

GRADES  
**7-9**

# Off Leash Obstacle: A One Health Lesson

## TEACHER'S GUIDE



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# Off Leash Obstacle: A One Health Lesson

With the understanding that health of people, animals and the environment are interdependent, One Health takes an integrative approach to complex problems. Students will learn that it is necessary to work collaboratively with people from multiple sectors, disciplines, and communities to find sustainable and balanced solutions to problems that considers the health of people, animals, and the environment. This exercise is also intended to encourage young people to look at a problem from multiple perspectives.

**GRADE LEVEL:**

7 - 9

**SUBJECTS:**Science, Social Studies,  
English Language Arts**OBJECTIVES:***Students will:*

- recognize and appreciate the relationship between their own health and well-being and that of animals and the environment around them (interdependency).
- learn about biodiversity and the importance of all species on earth (systems thinking, interdisciplinary holistic thinking).
- identify the impacts of their actions on the health and well-being of animals and the environment both globally and locally (responsibility, leadership).
- learn to work with others in gathering information and creating solutions to complex challenges (collaboration, team-building, leadership).
- learn to listen and appreciate others' concerns (empathy).
- embrace the challenges of complex systems and learn how to respond with complex solutions (systems thinking, interdisciplinary thinking).
- build a foundation of evidence for decision making.
- conduct research based on personal interest in local environmental issues (interest in science, scientific inquiry)

Extra resources are available at [everylivingthing.ca/onehealth](http://everylivingthing.ca/onehealth)

## SETUP

Prior to introducing this activity to students, teachers need to either download, print and cut the role cards for students to write on **or** make a copy of the Google slides for students to edit. Assign a role to each student. The role descriptions start on page 3. In Step 2, students will be combined into groups of nine. Each group needs a representative of each of the nine roles. Depending on the number of students, some groups might be comprised of more than nine students with more than one student representing a role.

In Part B, students will be given research options to choose from that assess local issues and address science outcomes. Teachers can assist with the research process where needed, but the activity should be primarily student-led.

## PART A: OFF-LEASH OBSTACLE

### BACKGROUND

#### MATERIALS:

- [Role Cards](#)
- [Perspectives in the Park Video](#) (6:41)
- CBC News Article: [Wildlife group says Calgary's off leash dogs causing problems](#) (03/28/22)
- [Google Slides](#) (optional)

#### GLOSSARY:

- Bylaw
- Bylaw officer
- Interdependent
- Consensus

The City of Calgary has beautiful green spaces along the Bow and Elbow Rivers. These spaces are intended to conserve and promote biodiverse ecosystems, promote watershed protection, contribute to climate change resilience, support urban wildlife, and benefit the physical and mental wellbeing of the citizens. These parks are also very popular with people who take their dogs out for exercise.

We want to keep these green spaces as natural as possible to protect the parks' ecological integrity – which is why the [City of Calgary](#) has rules about keeping dogs on leash at all time (unless you are in a designated off leash area). However, many people let their dogs off leash and this causes many issues.

*Note for teachers: You can adapt this lesson to green spaces in your own community.*

### INTRODUCTION

Begin by sharing the [CBC article](#) with students.

Ask students: What problem was identified in the news article? (Write problem on board)

***Problem: Dog owners are letting dogs run off leash in natural areas where they aren't allowed to be off leash.***

Animals, people and the environment are interconnected. As we saw in the article, dogs running off leash in these areas impact people, other animals and the environment. In order to fully understand the problem, we need to learn about the issue from the different perspectives of those impacted by dogs running off leash (including the dogs themselves)! As a class brainstorm a list of who/what might be impacted by dogs off leash in this natural area. (Think of other people, animals (pets and wildlife) and the environment!). I.e.: other dogs on leashes, people using park, birds, coyotes, rabbits, porcupines, grasslands, meadows, river, etc.

Next, as a class, reframe the problem into an open-ended or guiding question. This is the question your class will explore in this lesson.

**Example Guiding Question: How can we help protect natural areas from dogs who are let off leash?**

Explain to students that in order to explore the guided question, we need to think more about the different perspectives impacted by this problem. We want to find a solution that works not only for dogs and their owners, but for wildlife and the environment.

## **STEP 1: EXPLORING PERSPECTIVES**

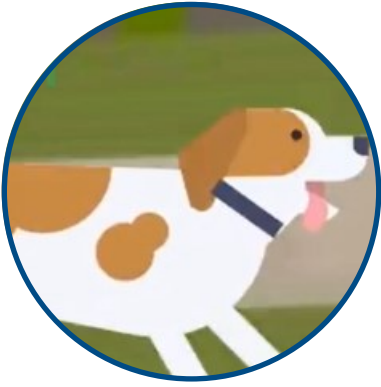
Divide role cards among students – there will be more than one student sharing each of the nine roles. Then watch the [Perspectives in the Park](#) video to introduce the different roles and perspectives that will be explored in the activity. Ask students to consider the descriptions and questions on their role cards as they watch the video.

### **ROLES**

#### **1. DOG OWNER**

The dog owner has a mixed breed dog named Buddy who loves running, chasing and retrieving. The park is a few minutes from his house, so he brings his dog there every day and lets him off his leash. The dog owner prefers to let Buddy off leash because he is an extremely energetic dog that needs exercise, and he pulls constantly when he has a leash on. Buddy also has good recall – anytime the dog owner calls him, Buddy comes right back. The dog owner doesn't think it's a big deal to let Buddy off-leash, especially since he never sees bylaw officers and he has not once gotten a fine.





## 2. BUDDY THE DOG

Buddy is a fun-loving and energetic dog that loves exploring and smelling everything by the riverside. He enjoys chasing rabbits and meeting other dogs. One time, Buddy found a porcupine he wanted to play with, and got quills all over his face. His owner was very concerned and took Buddy to the veterinarian where he was put under anesthetic for the vet to pull them out. Some quills had broken, and it took a long time for them to come out on their own; it hurt a lot and Buddy has been anxious about going to the vet ever since, even for his usual check-ups.



## 3. PIPPI THE DOG

Pippi loves going to the park to smell and see all the other dogs, people and wildlife. Pippi's owner always keeps Pippi on a leash because when she let Pippi go off-leash one time, Pippi wandered too far and was almost attacked by a coyote. Pippi feels safer next to her owner, but still gets scared when bigger dogs run around off-leash.



## 4. STUDENT ON SKATEBOARD

The student enjoys skateboarding to school when the weather is warm and uses pathways in the park to get there. He loves it, except for when he gets chased by dogs. He has been knocked off his skateboard twice by off-leash dogs, leaving him with scrapes and bruises, and a little shaken-up. He also gets annoyed when owners don't pick up their dog's feces and he accidentally rolls through it on his skateboard. It smells bad, and he doesn't always have time to clean the wheels before putting his skateboard in his locker.



## 5. BYLAW OFFICER

The bylaw officer has a very important job, one of which is to make sure that pet owners are obeying the [Responsible Pet Ownership Bylaw](#) that regulates dogs in the city. She encourages people to learn about the laws in their city that are designed to protect both pets and people. Many people let their dogs off-leash in areas where they are required by bylaw to be on leash. This is a big concern for her, especially since she is very busy and can't be at all the parks at once, and dog owners usually get very angry at her when she gives them a fine. She is just doing her job, and she wished that others would do their part to keep everyone in the city safe too.

## 6. MALLARD DUCK

Mallard ducks live by the riverside and rely on it for survival. Off-leash dogs not only scare them by chasing them around, but dogs have also taken their eggs before. Their chicks that survived have also died later in life from bacteria in the river left by dog feces.



## 7. COYOTE

Coyotes live in the park and prey on off-leash dogs and other animals as part of their diet. Dogs (and cats) are good sources of protein for coyotes. Coyotes are very important to the urban ecosystem by controlling mice, rabbit, and squirrel populations, and coyotes have been in this area long before dogs have. Last year a dog sick with [Parvovirus](#) visited the park and the owner did not pick up the dog's feces. The virus infected a whole pack of coyotes, and all but two died. Coyotes often hunt in groups and with only a small number of them, they barely survived last winter.



## 8. MEADOW

The park is made up of a beautiful native grassland meadow, populated with a variety of wildflowers, some of which are becoming very threatened. Although most people know they should never pick a wildflower, they let their dogs trample and dig up the grasses and flowers in the meadow. Some areas have been trampled so much that nothing grows there anymore. This has affected the deer, rabbit, and bird populations that used to dwell here. Bees and other insects also are becoming fewer and fewer. The pollinators that live in the meadow often travel far distances to crops that are in flower, so farmers are losing the important services of pollinators. The feces of dogs that owners leave behind are very high in nitrogen, which helps invasive plants like dandelions grow fast and push out the beautiful wildflowers.



## 9. RIVER

The river has been in this area since the last glacial melt over 10,000 years ago. More recently, people have formed towns and cities around rivers, as they are wonderful water sources. However, when people don't clean up their dog feces, it pollutes the water with too much organic matter, parasites and bacteria. If 100 people don't pick up their dog's poop, that amounts to over 200kg of dog feces that end up in the river.



200kg is about the weight of a fully grown stag (a male deer)! In the summer, that amount of waste can end up in the river every week. Many other animals also rely on the river. For example, fish! But when the water is polluted, there is less oxygen for fish to breathe, less food for them to eat, and it's harder for fish to reproduce. Polluted, poor quality water isn't good for anyone.

### **ROLE QUESTIONS (*all non-dog roles*)**

- What are some of the impacts that off-leash dogs have on you?
- Do you think having a bylaw to keep dogs on leash is a good idea in natural parks? Explain.
- What do you wish dog owners would consider before letting their dogs off leash?

### **QUESTIONS (*dog roles*)**

- How does being off leash make you feel? Explain.
- Do you think having a bylaw to keep dogs on leash is a good idea in natural parks? Explain.
- If you could share one thing with everyone who wants you to be on leash, what would it be?

## **STEP 2: BUILDING CONSENSUS**

After watching the video, group students so that there is a representative of each role in each group (i.e. groups of nine). The dog roles can also be tackled by one student if groups of eight work better for your class. In their new groups, have students revisit the guiding question, Ex. "How can we help protect natural areas from dogs who are let off leash?" and brainstorm solutions while considering all nine perspectives.

- Instruct students to write each proposed solution their group comes up with on a blank or lined sheet of paper, followed by a pros and cons list underneath.
- Remind students to share how they feel about the solution from their role's perspective and to consider the perspectives of others when creating their pros and cons lists.
- If students are struggling to find solutions, share some

examples. Remind students that people sharing the same role might have different perspectives and that's OK. Encourage students to be creative, there are no wrong answers!

After generating solution ideas, have each group share one of their solutions with the rest of the class, including the pros and cons list.

Once each group has had a turn to share, ask the class to step out of their roles and discuss the following questions:

- What do you think is the best solution to the problem? Why?
- Does this solution consider everyone's perspective? Can everyone agree?
- Are there other solutions that could also be implemented that would help everyone feel heard? I.e. More designated off-leash parks.
- Who do you think should be responsible for implementing the solution?

### STEP 3: REFLECTION

Finally, have students reflect on the exercise in their journals, using the following prompts:

- What did you think was the best solution to the problem? Explain.
- List two other perspectives that were missing from this activity. How do you think these perspectives would feel about the solution the class decided on?
- What was one thing you learned from this activity?

## PART B: A PROBLEM-BASED INQUIRY APPROACH

Now that students have explored and practised using a One Health perspective for problem-solving, students will use these skills to research and propose a solution to a local issue.

### INTRODUCTION

Introduce the new article(s) to the class or have students find their own.

### STEP 1: CONDUCTING RESEARCH

Encourage students to choose an issue based on their interests for the

#### MATERIALS:

- [Articles that present a one health issue.](#)  
*Alternatively, you can also find your own to present to students.*



**GLOSSARY:***GRADE 7*

- Interdependencies
- Environmental impacts
- Environmental management

*GRADE 8*

- Water quality
- Adaptations to aquatic ecosystems
- Human impact

*GRADE 9*

- Biological diversity
- Species
- Habitat diversity
- Populations

lists below. Then, have students form groups of 3 or 4 based on the issue they are most interested in.

- **GRADE 7: INTERACTIONS AND ECOSYSTEMS**

- Free-roaming cats
- Alberta wildfires
- 'Rescuing' wildlife
- Feeding wildlife

- **GRADE 8: FRESHWATER AND SALTWATER SYSTEMS**

- Algal blooms
- Water shortages
- Melting icebergs
- Water quality on reserves

- **GRADE 9: BIOLOGICAL DIVERSITY**

- Grizzly bear hunting
- Invasive fish species
- Overpopulation of mosquitos
- Endangerment and reintroduction of bison

Once students are in their groups, have them read their article together to determine what the problem is, and how to reframe it into a question to guide their research. (Note: Remind students of how they did this as a class during the Off-Leash Obstacle activity).

Then have students brainstorm the different perspectives that are impacted by the issue – remember to think about people, animals and the environment. Students can then decide among their group members who will research the impacts on:

- people
- animals
- the environment

Although students are assigning themselves to roles, remind students to collaborate with their group members. If someone finds an article or resource that group members could use, share it with them!

Remind students to keep a reference list of the sources they use

information from.

Have students consider the following questions to assess the credibility of their sources:

- What is the source of this information? (What organization or author wrote the article?)
- Whose perspective is represented in the article? Whose perspective is missing? (make sure to consider the perspective of animals and the environment!).
- What techniques are used to make the message credible? Quoting experts, using statistics, etc.
- What facts are included in the article? What information are we missing?
- What opinions are expressed in the article, and who expressed them? Do you agree or disagree and why?
- How did the article make you feel? Do you think everyone would feel this way?
- Do you think this article is credible (Do you believe the information in the article)? Why or why not?

## **STEP 2: SHARING THE RESEARCH TO FIND SOLUTIONS**

Once groups have conducted their research, have them revisit their guiding question and come together to determine solution options that includes the perspectives of people, animals and the environment.

Instruct students to write each proposed solution their group comes up with on a lined sheet of paper or document, followed by a pros and cons list underneath.

Remind students to consider the identified perspectives when considering their solutions and developing their pros and cons list.

Encourage students to be creative, there are no wrong answers!

## **STEP 3: BUILDING CONSENSUS**

After coming up with and considering the pros and cons for at least three solutions, ask the students:

- What do you think is the best solution to the problem? Why?

- Does this solution consider everyone's perspective? Can everyone agree?
- Are there other solutions that could also be implemented that would help everyone feel heard?
- Who do you think should be responsible for implementing the solution?

#### **STEP 4: CONCLUSION**

Have each group share their research and their agreed upon solution with the class. After each presentation, allow for questions and comments from the class. Prompt students with the following questions:

- What other perspectives could be considered?
- Are there more pros and cons that could be added to the list?

Remind students to be respectful and considerate audience members. Furthermore, remind students that are presenting that feedback does not imply that they did not do a good job. Rather, it demonstrates that multiple perspectives inevitably will bring more ideas, which is valuable.

Have students complete a journal reflection responding to the following questions:

- Describe how you were able to take multiple perspectives in considering potential solutions. What was difficult about taking these perspectives? What came easy to you?
- People, animals and the environment are essential pieces in an interconnected system, but do the needs/wants of people, animals and the environment always coincide? Why or why not? Explain.
- What did you learn about animals and the environment throughout the activity? What was surprising? Is there anything you will do differently going forward with the new knowledge you have?

#### **EXTENSION ACTIVITIES**

Students can:

1. Create a sign or poster to educate their peers on the issue being addressed.
2. Use video software to create a news clip to accompany the

article. Encourage them to be creative and incorporate animals and the environment.

3. Write a narrative from the perspectives of one of the roles in their article.
4. Write a persuasive letter to a local official detailing the solution their group came up with and why it is important for them to consider it.

# GRADE 7 CURRICULUM CONNECTIONS

## SCIENCE

### Unit A: Interactions and Ecosystems

**Focusing Questions:** How do human activities affect ecosystems? What methods can we use to observe and monitor changes in ecosystems, and assess the impacts of our actions?

### Outcome for Science, Technology and Society (STS) and Knowledge

*Students will:*

1. Investigate and describe relationships between humans and their environments and identify related issues and scientific questions.
  - illustrate how life-supporting environments meet the needs of living things for nutrients, energy sources, moisture, suitable habitat, and exchange of gases
  - describe examples of interaction and interdependency within an ecosystem
  - identify examples of human impacts on ecosystems, and investigate and analyze the link between these impacts and the human wants and needs that give rise to them )
  - analyze personal and public decisions that involve consideration of environmental impacts, and identify needs for scientific knowledge that can inform those decisions
4. Describe the relationships among knowledge, decisions and actions in maintaining life-supporting environments.
  - identify intended and unintended consequences of human activities within local and global environments
  - describe and interpret examples of scientific investigations that serve to inform environmental decision making
  - analyze a local environmental issue or problem based on evidence from a variety of sources, and identify possible actions and consequences

### Skills Outcomes

#### Initiating and Planning

*Students will:*

Ask questions about the relationships between and among observable variables, and plan investigations to address those questions

- identify science-related issues
- identify questions to investigate arising from practical problems and issues

#### Performing and Recording

*Students will:*

Conduct investigations into the relationships between and among observations, and gather and record qualitative and quantitative data

- research information relevant to a given problem or issue
- select and integrate information from various print and electronic sources or from several parts of the same source

#### Communication and Teamwork

*Students will:*

Work collaboratively on problems; and use appropriate language and formats to communicate ideas, procedures and results

- communicate questions, ideas, intentions, plans and results, using lists, notes in point form, sentences, data tables, graphs, drawings, oral language and other means
- defend a given position on an issue, based on their findings

#### Attitude Outcomes

##### Collaboration

*Students will be encouraged to:*

Work collaboratively in carrying out investigations and in generating and evaluating ideas

##### Stewardship

*Students will be encouraged to:*

Demonstrate sensitivity and responsibility in pursuing a balance between the needs of humans and a sustainable environment

## SOCIAL STUDIES

### Local and Current Affairs

In order to allow opportunities for students to engage in current affairs, issues and concerns of a local nature, the program of studies provides the flexibility to include these topics within the time allotted for social studies.

### DIMENSIONS OF THINKING

*Students will:*

#### 7.S.1 develop skills of critical thinking and creative thinking:

- determine the validity of information based on context, bias, source, objectivity, evidence and/or reliability to broaden understanding of a topic or an issue
- demonstrate the ability to analyze local and current affairs

### SOCIAL PARTICIPATION AS A DEMOCRATIC PRACTICE

#### 7.S.5 demonstrate skills of cooperation, conflict resolution and consensus building:

- consider the needs and perspectives of others

#### 7.S.6 develop age-appropriate behaviour for social involvement as responsible citizens contributing to their community:

- support and participate in activities and projects that promote the well-being and meet the particular needs of their community

## RESEARCH FOR DELIBERATIVE INQUIRY

*Students will:*

### 7.S.7 apply the research process:

- Develop a position that is supported by information gathered through research

## COMMUNICATION

*Students will:*

### 7.S.8 demonstrate skills of oral, written and visual literacy:

- communicate information in a clear, persuasive and engaging manner, through written and oral means
- listen to others in order to understand their perspectives

### 7.S.9 develop skills of media literacy:

- detect bias on issues presented in the media
- examine techniques used to enhance the authority and authenticity of media messages
- examine the values, lifestyles and points of view represented in a media message

## LANGUAGE ARTS

**General Outcome 1: Students will listen, speak, read, write, view and represent to explore thoughts, ideas, feelings and experiences.**

### 1.1 Discover and Explore

#### Express ideas and develop understanding

- extend understanding of ideas and information by finding and exploring oral, print and other media texts on related topics and themes

### 1.2 Clarify and Extend

#### Consider the ideas of others

- Listen and respond constructively to alternative ideas of opinions

#### Extend understanding

- talk with others to elaborate ideas, and ask specific questions to seek helpful feedback

**General Outcome 2: Students will listen, speak, read, write, view and represent to comprehend and respond personally and critically to oral, print and other media texts.**

### 2.1 Use Strategies and Cues

#### Use comprehension strategies

- identify, connect, and summarize in own words, the main ideas from two or more sources on the same topic

## 2.2 Respond to Texts

### Experience various texts

- organize interpretations of oral, print and other media texts around two or three key ideas

**General Outcome 3: Students will listen, speak, read, write, view and represent to manage ideas and information.**

## 3.2 Select and Process

### Access information

- distinguish between fact and opinion, and follow the development of argument and opinion

## 3.3 Organize, Record and Evaluate

### Evaluate information

- assess if the amount and quality of gathered information is appropriate to purpose and audience; address information gaps

**General Outcome 4: Students will listen, speak, read, write, view and represent to enhance the clarity and artistry of communication.**

## 4.3 Present and Share

### Present information

- present ideas and opinions confidently, but without dominating the discussion, during small group activities and short, whole class sessions

### Demonstrate attentive listening and viewing

- ask questions or make comments that elicit additional information; probe different aspects of ideas, and clarify understanding

**General Outcome 5: Students will listen, speak, read, write, view and represent to respect, support and collaborate with others.**

## 5.1. Respect Others and Strengthen Community

### Appreciate diversity

- explain how differing perspectives and unique reactions expand understanding

## 5.2 Work within a Group

### Cooperate with others

- contribute collaboratively in group situations, by asking questions and building on the ideas of others
- take responsibility for assuming a variety of roles in a group, depending on changing contexts and needs

### Work in groups

- contribute ideas, knowledge and questions to establish an information base for research or investigations





# GRADE 8 CURRICULUM CONNECTIONS

## SCIENCE

### Unit E: Freshwater and Saltwater Systems

**Focusing Questions:** How do water, land and climate interact? What are the characteristics of freshwater and saltwater systems, and how do they affect living things, including humans?

### Outcome for Science, Technology and Society (STS) and Knowledge

*Students will:*

4. Analyze human impacts on aquatic systems; and identify the roles of science and technology in addressing related questions, problems and issues.
  - analyze human water uses, and identify the nature and scope of impacts resulting from different uses
  - identify current practices and technologies that affect water quality, evaluate environmental costs and benefits, and identify and evaluate alternatives
  - illustrate the role of scientific research in monitoring environments and supporting development of appropriate environmental technologies
  - provide examples of problems that cannot be solved using scientific and technological knowledge alone

### Skills Outcomes

#### Initiating and Planning

*Students will:*

Ask questions about the relationships between and among observable variables, and plan investigations to address those questions

- identify science-related issues
- identify questions to investigate arising from practical problems and issues

#### Performing and Recording

*Students will:*

Conduct investigations into the relationships between and among observations, and gather and record qualitative and quantitative data

- research information relevant to a given problem or issue
- select and integrate information from various print and electronic sources or from several parts of the same source

#### Communication and Teamwork

*Students will:*

Work collaboratively on problems; and use appropriate language and formats to communicate ideas, procedures and results

Extra resources are available at [everylivingthing.ca/onehealth](http://everylivingthing.ca/onehealth)

- communicate questions, ideas, intentions, plans and results, using lists, notes in point form, sentences, data tables, graphs, drawings, oral language and other means
- defend a given position on an issue, based on their findings

### Attitude Outcomes

#### Collaboration

*Students will be encouraged to:*

Work collaboratively in carrying out investigations and in generating and evaluating ideas

#### Stewardship

*Students will be encouraged to:*

Demonstrate sensitivity and responsibility in pursuing a balance between the needs of humans and a sustainable environment

## SOCIAL STUDIES

### Local and Current Affairs

In order to allow opportunities for students to engage in current affairs, issues and concerns of a local nature, the program of studies provides the flexibility to include these topics within the time allotted for social studies.

### DIMENSIONS OF THINKING

*Students will:*

#### 8.S.1 develop skills of critical thinking and creative thinking:

- analyze the validity of information based on context, bias, source, objectivity, evidence and reliability to broaden understanding of a topic or an issue
- demonstrate the ability to analyze local and current affairs

#### 8.S.4 demonstrate skills of decision making and problem solving:

- demonstrate skills of compromise and devise strategies to reach group consensus
- propose and apply new ideas and strategies, supported with facts and reasons, to contribute to problem solving and decision making

### SOCIAL PARTICIPATION AS A DEMOCRATIC PRACTICE

#### 8.S.5 demonstrate skills of cooperation, conflict resolution and consensus building:

- consider the needs and perspectives of others

### RESEARCH FOR DELIBERATIVE INQUIRY

*Students will:*

#### 8.S.7 apply the research process:

- Develop a position that is supported by information gathered through research
- Draw conclusions based upon research and evidence

Extra resources are available at [everylivingthing.ca/onehealth](http://everylivingthing.ca/onehealth)

- Organize and synthesize research information

## COMMUNICATION

*Students will:*

**8.S.8 demonstrate skills of oral, written and visual literacy:**

- listen to others in order to understand their points of view

**8.S.9 develop skills of media literacy:**

- examine the values, lifestyles and points of view represented in a media message

## LANGUAGE ARTS

**General Outcome 1: Students will listen, speak, read, write, view and represent to explore thoughts, ideas, feelings and experiences.**

### 1.1 Discover and Explore

**Express ideas and develop understanding**

- seek out and consider diverse ideas, opinions and experiences to develop and extend own ideas, opinions and experiences

### 1.2 Clarify and Extend

**Consider the ideas of others**

- acknowledge the value of the ideas and opinions of others in exploring and extending personal interpretations and perspectives

**General Outcome 2: Students will listen, speak, read, write, view and represent to comprehend and respond personally and critically to oral, print and other media texts.**

### 2.1 Use Strategies and Cues

**Use comprehension strategies**

- enhance understanding by paraphrasing main ideas and supporting details, and by rereading and discussing relevant passages

### 2.2 Respond to Texts

**Experience various texts**

- expect that there is more than one interpretation for oral, print and other media texts, and discuss other points of view

**General Outcome 3: Students will listen, speak, read, write, view and represent to manage ideas and information.**

### 3.2 Select and Process

**Access information**

- record key ideas and information from oral, print and other media texts, avoiding overuse of direct quotations

### 3.3 Organize, Record and Evaluate

Extra resources are available at [everylivingthing.ca/onehealth](http://everylivingthing.ca/onehealth)

### Evaluate information

- evaluate the relevance and importance of gathered information; address information gaps

**General Outcome 4: Students will listen, speak, read, write, view and represent to enhance the clarity and artistry of communication.**

### 4.3 Present and Share

#### Present information

- plan and facilitate small group and short, whole class presentations to share information

**General Outcome 5: Students will listen, speak, read, write, view and represent to respect, support and collaborate with others.**

### 5.1. Respect Others and Strengthen Community

#### Appreciate diversity

- clarify and broaden perspectives and opinions, by examining the ideas of others

### 5.2 Work within a Group

#### Cooperate with others

- propose ideas or advocate points of view that recognize the ideas of others and advance the thinking of the group
- use opportunities as a group member to contribute to group goals and extend own learning

#### Work in groups

- contribute ideas, knowledge and strategies to identify group information needs and sources

# GRADE 9 CURRICULUM CONNECTIONS

## SCIENCE

### Unit A: Biological Diversity

**Focusing Questions:** What is biological diversity, and by what processes do diverse living things pass on their characteristics to future generations? What impact does human activity have on biological diversity?

### Outcome for Science, Technology and Society (STS) and Knowledge

*Students will:*

4. Identify impacts of human action on species survival and variation within species, and analyze related issues for personal and public decision making
  - describe ongoing changes in biological diversity through extinction and extirpation of native species, and investigate the role of environmental factors in causing these changes
  - evaluate the success and limitations of various local and global strategies for minimizing loss of species diversity

### Skills Outcomes

#### Initiating and Planning

*Students will:*

Ask questions about the relationships between and among observable variables, and plan investigations to address those questions

- identify science-related issues
- identify questions to investigate arising from science-related issues
- define and delimit questions and problems to facilitate investigation

#### Performing and Recording

*Students will:*

Conduct investigations into the relationships between and among observations, and gather and record qualitative and quantitative data

- research information relevant to a given problem or issue

#### Communication and Teamwork

*Students will:*

Work collaboratively on problems; and use appropriate language and formats to communicate ideas, procedures and results

- communicate questions, ideas, intentions, plans and results, using lists, notes in point form, sentences, data tables, graphs, drawings, oral language and other means
- defend a given position on an issue, based on their findings

### Attitude Outcomes

## Collaboration

*Students will be encouraged to:*

Work collaboratively in carrying out investigations and in generating and evaluating ideas

## Stewardship

*Students will be encouraged to:*

Demonstrate sensitivity and responsibility in pursuing a balance between the needs of humans and a sustainable environment

# SOCIAL STUDIES

## Local and Current Affairs

In order to allow opportunities for students to engage in current affairs, issues and concerns of a local nature, the program of studies provides the flexibility to include these topics within the time allotted for social studies.

## DIMENSIONS OF THINKING

*Students will:*

### 9.S.1 develop skills of critical thinking and creative thinking:

- determine the validity of information based on context, bias, source, objectivity, evidence and/or reliability to broaden understanding of a topic or an issue
- demonstrate the ability to analyze current affairs from multiple perspectives

## SOCIAL PARTICIPATION AS A DEMOCRATIC PRACTICE

### 9.S.5 demonstrate skills of cooperation, conflict resolution and consensus building:

- demonstrate a positive attitude regarding the needs and perspectives of others

## RESEARCH FOR DELIBERATIVE INQUIRY

*Students will:*

### 9.S.7 apply the research process:

- Develop a position that is supported by information gathered through research

## COMMUNICATION

*Students will:*

### 9.S.8 demonstrate skills of oral, written and visual literacy:

- communicate in a persuasive and engaging manner through speeches, multimedia presentations and written and oral reports, taking particular audiences and purposes into consideration
- listen to others to understand their perspectives

### 9.S.9 develop skills of media literacy:

- examine the values, lifestyles and points of view represented in a media message

Extra resources are available at [everylivingthing.ca/onehealth](http://everylivingthing.ca/onehealth)

## LANGUAGE ARTS

**General Outcome 1: Students will listen, speak, read, write, view and represent to explore thoughts, ideas, feelings and experiences.**

### 1.1 Discover and Explore

**Express ideas and develop understanding**

- extend understanding by taking different points of view when rereading and reflecting on oral, print and other media texts

### 1.2 Clarify and Extend

**Consider the ideas of others**

- integrate own perspectives and interpretations with new understandings developed through discussing and through experiencing a variety of oral, print and other media texts

**General Outcome 3: Students will listen, speak, read, write, view and represent to manage ideas and information.**

### 3.3 Organize, Record and Evaluate

**Evaluate information**

- evaluate sources for currency, reliability and possible bias of information for a particular research project

**Record information**

- use own words to summarize and record information in a variety of forms; paraphrase and/or quote relevant facts and opinions; reference sources

**General Outcome 4: Students will listen, speak, read, write, view and represent to enhance the clarity and artistry of communication.**

### 4.3 Present and Share

**Demonstrate attentive listening and viewing**

- provide feedback that encourages the presenter and audience to consider other ideas and additional information

**General Outcome 5: Students will listen, speak, read, write, view and represent to respect, support and collaborate with others.**

### 5.2 Work within a Group

**Cooperate with others**

- contribute to group efforts to reach consensus or conclusions, by engaging in dialogue to understand the ideas and viewpoints of others
- discuss and choose ways to coordinate the abilities and interests of individual group members to achieve group goals

**Work in groups**

- generate and access ideas in a group, and use a variety of methods to focus and clarify topics for research or investigations