a variety of familiar objects and in works of art
- identify and describe a variety of textures

## **SNAKESKIN SHEDDING SPEEDWAY**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- identify and describe major physical characteristics of different types of animals
- identify and describe behavioural characteristics
- describe changes in the appearance and activity of animals throughout their lifecycle
- describe responses and adaptation to the environment

### **HEALTH AND PHYSICAL EDUCATION**

#### *ACTIVE PARTICIPATION*

- stay on task, follow instructions, pay attention, and see tasks through to completion
- provide help to and ask for help from group members

#### *FUNDAMENTAL MOVEMENT SKILLS*

- demonstrate the principles of movement (e.g., at various levels, in relationship to equipment, using different body parts) using locomotion/travelling, and stability skills

## **THE GREAT SNAKE DETECTIVE**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- identify and describe major physical characteristics of different types of animals
- describe responses and adaptation to the environment

### **MATHEMATICS**

#### *PATTERNING AND ALGEBRA*

- identify, extend, and create number, geometric, and measurement patterns, and patterns in their environment

## **CAN YOU FIND ME?**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- identify and describe behavioural characteristics
- describe responses and adaptation to the environment
- compare ways in which animals obtain and eat their food

## **FEEL THE VIBRATIONS**

### **SCIENCE AND TECHNOLOGY**

- compare ways in which animals use their environment to meet their needs

#### *LIFE SYSTEMS*

- identify and describe behavioural characteristics
- compare ways in which animals obtain and eat their food
- compare ways in which animals use their environment to meet their needs
- describe responses and adaptation to the environment

## **SNAKES IN THE SNOW**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- identify and compare the effects of seasons on animals
- identify and describe behavioural characteristics that enable an animal to survive
- describe ways in which animals respond and adapt to their environment

## **A MATTER OF LIFE AND DEATH**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- identify and describe behavioural characteristics that enable animals to survive
- compare ways in which animals use their environment to meet their needs
- describe ways in which animals respond and adapt to their environment
- identify needs of different animals
- compare effect of seasons on animals
- describe ways in which humans can help or harm living things

## **CHAIN GANG**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- identify and describe behavioural characteristics that enable animals to survive

### **LANGUAGE ARTS**

#### *WRITING*

- produce short pieces of writing using simple forms

- communicate ideas for specific purposes
- organize ideas in a logical sequence

## **MISSING LINKS**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- classify a variety of animals using observable characteristics
- describe features of the environment that support the growth of familiar animals
- describe ways in which humans can help or harm other living things

### **LANGUAGE ARTS**

#### *READING*

- use their knowledge of sentence structure in oral and written language to determine the meaning of a sentence
- use a variety of reading strategies to understand a piece of writing
- use phonics as an aid in learning new words

## **GRADE 3**

### **GENERAL APPLICATION OF:**

#### *MAKING SCALES*

#### *SNAKESKIN SHEDDING SPEEDWAY*

#### *THE GREAT SNAKE DETECTIVE*

#### *FEEL THE VIBRATIONS*

#### *SNAKES IN THE SNOW*

#### *A MATTER OF LIFE AND DEATH*

#### *MISSING LINKS*

## **GRADE 4**

### **SNAKESKIN SHEDDING SPEEDWAY**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- describe structural adaptations of animals that demonstrate a response to their environment
- recognize that animals live in a specific habitat because they have adapted to it

### **HEALTH AND PHYSICAL**

### **EDUCATION**

#### *ACTIVE PARTICIPATION*

- demonstrate respectful behaviour towards others in the group

#### *FUNDAMENTAL MOVEMENT SKILLS*



- perform the movement skills required to participate in lead-up games, gymnastics, dance, and outdoor pursuits: locomotion/travelling, and stability

## **FEEL THE VIBRATIONS**

### **SCIENCE AND TECHNOLOGY**

#### *MATTER AND MATERIALS*

- identify, using their observations, a variety of materials through which sound can travel
- formulate questions about and identify problems related to the ways in which materials transmit, reflect or absorb sound or light, and explore possible solutions

#### *ENERGY AND CONTROL*

- recognize that sound is caused by vibrations
- recognize that sound can travel through a substrate
- compare how humans and other animals hear
- describe how animal ears are designed to detect vibrations

## **A MATTER OF LIFE AND DEATH**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- identify factors that affect animals in a specific habitat
- recognize that animals are dependent on specific habitats and have adapted to them

## **THE CHAIN GANG**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- classify organisms according to their role in a food chain
- describe structural adaptations of animals that demonstrate a response to the environment
- recognize that animals live in specific habitats because they are dependent upon them and have adapted to them

### **LANGUAGE ARTS**

#### *WRITING*

- communicate ideas and information for a variety of purposes and to specific audiences
- organize and develop ideas using paragraphs

## **DEADLY LINKS FOR RATTLESNAKES**

## **SCIENCE AND TECHNOLOGY**

### *LIFE SYSTEMS*

- classify organism according to their role in a food chain
- describe structural adaptations of animals that demonstrate a response to the environment
- recognize that animals live in specific habitats because they are dependent upon them and have adapted to them

## **MATHEMATICS**

### *DATA MANAGEMENT AND PROBABILITY*

- collect and organize data and identify their use
- interpret displays of data and present the information
- using mathematical terms
- read and interpret data presented on tables, charts, and graphs and discuss the important features

## **IF YOU WERE A SNAKE**

## **SCIENCE AND TECHNOLOGY**

### *LIFE SYSTEMS*

- investigate ways in which natural communities within ecosystems can change and explain how such changes can affect animal and plant populations
- formulate questions about and identify the needs of various things in an ecosystem
- investigate the impact of the use of technology on the environment
- explain the long term effects of loss of natural habitat and the extinction of species

## **LANGUAGE ARTS**

### *WRITING*

- communicate ideas and information for a variety of purposes and to specific audiences
- begin to write for more complex purposes

## **LEGENDS AND MYTHS**

## **SCIENCE AND TECHNOLOGY**

### *LIFE SYSTEMS*

- investigate ways in which natural communities within ecosystems can change and explain how such changes can affect animal and plant populations
- formulate questions about and identify the needs of various things in an ecosystem

## **LANGUAGE ARTS**

### *READING*

- read a variety of literature for different purposes
- read aloud, speaking clearly and with expression

### *WRITING*

- communicate ideas and information for a variety of purposes and to specific audiences
- begin to write for more complex purposes
- organize and develop ideas using paragraphs

## **MISSING LINKS**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- recognize that animals and plants live in specific habitats because they are dependent on the habitats and have adapted to them

### **LANGUAGE ARTS**

#### *READING*

- use conventions of written materials to help them understand and use the materials
- make predictions while reading a narrative piece on the basis of evidence
- use punctuation to help them understand what they read

## **PUBLIC RELATIONS EXECUTIVE**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- investigate the ways in which natural communities within ecosystems can change and explain how such changes can affect animal and plant populations
- formulate questions about and identify the needs of various things in an ecosystem
- investigate the impact of the use of technology on the environment
- explain the long term effects of loss of natural

habitat

and the extinction of species

### **LANGUAGE ARTS**

#### *ORAL AND VISUAL COMMUNICATION*

- identify and describe the different types of advertising that they encounter in their surroundings
- create a variety of media works

## **GRADE 5**

### **MAKING SCALES**

#### **SCIENCE AND TECHNOLOGY**

##### *LIFE SYSTEMS*

- identify the skin as an organ and explain its purpose

#### **THE ARTS**

##### *VISUAL ARTS*

- produce two- and three-dimensional works of art that communicate a range of ideas for specific purposes and to specific audiences
- define the elements of design and use them in ways appropriate for the grade when producing and responding to works of art

## **GRADE 6**

### **MONSTROUS APPETITES**

#### **SCIENCE AND TECHNOLOGY**

##### *LIFE SYSTEMS*

- recognize that the essential difference between cold and warm-blooded animals lies in different means of regulating body temperature
- identify the needs of different types of animals
- identify and describe the characteristics of vertebrates and use the characteristics to classify mammals, reptiles, amphibians, etc..

#### **MATHEMATICS**

##### *DATA MANAGEMENT AND PROBABILITY*

- interpret displays of data and present the information using mathematical terms
- evaluate data and make conclusions from the analysis of data

### **MAKING SCALES**

#### **SCIENCE AND TECHNOLOGY**

##### *LIFE SYSTEMS*

- explain why formal classification systems are usually based on structural characteristics
- identify and describe characteristics of vertebrates and use the characteristics to classify reptiles, mammals, amphibians, etc.

## **THE ARTS**

### *VISUAL ART*

- produce two- and three-dimensional works of art that communicate a range of ideas for specific purposes and to specific audiences, using a variety of familiar art tools, materials, and techniques
- identify the elements of design and the principles of design, and use them in ways appropriate for this grade when producing and responding to works of art

## **SNAKESKIN SHEDDING SPEEDWAY**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- identify the needs of different types of animals
- identify and describe characteristics of vertebrates and use the characteristics to classify reptiles, mammals, amphibians, etc.

### **HEALTH AND PHYSICAL EDUCATION**

#### *FUNDAMENTAL MOVEMENT SKILLS*

- demonstrate the principles of movement while refining movement skills

## **THE CHAIN GANG**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- identify and explain the roles of producers, consumers, and decomposers in food chains
- interpret food webs that show the transfer of energy among several food chains

### **LANGUAGE ARTS**

#### *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

## **DEADLY LINKS FOR RATTLESNAKES**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- identify and explain the roles of producers, consumers, and decomposers in food chains
- interpret food webs that show the transfer of energy among several food chains, and evaluate the effect of eliminating or weakening any part of the web

- investigate the impact of the use of technology on the environment
- explain the long term effects of loss of natural habitat and the extinction of the species

**MATHEMATICS**

*DATA MANAGEMENT AND PROBABILITY*

- construct line graphs and bar graphs, both by hand and by using computer applications
- evaluate and explore how data were collected and how the results represent the population
- evaluate data and make conclusions from the analysis of data
- examine the concepts of possibly and probably

**GRADE 7**

**MONSTROUS APPETITES**

**SCIENCE AND TECHNOLOGY**

*LIFE SYSTEMS*

- interpret food web that show the transfer of energy among several food chains
- identify organisms and the factors that

contribute to their

survival

*ENERGY AND CONTROL*

- explain the effects of heat on living things
- explore interactions involving energy transfers

**MATHEMATICS**

*DATA MANAGEMENT AND PROBABILITY*

- interpret displays of data and present the information using mathematical terms
- evaluate data and make conclusions from the analysis of data

**A MATTER OF LIFE AND DEATH**

**SCIENCE AND TECHNOLOGY**

*LIFE SYSTEMS*

- investigate the impact of the use of technology on the environment
- explain the long term effects of loss of natural habitat and the extinction of species

**THE CHAIN GANG**

**SCIENCE AND TECHNOLOGY**

*LIFE SYSTEMS*

- identify and explain the roles of producers, consumers, and decomposers in food chains, and their effects on the environment
- interpret food web that show the transfer of energy among several food chains

## **LANGUAGE ARTS**

### *WRITING*

- communicate ideas and information for a variety of purposes and specific audiences, using forms appropriate for the purpose and topic
- organize information to develop a central idea, using well-linked and well developed paragraphs

## **DEADLY LINKS FOR RATTLESNAKES**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- identify and describe characteristics of vertebrates and use the characteristics to classify reptiles, mammals, amphibians, etc.
- interpret food webs that show the transfer of energy among several food chains
- investigate the impact of the use of technology on the environment
- explain the long term effects of loss of natural habitat and the extinction of species

### **MATHEMATICS**

#### *DATA MANAGEMENT AND PROBABILITY*

- display data on bar graphs and pictographs, with and without the help of technology
- interpret displays of data and present the information using mathematical terms
- evaluate data and make conclusions from the analysis of data
- use and apply a knowledge of probability

## **IF YOU WERE A SNAKE**

### **SCIENCE AND TECHNOLOGY**

#### *LIFE SYSTEMS*

- investigate ways in which natural communities within ecosystems can change and explain how such changes can affect animal and plant populations
- formulate questions about and identify the needs of various things in an ecosystem
- investigate the impact of the use of technology on the environment
- explain the long term effects of loss of natural habitat and the extinction of species

## **LANGUAGE ARTS**

### *WRITING*

- communicate ideas and information for a variety of purposes and to specific audiences, using forms appropriate for the purpose and topic
- organize information to develop a central idea, using well-linked and well developed paragraphs

## **LEGENDS AND MYTHS**

## **SCIENCE AND TECHNOLOGY**

### **LIFE SYSTEMS**

- investigate ways in which natural communities within ecosystems can change and explain how such changes can effect animal and plant populations
- formulate questions about and identify the needs of various things in an ecosystem

## **LANGUAGE ARTS**

### *READING*

- read a variety of fiction and non-fiction materials for different purposes
- read aloud, showing understanding of the material and awareness of the audience

### *WRITING*

- communicate ideas and information for a variety of purposes and to specific audiences, using forms appropriate for the purpose and topic
- organize information to develop a central idea, using well-linked and well developed paragraphs
- produce pieces of writing using a variety of forms, techniques and resources appropriate to the form and purpose, and materials from other media