



LOW PREP!

# 6 ACTIVITIES TO GET YOUR GRADE ONES OUTSIDE!

## AND MEET SCIENCE CURRICULUM EXPECTATIONS

Understanding Life Systems: Needs and  
Characteristics of Living Things

EDUC 4563: Science and Technology PJ  
Trent University  
Leah Grimes  
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# TEACHER GUIDE

The goal of this resource is to help teach the grade 1 science curriculum strand *Needs and Characteristics of Living Things* through **outdoor experiential learning** and by using the values of the **7 Grandfather Teachings**. Through these activities students will explore their feelings and attitudes towards the natural world as well as make **personal connections** and develop a sense of **responsibility to care for living things**. These activities are all outdoor based and encourage students to **explore their local environments** through observation and interaction. The hope for these activities is that students will develop a **meaningful understandings** of themselves and the living things around them.

This resource is not meant to be an entire unit plan for this strand of the curriculum, although it does capture all specific expectations. It is encouraged to use this resource as a means to **work in as much outdoor time into your plans**. The very best part about this resource is that you can reuse the activities throughout the year in order to explore the natural world throughout its **daily and seasonal changes**. It may be daunting to get outside with your students in the dead of winter but I promise it will be worth it!

**“There’s no such thing as bad weather, only unsuitable clothing.”**

- Alfred Wainwright, *A Coast to Coast Walk*

So get yourself and your students dressed for the weather and get outside!

## **A Note on Safety**

Be sure to remind your students of outdoor safety. When exploring outside make sure to establish an area that they must stay in and tell students that they should not wander off. Remind them not to eat anything in nature, unless instructed to do so. Remind them that the forces of nature are very powerful and should be respected as such. If you are going to be near water also remind students to be cautious.

## **A Note on Letting Nature Be**

Students should be reminded to leave nature as it is as much as possible. We don’t want to upset it’s balance. A lot of the time we can observe the natural environment with just our eyes, ears and nose.

## **A Note on Preparation**

This resource is low on preparation. For most activities you need to simply print off a few sheets and go outside. An extra step that can be taken is to laminate the printouts. This will save paper and also save you time if you go back to some activities!

## **A note on accommodations and adaptations**

All activities have options to draw, write and communicate orally and can be adapted to meet the need of your students. Taking video or photo evidence for assessment of children participating can also replace the need for students to produce writing or drawings to show their work.

# THE SEVEN GRANDFATHER TEACHINGS

These activities have Indigenous teachings, stories and values throughout. Each activity should end with some time to reflect on the learning as well as make connections to Indigenous perspectives.

One way to do this is through *The Seven Grandfather Teachings*

1. **Gwe-kwaad-zi-win/ Honesty**: Be honest with yourself and others, in word and in action. Honesty is about accepting responsibility for our actions.
2. **Dbaa-den-diz-win/ Humility**: Humility is becoming aware of yourself and your needs. This teaching shows us how to communicate and share our feelings. You are equal to others, but you are not better.
3. **Zaa-gi-dwin/ Love**: To live with love is to identify what healthy and equal relationships are and to experience that with yourself and others. To love is being able to give and receive love equally.
4. **Nbwaa-kaa-win/ Wisdom**: To cherish the knowledge is to know wisdom. Wisdom is to learn and make it a habit to treat my friends and others equally.
5. **Aak-de-he-win/ Bravery**: To face the obstacle with integrity; to do what is right even when the consequences are unpleasant.
6. **Mnaa-dend-mo-win/ Respect**: All of creation should be treated with respect. You must give respect if you wish to be respected.
7. **Deb-we-win/ Truth**: Truth being the last of the Grandfather teachings is to know all of the other teachings. Speak the truth. Truth is creating and standing up for positive change in our lives and communities.

After each activity there will be discussion questions relating to some of these teachings.

Here are some links to learn more:

<https://ecampusontario.pressbooks.pub/indigstudies/chapter/seven-grandfather-teachings/>

<http://empoweringthespirit.ca/cultures-of-belonging/seven-grandfathers-teachings/>

# BIG IDEAS AND CURRICULUM EXPECTATIONS

## Understanding Life Systems: Needs and Characteristics of Living Things

### BIG IDEAS

1. Living things grow, take in food to create energy, make waste, and reproduce. (Overall expectations 2 and 3)
2. Plants and animals, including people, are living things. (Overall expectations 2 and 3)
3. Living things have basic needs (air, water, food, and shelter) that are met from the environment. (Overall expectations 1, 2, and 3)
4. Different kinds of living things behave in different ways. (Overall expectations 2 and 3)
5. All living things are important and should be treated with care and respect. (Overall expectations 1, 2, and 3)

### OVERALL EXPECTATIONS

1. assess the role of humans in maintaining a healthy environment;
2. investigate needs and characteristics of plants and animals, including humans;
3. demonstrate an understanding of the basic needs and characteristics of plants and animals, including humans.

# SPECIFIC EXPECTATIONS

## Understanding Life Systems: Needs and Characteristics of Living Things

	Activity	Specifica Expectation
1.1	5	identify personal action that they themselves can take to help maintain a healthy environment for living things, including humans
1.2	5	describe changes or problems that could result from the loss of some kinds of living things that are part of everyday life
2.1	1, 2, 3, 4, 5, 6	follow established safety procedures and humane practices during science and technology investigations
2.2	3, 6	investigate and compare the basic needs of humans and other living things, including the need for air, water, food, warmth, and space, using a variety of methods and resources
2.3	1	investigate and compare the physical characteristics of a variety of plants and animals, including humans
2.4	3, 5	investigate the physical characteristics of plants and explain how they help the plant meet its basic needs
2.5	2, 5	investigate characteristics of parts of the human body, including the five sense organs, and explain how those characteristics help humans meet their needs and explore the world around them
2.6	1, 2, 3, 4, 5, 6	use appropriate science and technology vocabulary, including investigation, explore, needs, space, and food, in oral and written communication
2.7	1, 2, 3, 4, 5, 6	use a variety of forms to communicate with different audiences and for a variety of purposes
3.1	4	identify environment as the area in which something or someone exists or lives
3.2	1, 5	identify the physical characteristics of a variety of plants and animals
3.3	2	identify the location and function of major parts of the human body, including sense organs
3.4	6	describe the characteristics of a healthy environment, including clean air and water and nutritious food, and explain why it is important for all living things to have a healthy environment
3.5	1, 5	describe how showing care and respect for all living things helps to maintain a healthy environment
3.6	3, 4	identify what living things provide for other living things
3.7	2, 3, 4, 5	describe how the things plants and animals use to meet their needs are changed by their use and are returned to the environment in different forms

# CONNECTIONS TO OTHER STRAND AND SUBJECTS

## More Science

### *Understanding Earth and Space Systems: Daily and Seasonal Changes*

#### **Big Ideas**

- Changes occur in daily and seasonal cycles.
- Changes in daily and seasonal cycles affect living things.

### *Understanding Energy and Matter: Energy in Our Lives*

#### **Big Idea**

- The sun is the principal source of energy for the earth.

## Social Studies

### *Strand B. People and Environments: The Local Community*

#### **Big Ideas**

- Communities have natural and built features and provide services that help meet the needs of the people who live and work there.
- Our actions can have an impact on the natural and built features of the community, so it is important for us to act responsibly.
- A community consists of different areas, each of which has a specific layout and characteristics.

## Daily Physical Activity

A lot of these activities are a great way to get in some DPA. The students will be outside walking, running and even crawling in some cases!

1

# MINI NATURE STUDY

Adapted from *Focus on Forests* (1991)  
pg. 91

## BIG IDEAS

1 - 2 - 4 - 5

## OVERALL EXPECTATIONS

2 - 3

## SPECIFIC EXPECTATIONS

2.1 - 2.3 - 2.6

2.7 - 3.2 - 3.5

## MATERIALS

- String (2-3 feet for each group)
- Popsicle sticks
- Magnifying glasses (if you have)
- *Observation Sheet*
- Pencils

## BACKGROUND INFORMATION

*There are 7 characteristics of Living things*

1. Grow
2. Move
3. Take in Energy (Food)
4. Make Waste
5. Reproduce
6. Breathe
7. React to Things

## ACTIVITY

1. Divide students into groups of 2 or 3 and give each group a piece of string, a popsicle stick each and magnifying glasses (if you have them).
2. Tell students that they are going to study the living and nonliving things out in the school yard.
3. Have each group choose a small study area and mark it off using the string. Students place the string down in a circle trying their best not to disturb nature.
4. Give the students some time (around 20 minutes) to carefully observe their area. They can use the popsicle sticks to gently probe and explore the area for different kinds of living and nonliving things. Using the magnifying glasses to get an even closer look.
5. They can use the observation sheet to record and classify what they see with words or pictures.
6. If time allows, let the groups observe other study areas and compare.
7. Come back as a whole class and have the students share what they found in their area.
8. Have a conversation about how they knew that something was living or nonliving and write it out on some chart paper to hang in the classroom.

## GRANDFATHER TEACHINGS

**Respect** We must respect all living things. How can we show respect for living things?

**Humility** We are all a part of the balance of the natural world. We are certainly not the center of the world. Humans depend on many things and not many things depend on us. What are some of the things that plants do for you?



# MINI NATURE STUDY



LIVING



NON LIVING



UNSURE



# 2

## SENSATIONAL EXPERIENCE

Adapted from *Focus on Forests* (1991)  
pg. 95

### BIG IDEAS

3 - 4

### OVERALL EXPECTATIONS

2 - 3

### SPECIFIC EXPECTATIONS

2.1 - 2.5 - 2.6

2.7 - 3.3 - 3.7

### MATERIALS

- Station cards
- Toilet paper rolls (*optional*)
- Blindfolds

### PREPARATION

Prepare station cards: print 2 for each station.  
*Option to laminate them.*

*Option to glue 2 toilet paper rolls together side by side for some binoculars for station 2. Give one to each student at station 3 to hold up to their ear.*

### ACTIVITY

1. Have the students name the 5 senses and discuss what we are able to do with them. Ask which senses would be useful in exploring nature. Ask students if we share these senses with other living things.
2. Ask students if there are any that they should not use when exploring nature. (taste)
3. Set up 4 stations in the school yard or wooded area (if you have access). Each station will have a couple activity cards. Go through the instructions for each station with the students.
4. Divide the class into 4 groups. Each group starts at a different station. Every has about 5 minutes to complete the activity and then switch them to the next station.
5. Return to the classroom and discuss how we use our senses every day and how animals use their senses to meet their basic needs?

*Option for the whole class to do each station at the same time if that is more manageable.*

### GRANDFATHER TEACHINGS

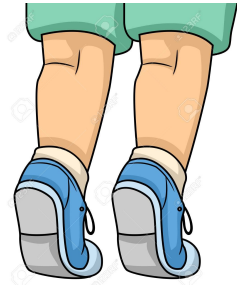
**Wisdom** We must understand that we are only a small part of the environment. There are many other interesting and important things within the environment that we can learn from. What is something in the environment that we can learn from?

**Respect** We must show respect for each animal's habitat. An animal's habitat is necessary for survival. How can we show respect to a wild animal's habitat?



## STATION 1: NOSEY

Stand on your tip toes and smell!



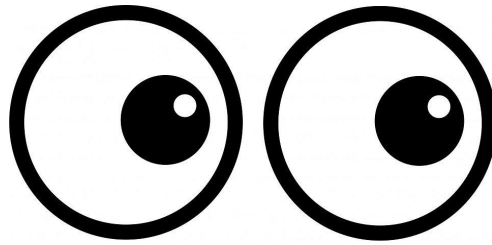
Crawl on the ground and smell!



Lie down on the ground  
and smell again!



STATION 2: LOOK HERE!

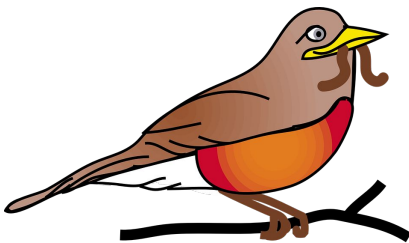


Look for things that animals might like to eat.

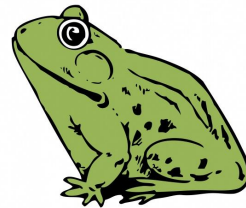


What if they were:

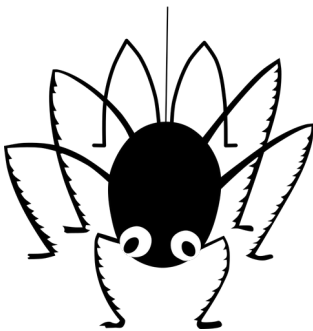
a robin



a frog



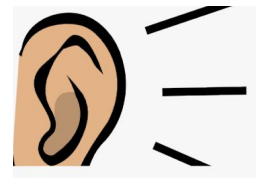
a spider



a raccoon



# STATION 3: HEAR YE! HEAR YE!



Close your eyes and listen closely for:

A loud sound



A soft sound



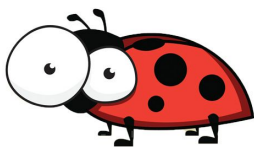
Something far away



Something near



Living



Nonliving



## STATION 4: TOUCHY

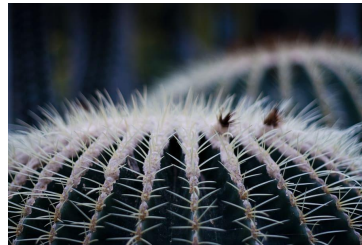


Find something that feels:

Rough



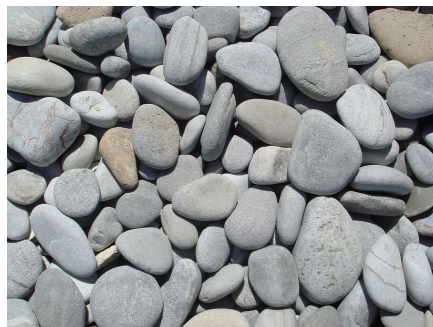
Pointy



Soft



Smooth



3

## EYE SPY

Adapted from *Keepers of the Earth* (1997) pg. 51  
and *Focus on Forests* (1991) pg. 98

### BIG IDEAS

3 - 4

### OVERALL EXPECTATIONS

2 - 3

### SPECIFIC EXPECTATIONS

2.2 - 2.4 - 2.6,  
2.7 - 3.6 - 3.7

### MATERIALS

- Prepared scavenger hunt cards
- Pencils

### PREPARATION

Think about the area that you are going to for this activity as well as the time of year. Choose 3 things from the natural world that you know the students will be able to find. Insert the name and photo of the things you chose into the scavenger hunt template. Print off enough copies for each student in your class.

*Option to read story from Keepers of the Earth  
How Grandmother Spider Stole the Sun (pg. 49)*

### ACTIVITY

1. Talk to your students before about the things that animals and plants need to survive and brainstorm ways that we can observe that in nature (ex. Holes in trees or ground, acorns split open, flowers facing toward the sun)
2. Take the students to the area you chose and ask them to look for the items on the card. When they find it they can draw a picture if they'd like, write some notes or just look!
3. Have a whole group discuss what they observed for each of the three observation methods. Ask if any of them saw evidence of animals meeting their needs.



*The best part is that you can create scavenger hunts for different seasons and have the students note the difference.*



### GRANDFATHER TEACHINGS



**Respect** Humans have a large impact on the environment. When going out into another animal's habitat we need to be extremely careful not to disturb it. We can only look and learn with our eyes, ears and nose. If we damage the environment, what impact would it have on animal life?

**Humility** All living things have the same basic needs. What can you do to make sure that the basic needs of animals are met? What can you do to help the habitat and basic needs of animals?

# EYE SPY

INSERT NAME	INSERT PHOTO
THOUGHTS 	 DRAWINGS

INSERT NAME	INSERT PHOTO
THOUGHTS 	 DRAWINGS

INSERT NAME	INSERT PHOTO
THOUGHTS 	 DRAWINGS



## BIG IDEAS

5

## OVERALL EXPECTATIONS

2 - 3

## SPECIFIC EXPECTATIONS

2.1 - 2.6 - 2.7

3.1 - 3.6 - 3.7

## MATERIALS

- Printed *Neighbourhood and Natural Community Super Spotters* (1 for each student)
- Pencils/ dry erase markers
- Long roll of paper
- Colouring materials

## PREPARATION

Plan time for 2-3 different community walks (you may want to invite some volunteers to help with these)  
For each walk print off the Community Super Spotters that goes with the area you are going to.

*Option to laminate for future use.*

## BACKGROUND INFORMATION

A natural community can be compared to human communities. A natural community is made up of many living and nonliving things working together. We call this an ecosystem. A human community such as a neighbourhood, is made up of people, services and institutions that interact and depend on one another. The interrelated activities of neighbours, store owners, doctors, teachers etc. are vital to community life just as interactions between plants and animals are vital to life in nature.

## CROSS CURRICULAR CONNECTIONS

This activity connections to the Social Studies Curriculum.

*People and the Environment: The Local Community.*

The Big Ideas that it touches on are:

- Communities have natural and built features and provide services that help meet the needs of the people who live and work there.
- A community consists of different areas, each of which has a specific layout and characteristics.

# WE DEPEND ON EACH OTHER

## ACTIVITY CON'T

1. Discuss: What is a community? Talk about the interactions of different things (people, animals and plants) within an area and their shared responsibilities and common goals.
2.
  - a. Walk through a commercial area (if you have access) and have the students use the observation sheet *Neighbourhood Super Spotter 1*. The students should put check marks in the dotted circles when they spot each thing that they see in that community.
  - b. Walk through a neighbourhood area (if you have access) and have the students use the observation sheet *Neighbourhood Super Spotter 2*. The students should put check marks in the dotted circles when they spot each thing that they see in that community.
  - c. Walk through a forest or other natural area (the school yard will do if you don't have access to a natural area) and have the students use the observation sheet *Nature Super Spotter*. The students should put check marks in the dotted circles when they spot each thing that they see in that community.
3. Challenge students to compare and contrast the features of the neighborhood community with those of the natural community.
  - a. Make lists of living and nonliving things in both communities
  - b. The ways to get around in the neighborhood with the paths or tracks found in the natural community.
  - c. Animal and people homes
  - d. Give examples on how the two communities depend on each other
4. Students can then work together on a mural using a long roll of paper and drawing materials to show the similarities and differences between the local community and the natural community. If you took photographs you can print them and add them to the mural as well.

*If it's a nice day out, the students can work on this outside in the school yard.*

## GRANDFATHER TEACHINGS

**Love** For us to live in harmony we need contributions from all living things. We need to show love for animals, plants and human beings. How can we show animals that we love them? How can we show plants that we love them? How can we show human beings that we love them?

**Truth** We know we need to create and stand up for positive change. What is a positive change that we can make in our communities?

# NEIGHBOURHOOD SUPER SPOTTER 1

Focus on Forests (1991) Pg. 105

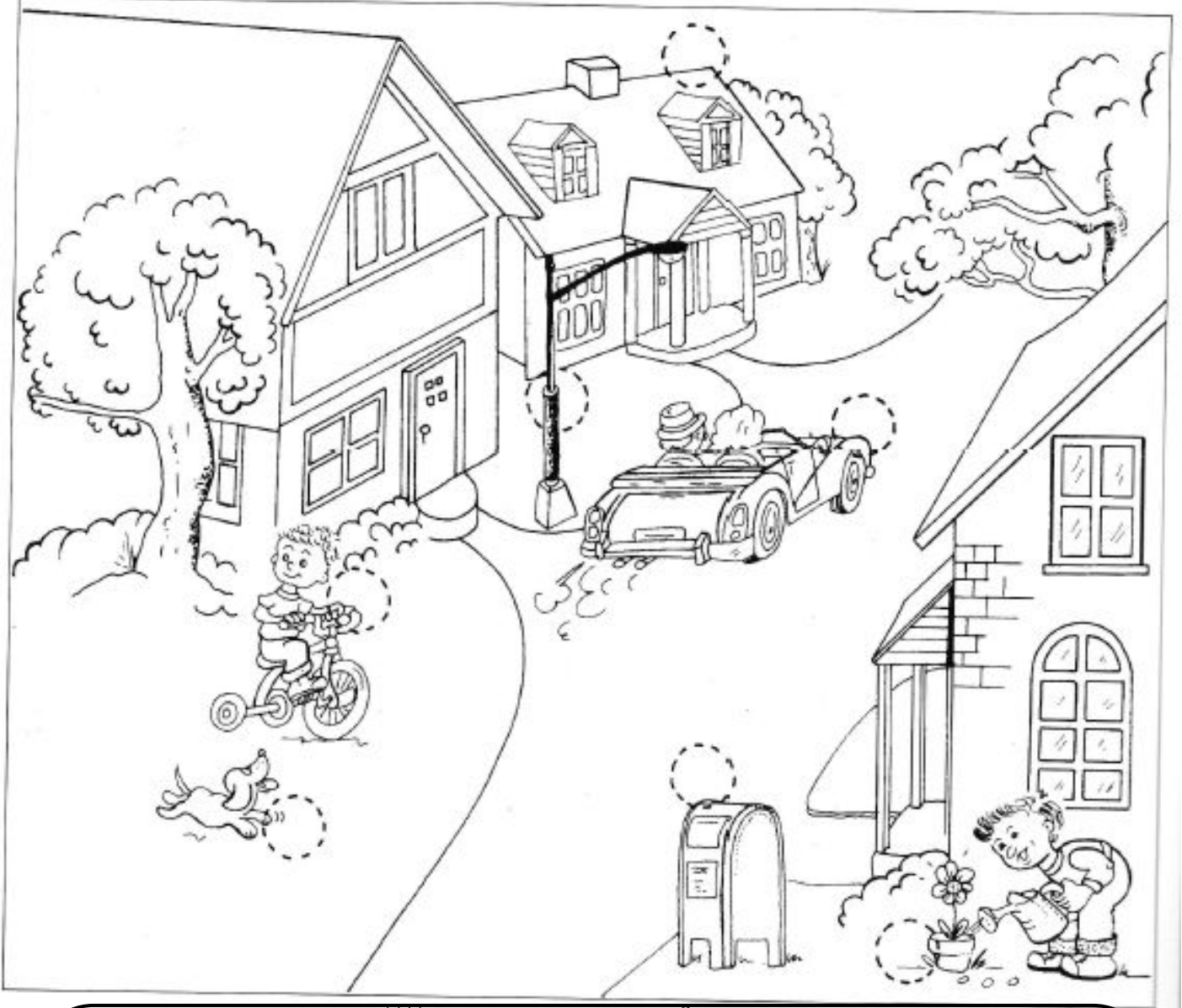


NOTES/ PICTURES



# NEIGHBOURHOOD SUPER SPOTTER 2

Focus on Forests (1991) Pg. 106



NOTES/ PICTURES



# NATURAL NEIGHBOURHOOD SUPER SPOTTER

Focus on Forests (1991) Pg. 107



NOTES/ PICTURES





5

# A FRIEND FOR ALL SEASONS

Adapted from *Keepers of the Earth* (1997) pg. 133

## BIG IDEAS

2-3-4-5

## OVERALL EXPECTATIONS

1-2-3

## SPECIFIC EXPECTATIONS

1.1-1.2-2.1-2.4

2.5-2.6-2.7

3.2-3.5-3.7

## MATERIALS

- Printed worksheets
- Pencils
- Drawing materials

## PREPARATION

Print off the observation sheet for the correct time of your visit (there are 2 for each season). You may want to collect the sheets after each visit so that student can compile their work and see how their plant friend changed over time.

*Option to read story from Keepers of the Earth Spring Defeats Winter (pg. 129)*

## ACTIVITY

Observe a plant closely through several seasons. Record seasonal changes and the plant's response to those changes.

1. Go outside, let each student pick a plant outdoors and adopt it as their "friend for all seasons."
2. Have them visit that plant at least 2 times per season to record in pictures, drawings, words or other forms of art that the plant experiences and changes.
3. For each visit they should bring an offering of thanks for their plant. Such as a leaf to feed the soil near its roots or some water. They can talk to the plant, make friends with it! When they leave the plant, encourage them to thank it.
4. They can use the observation pages to investigate and record things they notice about the plant. Encourage them to observe how the shape, smell, texture and appearance changes. And how the weather changes
5. At the end of the activity, have the children compile their whole experience into a booklet, write one final story or picture that describes the seasonal changes and which experiences meant the most to them. Have them share with the class.

## GRANDFATHER TEACHINGS

**Humility** We are thankful to all living things. We would not be able to survive and live a well balanced life without the contributions of all living things. How can we show thanks to living things?

# A FRIEND FOR ALL SEASONS

## FALL VISIT 1



MY PLANT  
FRIEND



WEATHER TODAY



LIVING THING THAT  
NEEDS MY PLANT



WHAT DOES MY  
PLANT NEED?

# A FRIEND FOR ALL SEASONS

## FALL VISIT 2



MY PLANT  
FRIEND



WEATHER TODAY



LIVING THING THAT  
NEEDS MY PLANT



WHAT DOES MY  
PLANT NEED?



# A FRIEND FOR ALL SEASONS

## WINTER VISIT 1



MY PLANT  
FRIEND



WEATHER TODAY



LIVING THING THAT  
NEEDS MY PLANT



WHAT DOES MY  
PLANT NEED?

# A FRIEND FOR ALL SEASONS

## WINTER VISIT 2



MY PLANT  
FRIEND



WEATHER TODAY



LIVING THING THAT  
NEEDS MY PLANT



WHAT DOES MY  
PLANT NEED?

# A FRIEND FOR ALL SEASONS

## SPRING VISIT 1



MY PLANT  
FRIEND



WEATHER TODAY



LIVING THING THAT  
NEEDS MY PLANT



WHAT DOES MY  
PLANT NEED?

# A FRIEND FOR ALL SEASONS

## SPRING VISIT 2



MY PLANT  
FRIEND



WEATHER TODAY



LIVING THING THAT  
NEEDS MY PLANT



WHAT DOES MY  
PLANT NEED?

## 6

## SHELTER ME!

Adapted from *Project Wild* (2012) pg. 26  
and *Focus on Forests* (1991) pg. 110

## BIG IDEAS

3 - 4

## OVERALL EXPECTATIONS

2 - 3

## SPECIFIC EXPECTATIONS

2.1 - 2.2 - 2.6

2.7 - 3.4

## MATERIALS

- Paper
- Drawing materials
- Chart paper
- markers

## BACKGROUND INFORMATION

Humans and animals have some of the same basic needs. People build houses, apartments or other kinds of shelter in which to live. Animals don't need a home that looks like a house but they do need some kind of shelter. This can be underground, in a bush, in the bark of a tree and more! For animals, a home is more like a neighbourhood that has everything that they need for survival.

## ACTIVITY

1. Have each student draw a picture of their home or the home of someone they know.
2. Have a 'gallery walk' of the drawings, where students can go around and look at their classmates' work.
3. Talk to students and have them share some of the things that they included in their drawings or saw in other students' drawings. Ask them to point out the things that they need in order to live. On chart paper create a list of home requirements for a person (safety, shelter, food storage, where a family lives). List animal home requirements. Compare how both are very alike. Conclude that both provide safety, shelter, food storage and a place for family to live.

## ACTIVITY CON'T

4. Take the class outside for a walk and tell them that they are to search for homes in the natural world. Near the school, have students observe and draw pictures of the activity of earthworms after a rainshower, insects under rocks, ants around an ant hill, insects on tree trunks, bird or squirrels nests, rabbit burrow etc.
5. If you have access, take them to a wooded area or a park and ask them to do the same exercise and note the differences. They should search for signs of wildlife including tracks, feathers, chewed pinecones, scratches or teeth marks on bark, pellets or droppings, nests, bits of hair, holes, dens etc.
6. In class and ask students to then draw a picture of an animal home – make sure to keep in mind the characteristics already discussed. (safety, shelter, food storage, where a family lives). And then have a discussion about how they differ from human homes.

## GRANDFATHER TEACHINGS

**Respect** It is important to respect animal homes. Just like people animals need a home to provide their basic needs. How can we show respect towards the homes of animals? What would happen if you did not show respect towards animal homes? Can you think of a way to ensure that animal's homes are taken care of?

## REFERENCES AND RESOURCES

Caduto and Bruchac (1997). *Keepers of the Earth: Native American Stories and Environmental Activities for Children*.

Canadian Wildlife Federation. (2012) *Project Wild: Activity Guide*.

Forests Canada (1991). *Focus on Forests: An Activity Guide for Primary and Junior Teachers on Forests and Forest Management*

Ontario Ministry of Education (2018). *The Ontario Curriculum: Social Studies Grade 1 -6*.

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