



# New SCIENCE Curriculum Earth Systems Grade 1

October 11, 2023

Facilitator: Chris Zarski & Ted Zarowny



Alberta Regional Professional  
Development Consortia

*Adult learning for students' sake*

# Acknowledgment of Land and People

In the spirit of reconciliation, we want to acknowledge that this gathering is taking place on traditional lands across the province of Alberta, home to many diverse First Nations, Métis and Inuit peoples. We acknowledge that this land is a traditional meeting ground giving voice to its original peoples and the story of creation of this country in a way that history has forgotten.



**The Honorable Harvest - Robin Kimmerer**



Photo by [Chris Lawton](#) on [Unsplash](#)

# Agenda



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**1. Spiraling Curriculum - Concepts**

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**2. Spiraling Curriculum - Skills and Procedures**

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**3. Spiraling Curriculum - Understanding**

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**4. Spiraling Curriculum - Transfer**

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**5. Teaching for Transfer**

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**6. Surface Level Activities**

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**7. Deep Level Activities**

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**8. Transfer and Assessment**

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**9. Resources**

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Photo by [Luke White](#) on [Unsplash](#)

01

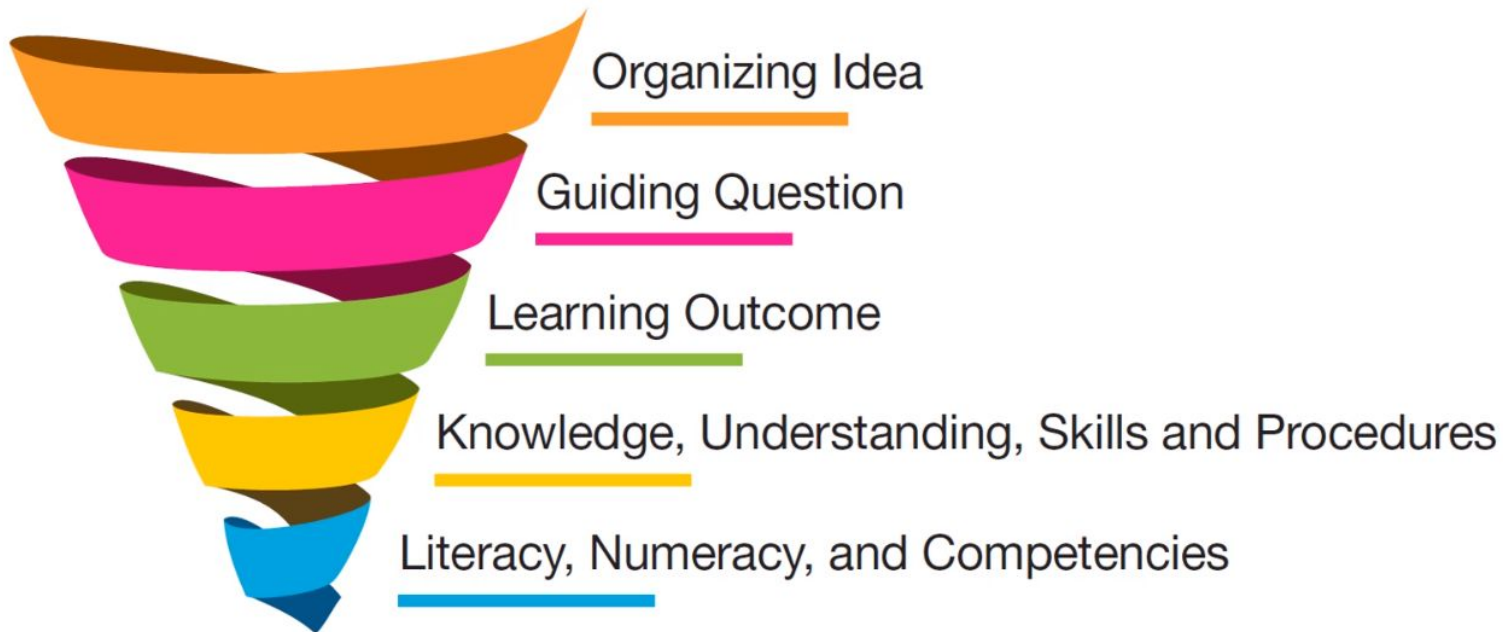
# Spiraling Curriculum Concepts



# Spiraling Curriculum

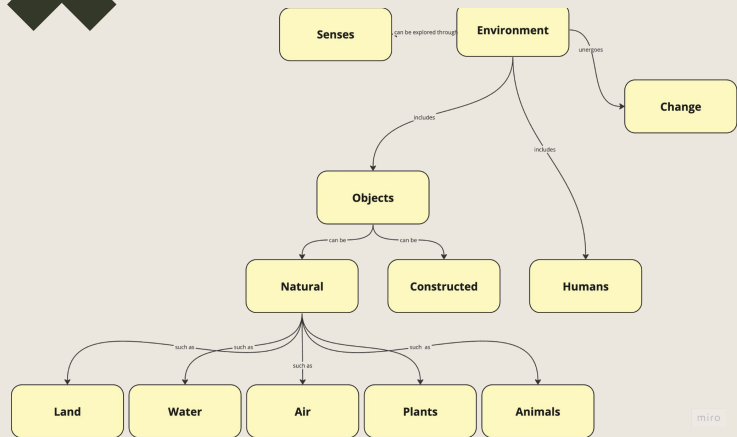
[Guiding Framework Document](#)

[New LearnAlberta](#)





# Concepts Spiraling and Growing



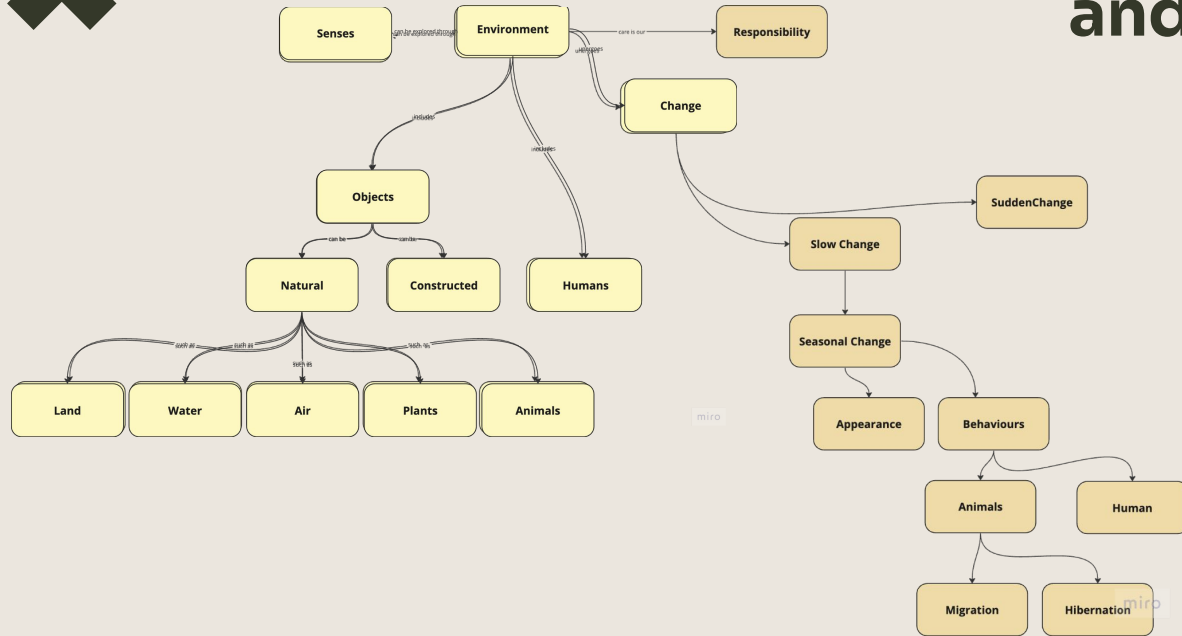
Kindergarten

K-3  
Earth Systems





# Concepts Spiraling and Growing

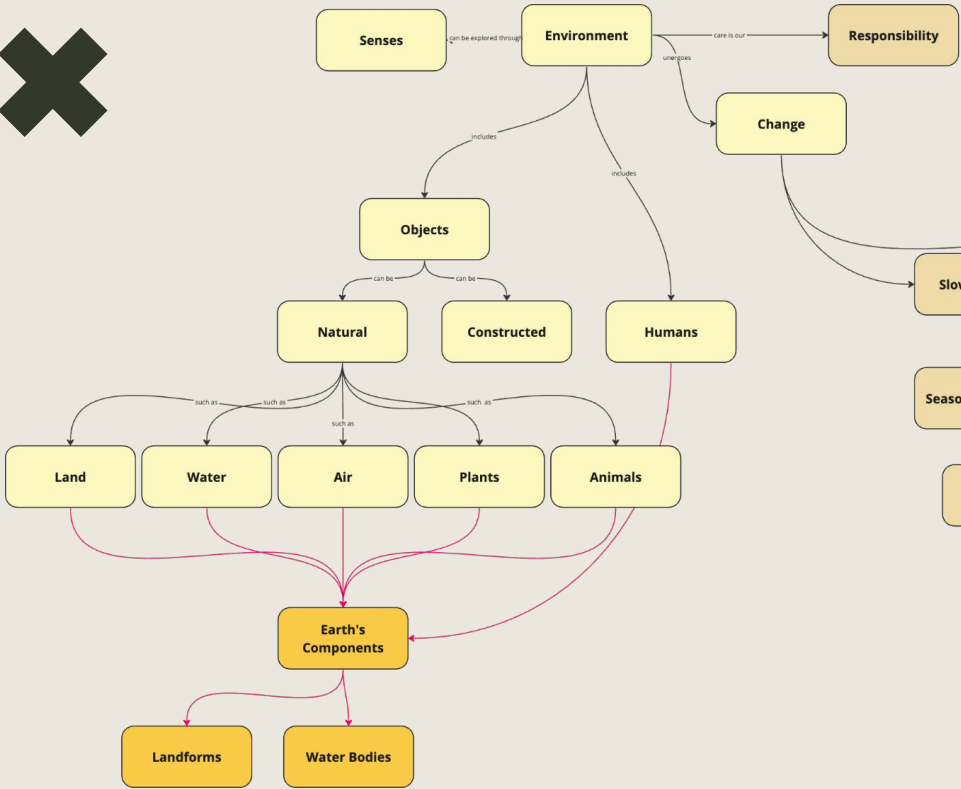


Kindergarten

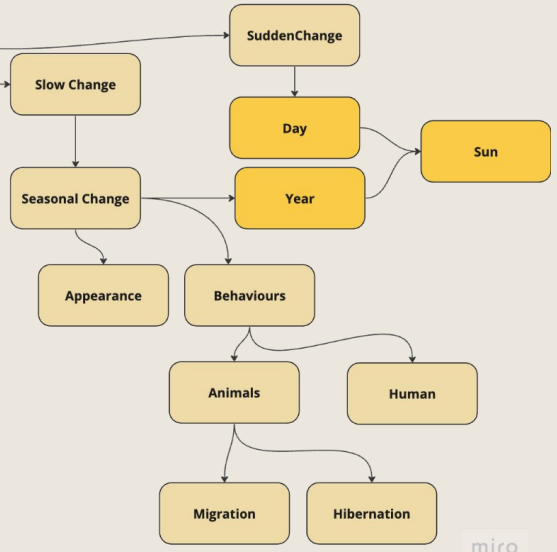
Grade 1

K-3  
Earth Systems





# Concepts Spiraling and Growing



Kindergarten  
Grade 1  
Grade 2

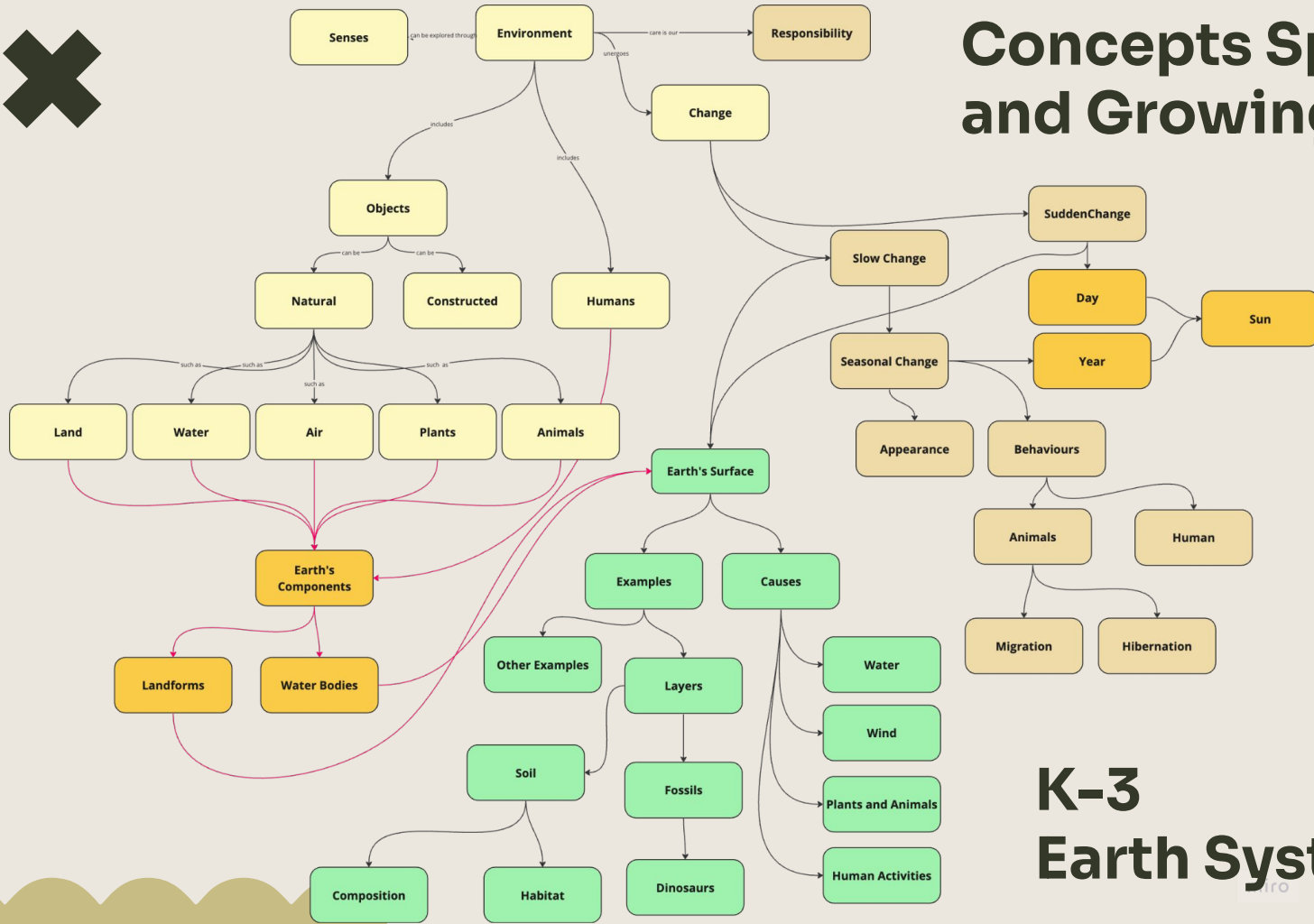
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## K-3 Earth Systems





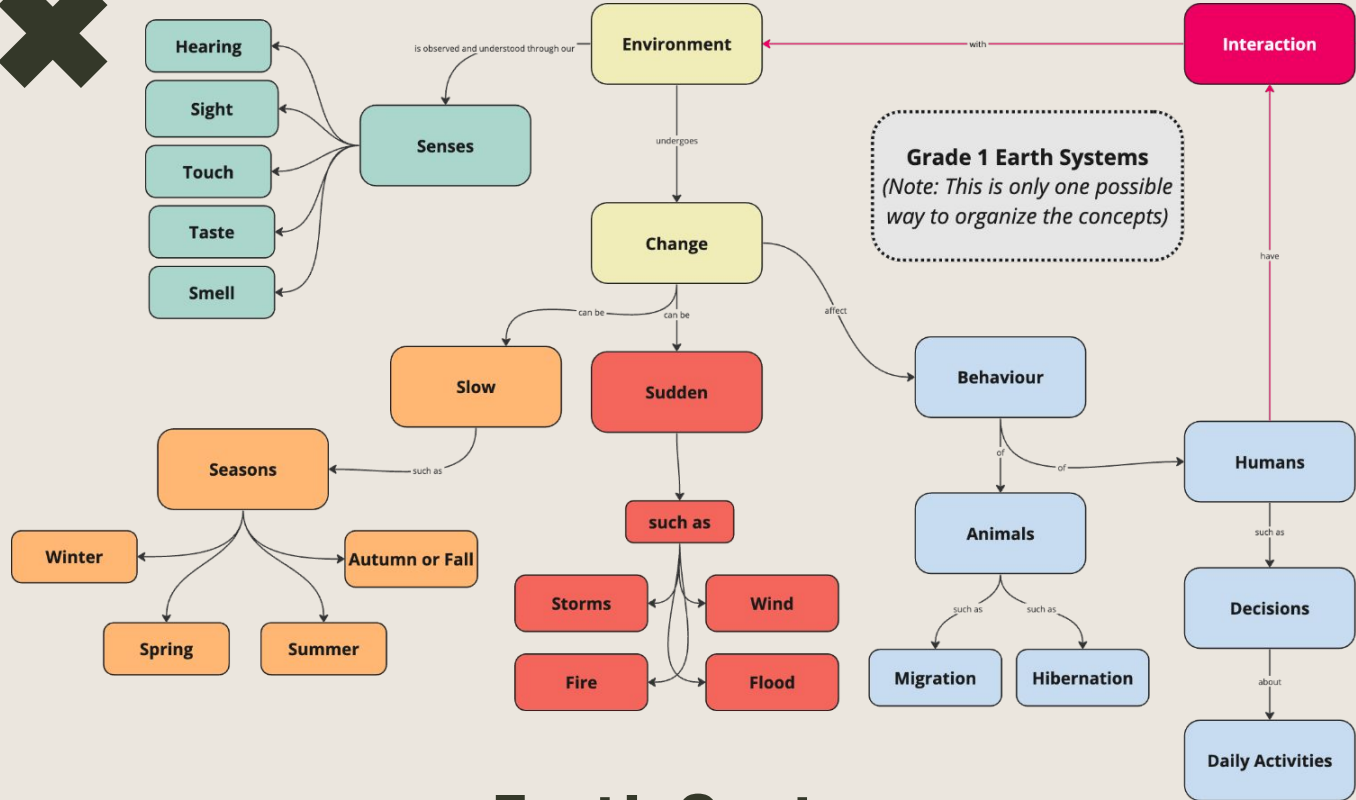
# Concepts Spiraling and Growing



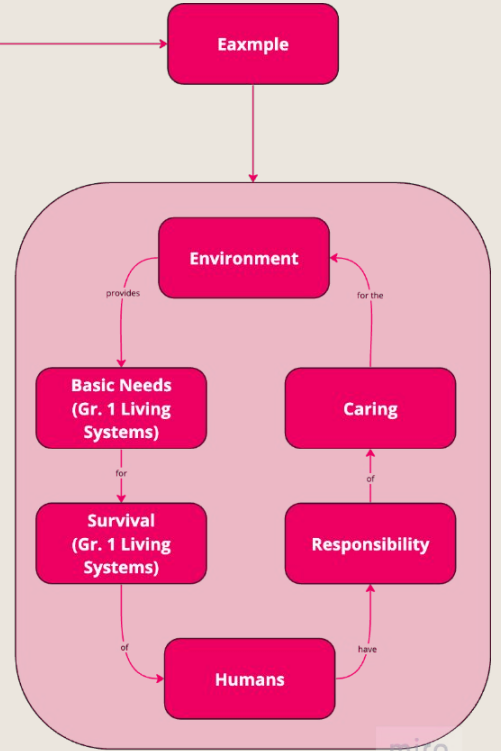
Kindergarten  
 Grade 1  
 Grade 2  
 Grade 3

K-3  
 Earth Systems





**Grade 1 Earth Systems**  
*(Note: This is only one possible way to organize the concepts)*



# Earth Systems

## Grade 1

### Concept Map

# EARTH SYSTEMS

| Kindergarten   | Grade 1  | Grade 2   | Grade 3  | Grade 4  | Grade 5  | Grade 6   |
|--|--|---|--|--|--|---|
| <b>Guiding Question:</b> How can environments be explored?                       | <b>Guiding Question:</b> In what ways can environments change?                                   | <b>Guiding Question:</b> How can Earth's components and relationship to the Sun be understood?                                | <b>Guiding Question:</b> What visible changes can be identified through examination of Earth's surface?                                | <b>Guiding Question:</b> How does Earth sustain life?  | <b>Guiding Question:</b> How can climate and its effects be understood?  | <b>Guiding Question:</b> What factors affect climate?   |
| <b>Learning Outcome:</b> Children examine and describe surrounding environments. | <b>Learning Outcome:</b> Students analyze environments and investigate interactions and changes. | <b>Learning Outcome:</b> Students investigate Earth & its landforms, & its bodies of water & and its relationship to the Sun. | <b>Learning Outcome:</b> Students analyze changes in Earth's surface and explain how layers of the landscape hold stories of the past. | <b>Learning Outcome:</b> Students investigate the systems of Earth and reflect on how interconnections sustain life. | <b>Learning Outcome:</b> Students analyze climate and connect it to weather conditions and agricultural practices. | <b>Learning Outcome:</b> Students investigate climate, changes in climate, and the impact of climate change on Earth. |
| <b>KEY CONCEPTS</b>  |  |   | <b>KEY CONCEPTS</b>  |  |  |   |
| Animal   | Change   | Axis  | Bodies of Water  | Care   | Weather  | Climate Change  |
| Environment  | Change: Seasonal   | Bodies of Water (wetland, river, lake, glacier, ocean)  | Cause  | Action   | Climate  | Interaction   |
| Exploration; Senses  | Change: Seasonal: Environment  | Components of Earth: land, water, air, plants, human, animals.  | Change   | Change   | Climate Zones  | Climate Change Causes   |
| Human  | Change: Seasonal: Human Activities   | Day   | Earth's Surface  | Conservation   | Patterns   | Climate Change: Effects   |
| Objects: Natural   | Change: Sudden   | Earth's Surface   | History  | Environment  | Climate Characteristics  | Climate Factors (Location)  |
| Objects: Human-Made  | Change: Seasonal: Plants and Animals   | Landforms   | Human Activities   | Interaction  | Climate Factors  | Personal Actions  |
| Plant  | Environment: Responsibility: Care  | Life  | Intergenerational Knowledge  | Interconnection  | Weather: Tools: Measuring  | Climate Change Observations   |
| Shared Space   | Environment  | Revolution  | Landscape  | Life   | Weather: Prediction  | Extreme Weather   |
| Wonder   | Hibernation  | Rotation  | Landscape Layers   | Lithosphere   Hydrosphere   Biosphere   Atmosphere   | Climate & Human Activity   | Traditional Knowledge   |
| FNMI: Ways of Living Connected to Land   | Migration  | Saltwater & Freshwater Bodies   | Natural Events   | Natural Resources  | Climate & Animal Activity  | FNMI: Impact of climate change on way of living   |
|  | Observation; Senses  | Water Flow  | Plant & Animal Activity  | Responsibility   | Climate and Agriculture  |   |
|  | Seasons  | Year  | Soil   | Spherea  | Agriculture: Sustainable Practices   |   |
|  | FNMI: Sense of responsibility and care with nature.  |   | Time   | Sunlight   | Agriculture: Conservation Practices  |   |
|  | FNMI: Products made from plants and animals.   |   | Wind   Water   Ice   | Systems  | Agriculture: Sustainable Harvesting  |   |
|  |  |   | FNMI: Knowledge of Earth's Surface   | Water Resources  | Intergenerational Observation  |   |
|  |  |   |  | FNMI: Interconnectedness of Earth Systems  | FNMI: Long-term climate observations   |   |
|  |  |   |  | FNMI: Laws of Nature and Sacredness of Water   | FNMI: Observations and weather predictions   |   |
|  |  |   |  | FNMI: Conservation   |  |   |

[Link: Concept Progressions \(ARPCD\)](#)



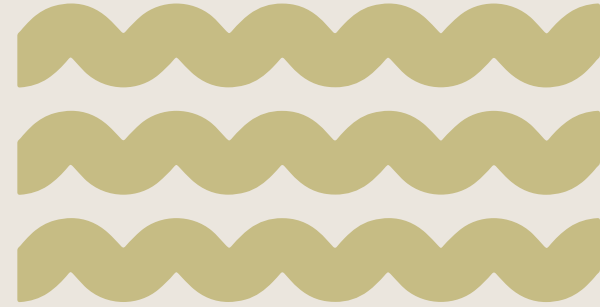
02

# Spiraling Curriculum Skills & Procedures



“Skills and procedures **are what students do to demonstrate their knowledge and understanding.** They are specific skills, methods, tools, strategies, and processes that students will develop as they achieve the learning outcome.”

[Guiding Framework](#)



| Learner Outcome Verbs  |       |   |   |   |
|------------------------|-------|---|---|---|
|                        | Grade |   |   |   |
|                        | K     | 1 | 2 | 3 |
| Apply Creativity       |       |   |   |   |
| Analyze                |       |   |   |   |
| Describe               |       |   |   |   |
| Examine                |       |   |   |   |
| Explain                |       |   |   |   |
| Explore                |       |   |   |   |
| Follow Instructions    |       |   |   |   |
| Interpret Instructions |       |   |   |   |
| Investigate            |       |   |   |   |
| Relate                 |       |   |   |   |

# Learner Outcome Verbs

**Verbs** are the skills and procedures that students do or perform.

**Learner outcome verbs** are those verbs that are identified in the learner outcome

[Skills and Procedures K-3 Progressions](#)

# Skills & Procedures Verbs

| Skills & Process Verbs                      |       |   |   |   |
|---|-------|---|---|---|
|   | Grade |   |   |   |
|   | K     | 1 | 2 | 3 |
| Ask Questions                               |       |   |   |   |
| Classify (Sort)                             |       |   |   |   |
| Compare (find similarities and differences) |       |   |   |   |
| Conclude                                    |       |   |   |   |
| Create                                      |       |   |   |   |
| Demonstrate Safety                          |       |   |   |   |
| Describe                                    |       |   |   |   |
| Design                                      |       |   |   |   |
| Discuss                                     |       |   |   |   |
| Examine                                     |       |   |   |   |
| Explain                                     |       |   |   |   |
| Explore                                     |       |   |   |   |
| Investigate                                 |       |   |   |   |
| Observe                                     |       |   |   |   |
| Predict                                     |       |   |   |   |
| Record Data/Observations                    |       |   |   |   |
| Relate                                      |       |   |   |   |
| Represent                                   |       |   |   |   |

**Skills and procedures verbs** are those identified in the Skills & Procedures column of the curriculum guide.

This list represents the ***more frequently used verbs***.

- A darker shade signifies a verb used directly in a Skills and Procedures statement.
- A lighter shade indicates that verb is not stated as a separate skill, but is included in a procedure (eg. “Ask Questions” is a step in the “Investigation” procedure at every grade).

## Instruction and Assessment

These skills and procedures can be taught, practiced, and assessed.

Doing so will help students become more proficient in their use and better able to demonstrate their knowledge and understanding when using these skills.

| Skills & Process Verbs                      |       |   |   |   |
|---|-------|---|---|---|
|   | Grade |   |   |   |
|   | K     | 1 | 2 | 3 |
| Ask Questions                               |       |   |   |   |
| Classify (Sort)                             |       |   |   |   |
| Compare (find similarities and differences) |       |   |   |   |
| Conclude                                    |       |   |   |   |
| Create                                      |       |   |   |   |
| Demonstrate Safety                          |       |   |   |   |
| <b>Describe</b>                             |       |   |   |   |
| Design                                      |       |   |   |   |
| Discuss                                     |       |   |   |   |
| Examine                                     |       |   |   |   |
| Explain                                     |       |   |   |   |
| Explore                                     |       |   |   |   |
| Investigate                                 |       |   |   |   |
| Observe                                     |       |   |   |   |
| Predict                                     |       |   |   |   |
| Record Data/Observations                    |       |   |   |   |
| Relate                                      |       |   |   |   |
| Represent                                   |       |   |   |   |

**1ES1.3 Understanding:** *Environments are observed and understood using the senses.*

## 1ES1.2 Skills and Procedures Grade 1

- **Describe** various environments, drawing from information gathered using the senses.

### Instruction and Assessment

These skills and procedures can be taught, practiced, and assessed.

Doing so will help students become more proficient in their use and better able to demonstrate their knowledge and understanding when using these skills.

| Skills & Process Verbs                             |       |   |   |   |
|--|-------|---|---|---|
|  | Grade |   |   |   |
|  | K     | 1 | 2 | 3 |
| Ask Questions                                      |       |   |   |   |
| Classify (Sort)                                    |       |   |   |   |
| <b>Compare</b> (find similarities and differences) |       |   |   |   |
| Conclude   |       |   |   |   |
| Create   |       |   |   |   |
| Demonstrate Safety                                 |       |   |   |   |
| <b>Describe</b>                                    |       |   |   |   |
| Design   |       |   |   |   |
| Discuss  |       |   |   |   |
| Examine  |       |   |   |   |
| Explain  |       |   |   |   |
| Explore  |       |   |   |   |
| Investigate  |       |   |   |   |
| Observe  |       |   |   |   |
| Predict  |       |   |   |   |
| Record Data/Observations                           |       |   |   |   |
| Relate   |       |   |   |   |
| Represent  |       |   |   |   |

**1ES1.3 Understanding:** *Environments are observed and understood using the senses.*

## 1ES1.2 Skills and Procedures Grade 1

- **Describe** various environments, drawing from information gathered using the senses.
- **Analyze** various environments to **describe** them, drawing from information gathered using the senses.
- **Compare** various environments

### Learner Outcome

Students **analyze** environments and investigate interactions and changes.



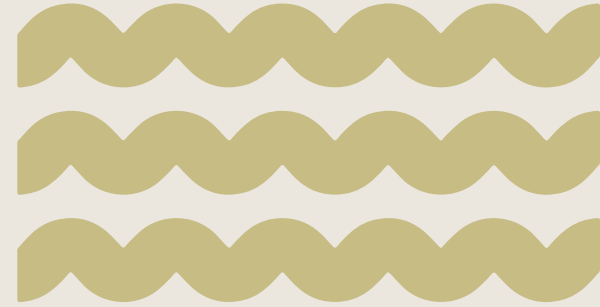
03

# Spiraling Curriculum Understanding




“Understanding is about putting pieces of knowledge into **logical and meaningful order** with other knowledge.”

[Guiding Framework](#)



Spiraling from Kindergarten “Earth Systems” organizing idea.

| Knowledge   | Understanding   |  |
|---|---|--|
| <p data-bbox="119 183 475 307">Seasonal Change<br/>Sudden Change<br/>Animal Behaviour</p> <p data-bbox="119 456 276 493">Change</p> |  <p data-bbox="736 554 1136 769">What are some ways<br/>these three concepts<br/>can be put into a<br/><b>logical and<br/>meaningful order?</b></p> |  |





04

# Transfer





# Concepts Transfer (Different Contexts)

Knowledge

Change  
Sudden Change  
Slow Change



Photo by [Aaron Burden](#) on [Unsplash](#)



Photo by [Timo Volz](#) on [Unsplash](#)

Photo by [Silver Ringvee](#) on [Unsplash](#)

Photo by [Maryna Yanul](#) on [Unsplash](#)



# Concepts Transfer (Different Contexts)

## Understanding

Seasonal or sudden changes can affect the behaviour of animals.



Photo by [Craig Whitehead](#) on [Unsplash](#)

Photo by [Silver Ringvee](#) on [Unsplash](#)



Photo by [Oleg Ivanov](#) on [Unsplash](#)

Photo by [Maryna Yanul](#) on [Unsplash](#)



05

# Teaching for Transfer

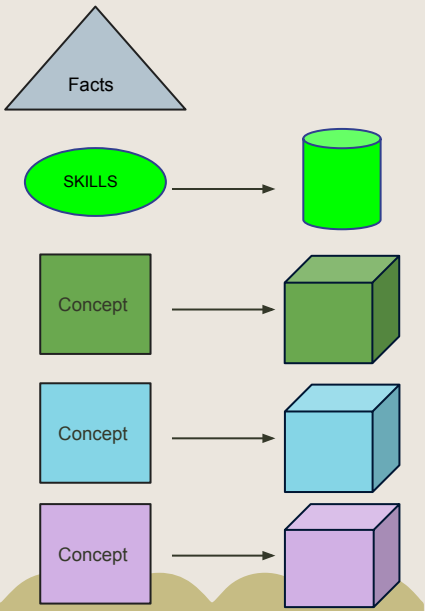


# ✖ Phases of Learning

Hattie, Fisher & Frey: *Visible Learning for Literacy* (2016)

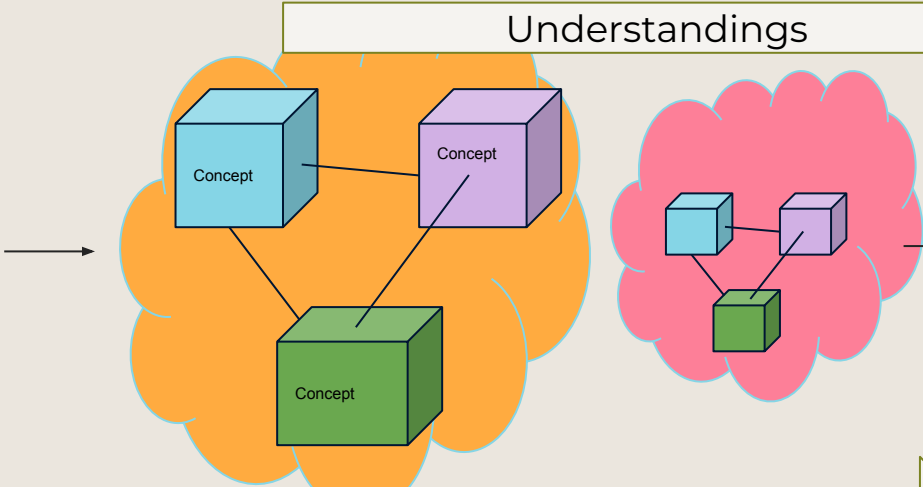
## Surface

Students are first exposed to individual skills, concepts and their related knowledge.



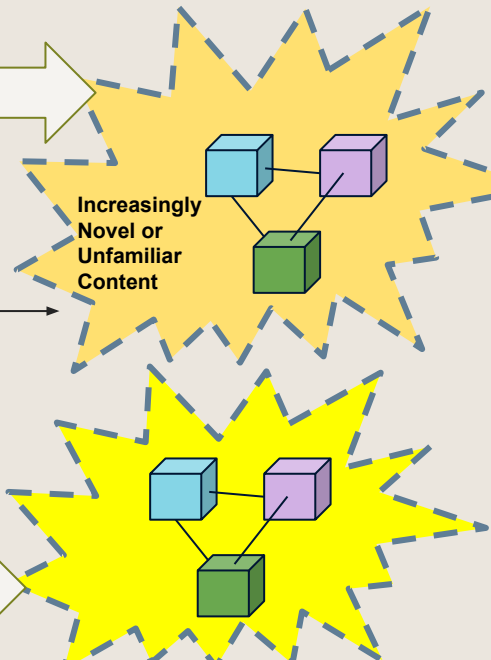
## Deep

Students make connections between concepts to create deeper understanding and appropriately skills/ procedures to new situations with increased independence.



## Transfer

Students apply concepts, understandings and skills to a variety of novel and unfamiliar contexts.

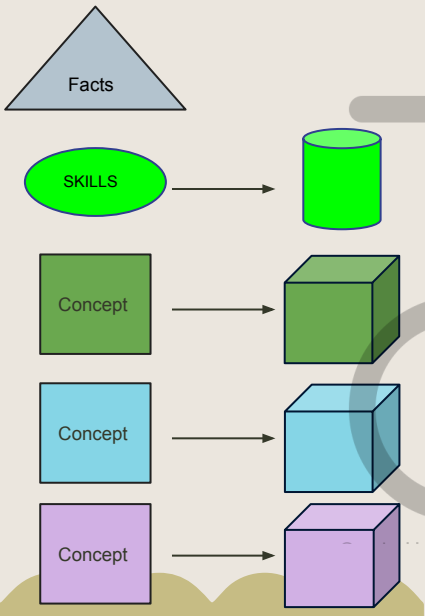


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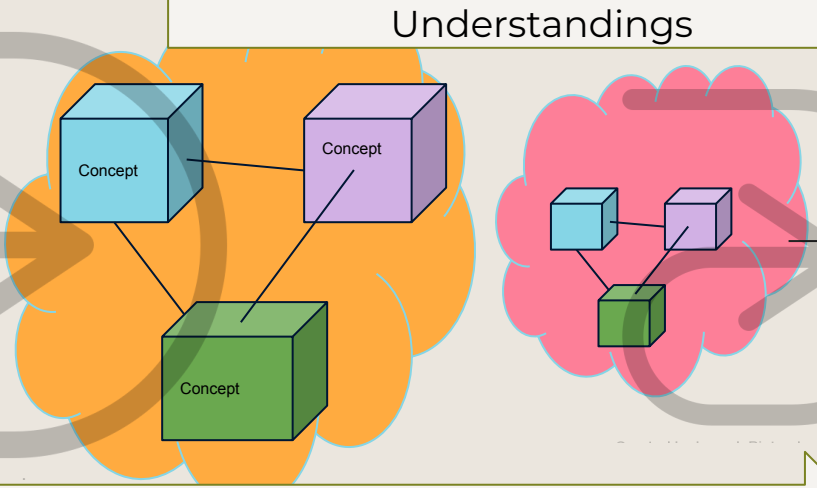
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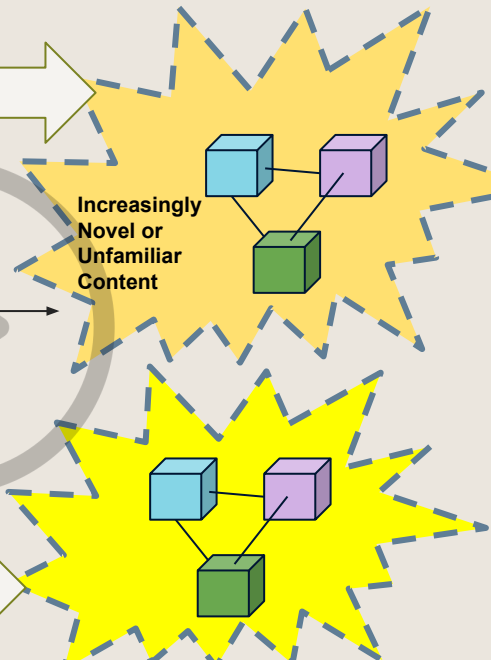
## Deep

Students make connections between concepts to create deeper understanding and appropriately skills/ procedures to new situations with increased independence.



## Transfer

Students apply concepts, understandings and skills to a variety of novel and unfamiliar contexts.



# Planning



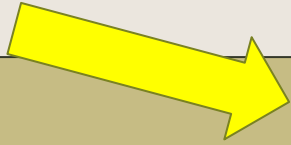
**Begin  
With  
the  
End  
In  
Mind**

Stephen R. Covey, 1989

**Backward  
by  
Design**

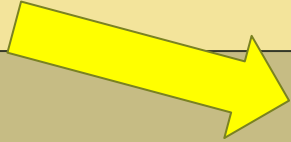
Grant Wiggins & Jay McTighe, 1998





## Learning Outcome

**Students analyze environments and investigate interactions and changes.**



## Understandings

**11ES1.1 Changes in environments include seasonal changes.**

**11ES1.2 Seasonal or sudden changes can affect the behaviour of animals.**

**11ES1.3 Environments are observed and understood using the senses.**

**11ES1.4 Seasonal changes influence decisions about daily activities**

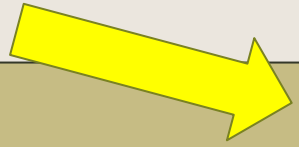
**11ES1.5 Caring for nature comes from a sense of responsibility.**

## Transfer

- Formative Assessments
- Summative Assessments
- Unit End Projects as Assessments

Learners **independently** apply concepts, understandings and skills in a **new or unfamiliar context** to

- complete a task
- solve a problem
- create something
- investigate something
- take action on something
- etc.



**Learning Outcome**

**1ESI: Students analyze environments and investigate interactions and changes.**

**What will students do to demonstrate their learning?**

**[Sample Summative Assessment 1ESI](#)**

**What will students need to know and/or understand in order to be successful?**

**What will students need to be able to do in order to be successful?**





# Learning Outcome

**1ESI: Students analyze environments and investigate interactions and changes.**

What will students do to demonstrate their learning?

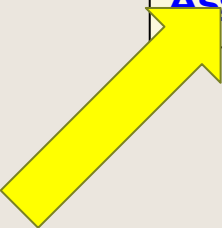
[Sample Summative Assessment 1ESI](#)

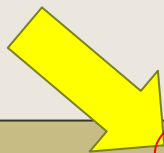
What will students need to know and/or understand in order to be successful?

**Relationship | Interaction| Effect | Positive & Negative Effect | Responsibility |**

What will students need to be able to do in order to be successful?

**Complete an Investigation (including a analyzing and describing.**



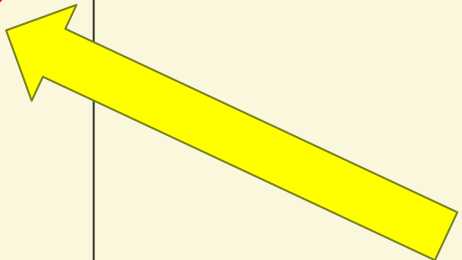


| Understanding   | Formative Assessment  |
|---|---|
| <p><b>1ES1.3: Seasonal or sudden changes can affect the behaviour of animals.</b></p> | <p><b>EXAMPLE Formative Assessment:</b><br/><i>Students share personal experiences related to sudden changes in environments.</i></p> <p><i>(Note: this is a Skills and Procedures statement)</i></p> <div data-bbox="1222 576 1802 762" style="border: 1px solid black; padding: 5px;"><p><b>What will students need to be able to do in order to be successful?</b></p></div> |





|   | Understanding   | Formative Assessment  |
|---|---|---|
| <p>Environments can undergo sudden changes, such as</p> <ul style="list-style-type: none"><li>• storms</li><li>• floods</li><li>• fires</li><li>• winds</li></ul> | <p><b>1ES1.3: Seasonal or sudden changes can affect the behaviour of animals.</b></p> | <p><b>EXAMPLE Formative Assessment:</b> <i>Students share personal experiences related to sudden changes in environments.</i></p> <p><i>(Note: this is a Skills and Procedures statement)</i></p> |



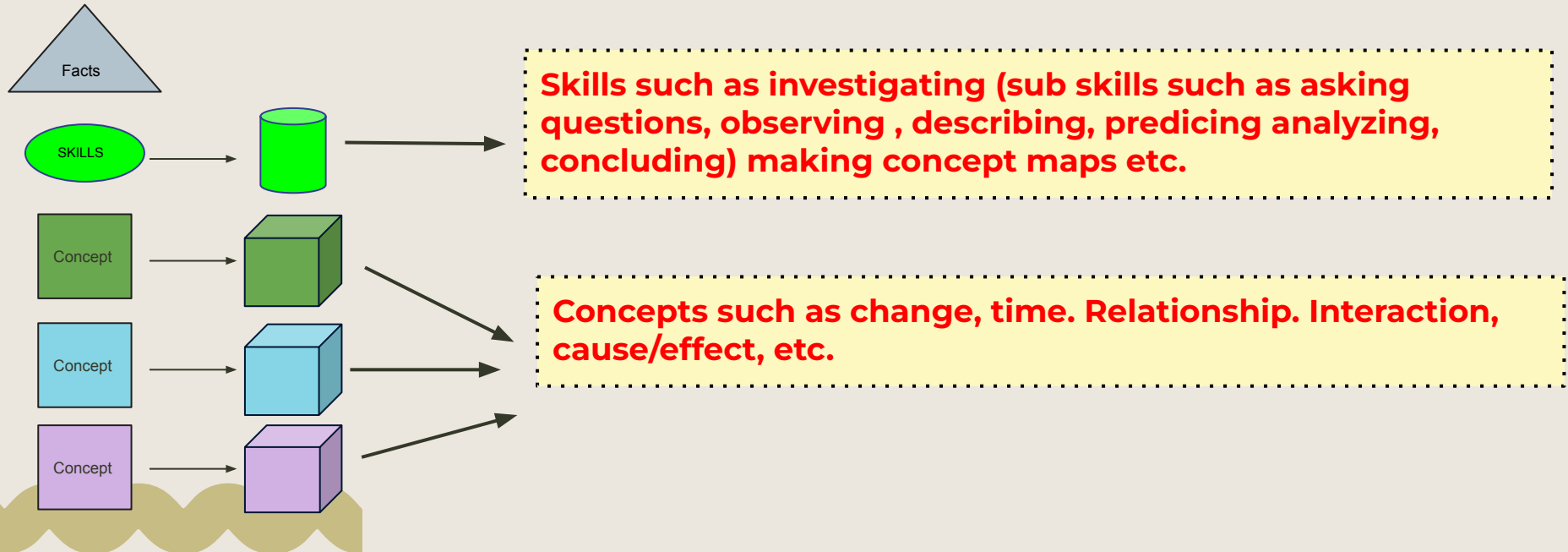
**What will students need to be able to do in order to be successful?**

# ✖ Phases of Learning

Hattie, Fisher & Frey: *Visible Learning for Literacy* (2016)

## Surface

Students are first exposed to individual skills, concepts and their related knowledge.





06

## Surface Level Activities



# Kindergarten

**What *Concepts* are  
important from  
previous grades?**



# Environments

To the Teacher: Ask if anyone has heard the word...what do they think it means. You could start a list of words (explanations) on chart paper or the board that could be used to create a definition of what it means and what it includes.

The following 3 slides, focus on what they see and not on differentiating between natural and man-made. After discussing their notices and wonders, ask again what they think an environment is.



What does it mean to “notice”?

What does it mean to ‘wonder’?



Look at the picture of an *Environment*. What do you notice? Discuss with your shoulder partner.

Be ready to share your ‘notice’ by finishing the sentence “We notice \_\_\_\_\_”

What do you both ‘wonder’ about the picture? Be ready to share your ‘wonder’ by finishing the sentence “we wonder \_\_\_\_\_”.

What do you 'wonder'?

What do  
you  
"notice"?

What do you  
'wonder'?



Look at the picture of an **Environment**. What do you notice? Discuss with your shoulder partner.

Be ready to share your 'notice' by finishing the sentence "We notice \_\_\_\_\_"

What do you both wonder about the picture? Be ready to share your  
wonder wonder

What do you  
“notice”?

What do you  
‘wonder’?



Look at the picture of an **Environment**. What do you notice? Discuss with your shoulder partner.


Be ready to share your ‘notice’ by finishing the sentence “We notice \_\_\_\_”

What do you both wonder about the picture? Be ready to share your ‘wonder’ by finishing the sentence “we wonder \_\_\_\_”.



**What is an environment?**

**How would you describe it in  
your own words?**



# What are some objects that are the same and different in each of these environments?



An environment includes [plants, animals, (humans)]  
Environments are made of Man-Made structures and  
Natural things including air, water, land, rocks..)



**Man-Made or Natural?**

What do these mean?

# Exploring Environments

How do we 'explore' our environments?

Teacher note: this is an opportunity to review work done/initiate work on senses and how they can assist us in learning about and experiencing our environments.

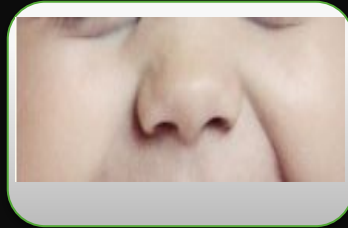


# Review of Senses

Can you name our 5 senses?

Let's Do A Card Sort!

With your partner, place the card on the sense you would use to identify it.



**How can we explore our environments?**



**How can we know and describe what is in the environments?**



# Using My Senses in the Environment

Look at the following 3 pictures.

**In each picture, which of your senses would you use and what would you use them for?**

**Are there any object in each of the picture that you would use more than one sense to identify?**

**Are there any items that would use all 5 senses?  
(Assessment)**

## Using My Senses in the Environment - which one's will you use? How?



[Unsplash](#) photo by [zellijosantrac](#)




[iStock](#) photo by [Imgorthand](#)



Unsplash photo by Omar Ram

# Surface Level Instructional Approaches

**INTENT: Introduce and begin developing Individual Concepts (Knowledge) and Skills and Procedures**

- Concept Attainment Strategy
  - Frayer Model
  - SEEI (State - Explain - Exemplify - Illustrate)
  - Card Sorts/Classify
  - Students Making/Finding examples & non-examples.
  - Show a photo. Ask students how the concept you are studying is evident in the photo (eg. symmetry, empathy, authority, conflict, etc.)
  - Diamond Ranking.
  - Making Analogies (“diversity” is like ..., “motivation” is like ..., “our senses are like ...”)
  - Case Studies
- 

# Sample Activities (Surface)

In planning surface  
activities, consider ...

- Seasons
- Change in environments with season
- Change in plants and animals with seasons
- Behaviour
- Hibernation
- Migration
- Decisions (Decision Making)
  - Criteria
- Responsibility
- Investigation
  - Asking Questions (Notice and Wonder)
  - Observing (Using senses)
  - Analyzing (Not a Step in Grade 1 but it is in the learner outcome for this organizing idea)
  - Prediction and Predicting
  - Conclusion

# Sample Activities (Surface)

In planning surface  
activities, consider ...

- Relationship
  - Interaction
  - Concept Map
  - Cause and Effect
  - Affect/Effect
- Change
  - Time
- Analysis





Seasons in Earth - video for kids



Sesame Street: Learn About the Four Seasons | Elmo's World (includes what clothes to wear in each season)

**What is a Season?**  
**What are the names of the seasons?**



**Can you  
name  
the  
seasons  
shown in  
each  
picture?**



# Change in Lifestyle

*Research and identify possible animals that live in your environment.*



## Migration

Do you have any animals in your environment that would migrate? If so, what are they and what is their migration pattern?

Migration Challenge

## Change Adaptations

How do the changes in your environment affect you? Would you migrate or hibernate? Why or why not?



## Hibernation

Would you have any animals that hibernate in your environment?





How to Build a Fire by  
[Campfiredude.com](http://Campfiredude.com)

**Look at the pictures. How do they represent *sudden change*?**



[Unsplash](https://unsplash.com/photos/Vadim Sadovski) photo by [Vadim Sadovski](https://unsplash.com/photos/Vadim Sadovski)

**How would you explain *sudden change*?**





07

# Deep Level Activities





## Learning Outcome

Students analyze environments and investigate interactions and changes.

## Understandings

11ES1.1 **Changes** in **environments** include seasonal **changes**.

1ES1.2 **Seasonal** or **sudden changes** can affect the **behaviour** of animals.

1ES1.3 **Environments** are **observed** and understood using the **senses**.

1ES1.4 **Seasonal changes** influence **decisions** about daily activities

1ES1.5 Caring for nature comes from a **sense of responsibility**.



# Using Time Lapse Photography - Can You name the seasons? How will you know?



Winter, Spring, Summer, Fall - Seasonal Transition Timelapse



The Season's - Filmed everyday for 1 year



Tree in 4 Seasons | spring, summer, autumn, winter



One year in 40 seconds  
Can you name the season as it appears?

# My Own Environment Changes - A Representation Over Time)



Find an environment that you can watch all year. Take a picture of the same place in each season.



Machacekcz on istockphoto.com

Identify each season and give an explanation as to 'why' it represents that season. Document and explain how *change* occurs in your environment in each season.

# Identify the sudden changes that are shown in each photo. How are environments affected by sudden change? How are humans affected by sudden change?



iStock by Getty Images - photo by Peter Pattavina



IStock Photo on Unsplash; photo by Weeraa



Unsplash photo by Patino Jhon

# Seasons

## UNIT 2

# THE SEASONS

### MAIN IDEA

The seasons are part of the natural, dynamic process of change and the circle of life. We are all affected by the change of seasons.

### OBJECTIVES

1. to have students recognize the changes that go along with the seasons
2. to ensure students understand the effect of seasonal changes on their environment
3. to teach students how First Nations dealt with the changing seasons

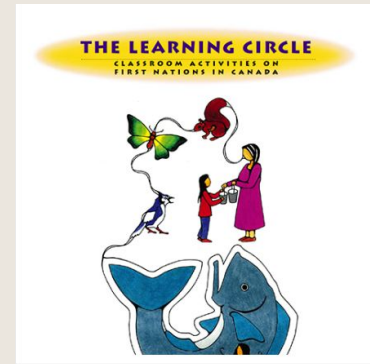
### TEACHER INFORMATION

For First Nations, seasons embodied the cyclical nature of life: birth, youth, adulthood and death. Seasons meant changes in lifestyle, food, social activities, religious and spiritual practices and economic pursuits. Many First Nations noted the changes in their lives that were influenced by the seasons by naming the months of the year after major events occurring during these periods. It was important for their survival that they observe and keep track of these changes.

The primary focus of this unit is to encourage children to take note of the seasonal changes going on around them. Children should have an opportunity to examine the natural world closely and better understand how they are affected by the change in seasons. These activities are intended to introduce the children to Earth science.

## The Learning Circle

Read the information about how seasons influenced First Nations activities and ways of life (pages 18-26). You could lead with this resource and use each activity within the Season's Information to address each of the KUSPS in this Organizing Idea.




THE LEARNING CIRCLE

Classroom Activities on First Nations in  
Canada – Ages 4 to 7

\$0

ADD TO CART

<http://www.otc.ca/pages/education.html>



**From your story about Seasons, show what meaning First Nations have about each season.**

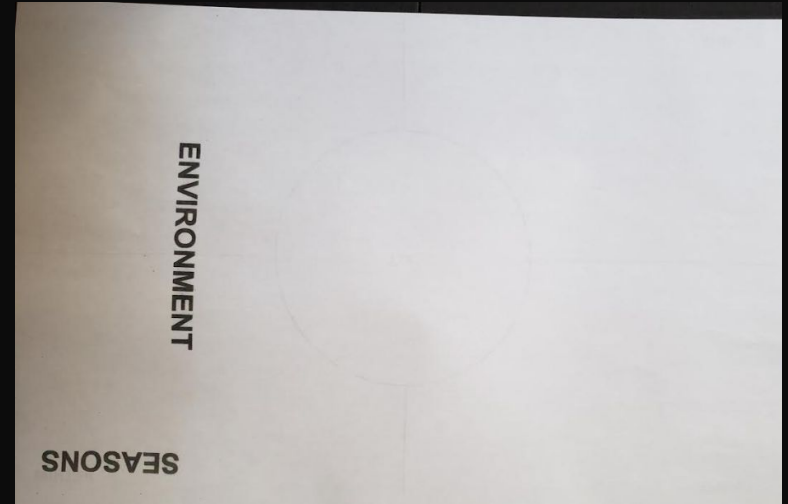
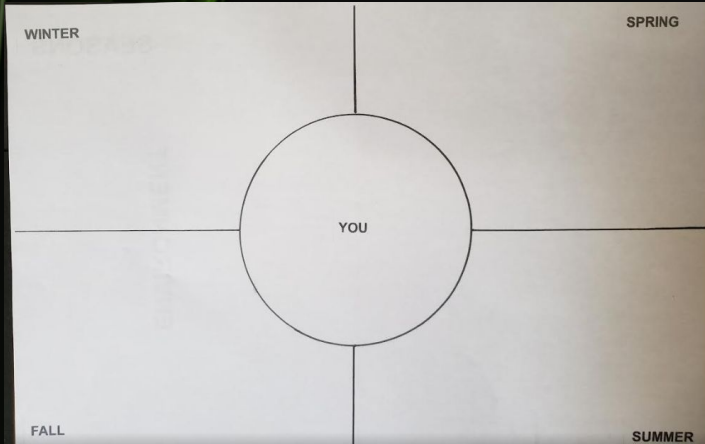
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How can we help respect and care for our land?

The Seasons Story also incorporates the Medicine Wheel.

Source: Caylie Gnyra  
University of Alberta  
December 2009

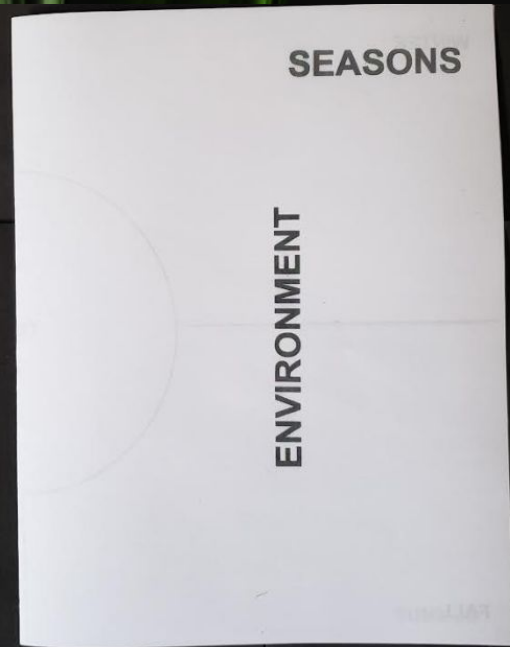
# Building a Seasons - Environment *Foldable*



## Step 1:

Print the two sheets back-to-back on ledger paper. When you run them through the copier, place one sheet right side up and the other upside down so they copy in the same direction.

Step 2: Fold the sheet in half so the circle and seasons are inside



Step 3: Using the fold line as a guide, fold the edge that has "seasons" at the top and line it up with the centre line. You are making a 'shutter door'.



Step 4: Fold the other edge to the centre line making a second 'shutter'



Step 5: Take an 8 ½ x 11 paper, fold it in half and tape it to the back of the Foldable. Students can use this as a storage pocket for pictures or items they collect.



Step 6: Insert in a page protector for easy storage and use throughout the year as they work on their environment and the seasons.



[Link for Foldable](#)



**How are First Nations Peoples connected to the land (environment)?**  
*If we care for Mother Earth, she will care for us.*

---

How can we help respect and care  
for our land?



## Honouring Our Land

Indigenous Leadership Initiative:  
@indigenousleadershipinitiative



**RESPECT  
& CARE**



<https://www.sacredrelationship.ca/>

## People of the Land

As Aboriginal people, our relationship with the land shapes who we are and our place in the world. Featuring Cree, Blackfoot, Dene and Nakota people, *People of the Land* takes the viewer on a beautiful journey of people and place.

08

# Transfer & Assessment



# Deep Learning: Example

1) Provide a task that has students use the concepts with a skill.

Relate this appearance in the environment to a season? What helped you decide?

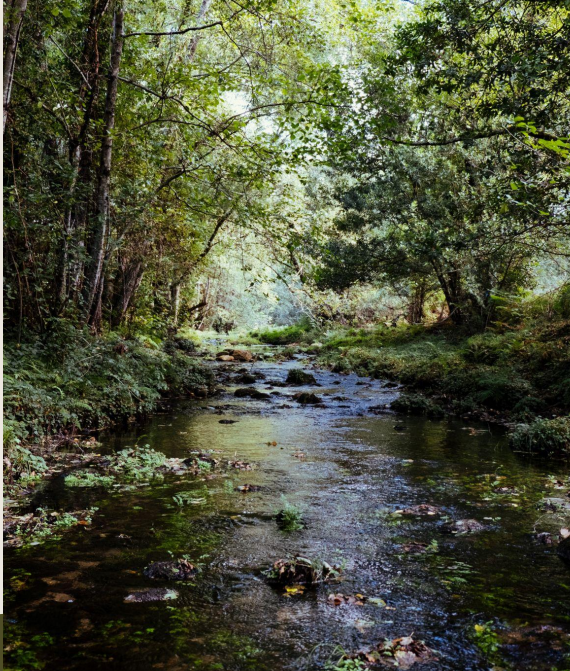


Photo by [Karim Sakhibqareev](#) on [Unsplash](#)

Relate this appearance in the environment to a season? What helped you decide?

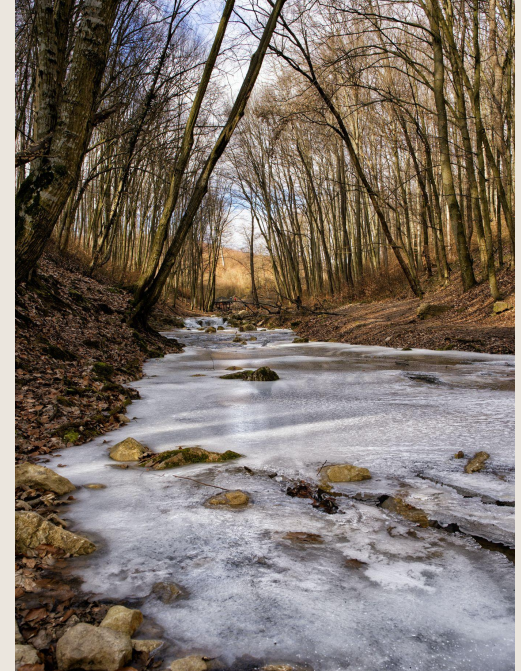


Photo by [Gabriel Miklós](#) on [Unsplash](#)

## Prior Surface Level Learning

- [Relationship](#)
- [Cause and Effect](#)
- [Concept Map](#)

# Deep Learning: Example

2) After the activity, it is important to have students demonstrate their understanding by having students respond to a conceptual question.



Relate this appearance in the environment to a season? What helped you decide?

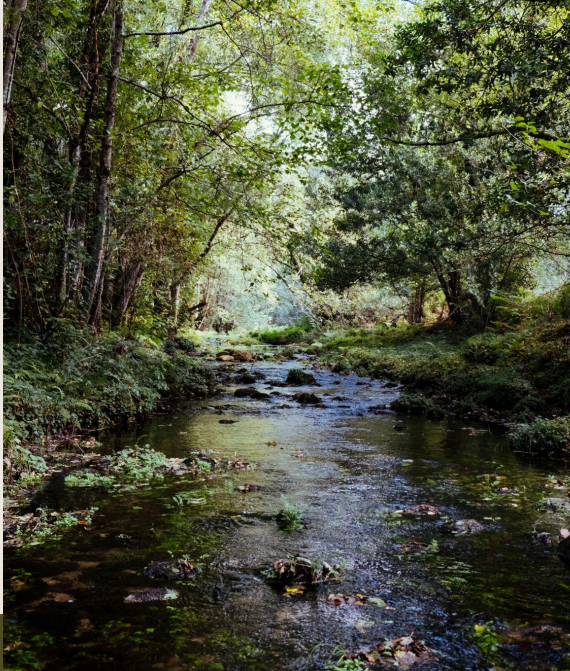


Photo by [Karim Sakhibqareev](#) on [Unsplash](#)



What is the relationship (connections) between ...

seasonal changes

appearance of environment

Relate this appearance in the environment to a season? What helped you decide?

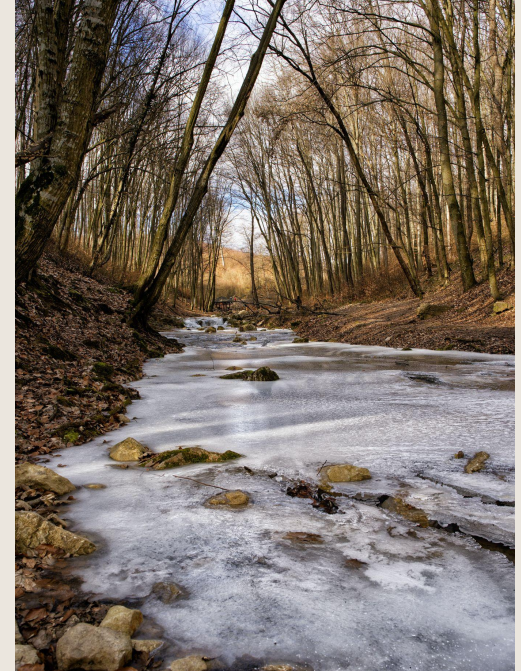
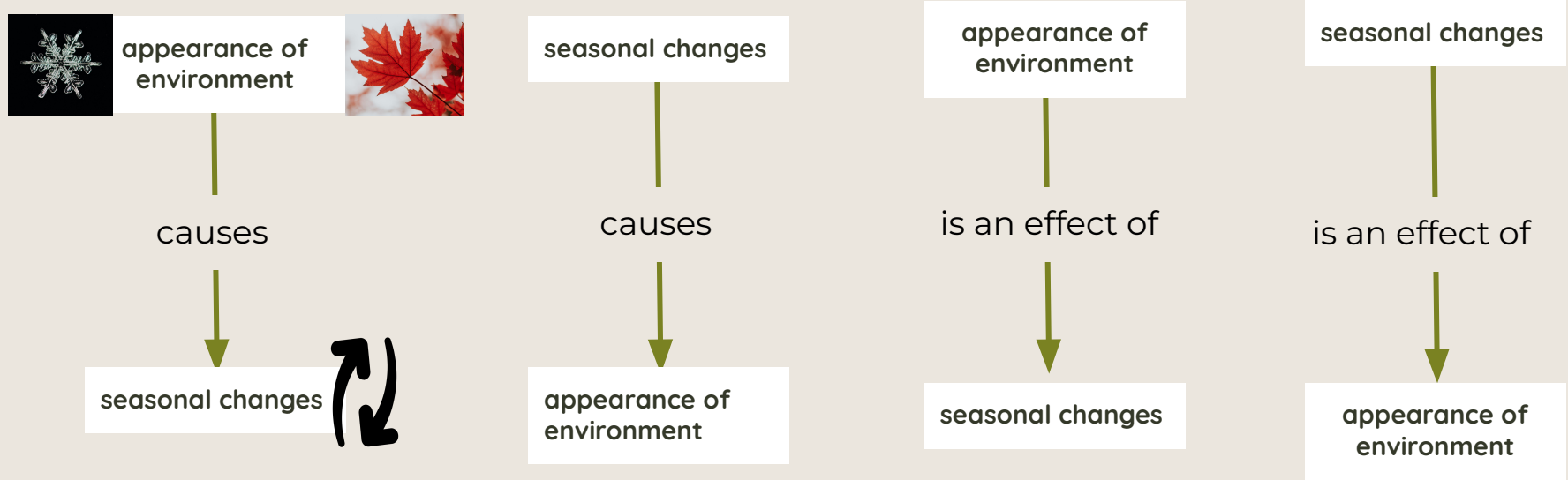


Photo by [Gabriel Miklós](#) on [Unsplash](#)

# Deep Learning: Example

**Alternate Questions:** Which relationships are make most sense? Provide an example to support what you think.



# Deep Learning: Example

Photo by [Mary Hammel](#) on [Unsplash](#)



**3) Provide more familiar contexts and guided opportunities for students to deepen their understanding.**



## Activity:

- a) What do you understand about how **seasonal change** and **appearance of the environment** are connected?
- b) Is that true if you were in this environment? Tell me how.

# Concepts Create Understandings That Can be Transferred



Photo by [Mike Erskine](#) on [Unsplash](#)

Are these examples an example of our understanding that **seasonal changes** are related to the **appearance of the environment**? Explain why you think that way.

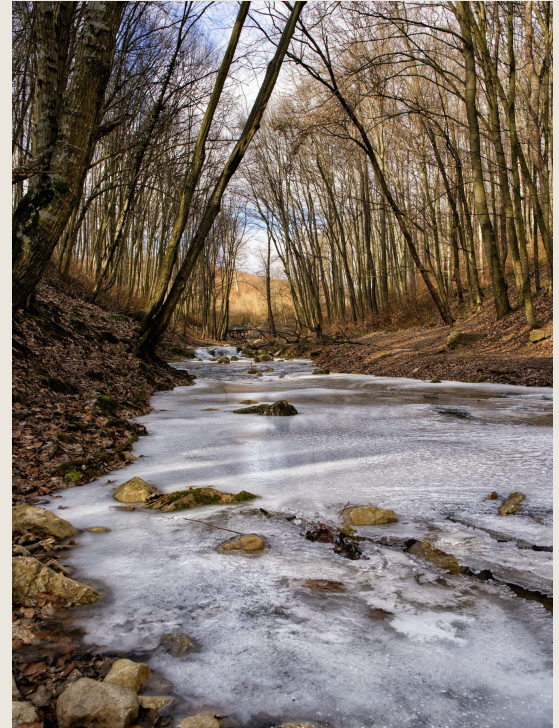


Photo by [Gabriel Miklós](#) on [Unsplash](#)

## Set #1



Which set of pictures are an example of the understanding that changes in environments include seasonal changes. Why do you think so?

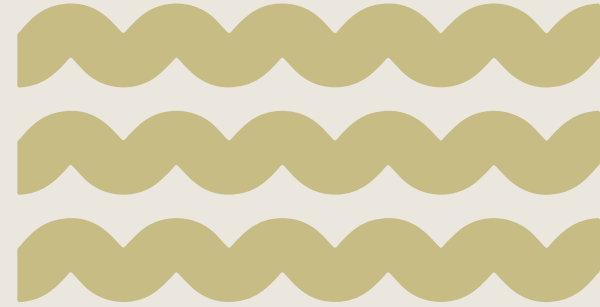


## Set #2

# Computer Science

## Angela Dearing

- What exactly IS Computer Science?
  - What does successful integration of Computational Thinking across the grades look like?
  - How can we teach it and support each other integrating computational thinking into instructional practices effectively when we've never taken a computer science course ourselves?
- 
- [Kindergarten CS Connections to Earth Systems](#)
  - [Grade 1 CS Connections to Earth Systems](#)



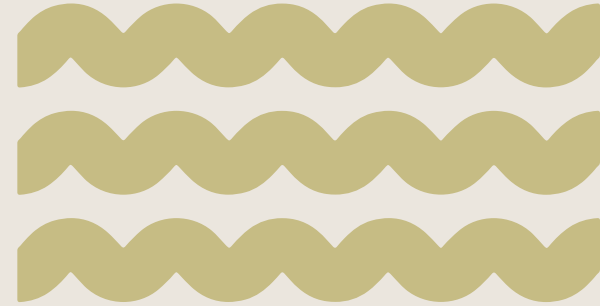
# Resources

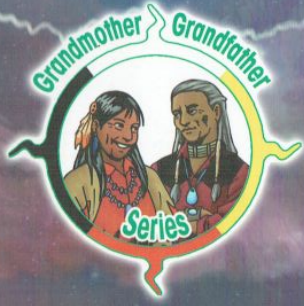
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# Resources to Consider

- [Alberta Regional Professional Development Consortia](#)
- [Sparkle Box](#)
- [Mystery Science](#)
- [Let's Talk Science](#)
- [Edmonton Catholic Schools Curriculum Crates](#)
- [Sample “concept introduction” activities \(ARPDC\)](#)
- [Concept Maps \(ARPDC\)](#)
- [ARPDC Site](#)
- [Common Sense Education](#)
- [Edmonton Public Scope and Sequence](#)
- [New LearnAlberta](#)



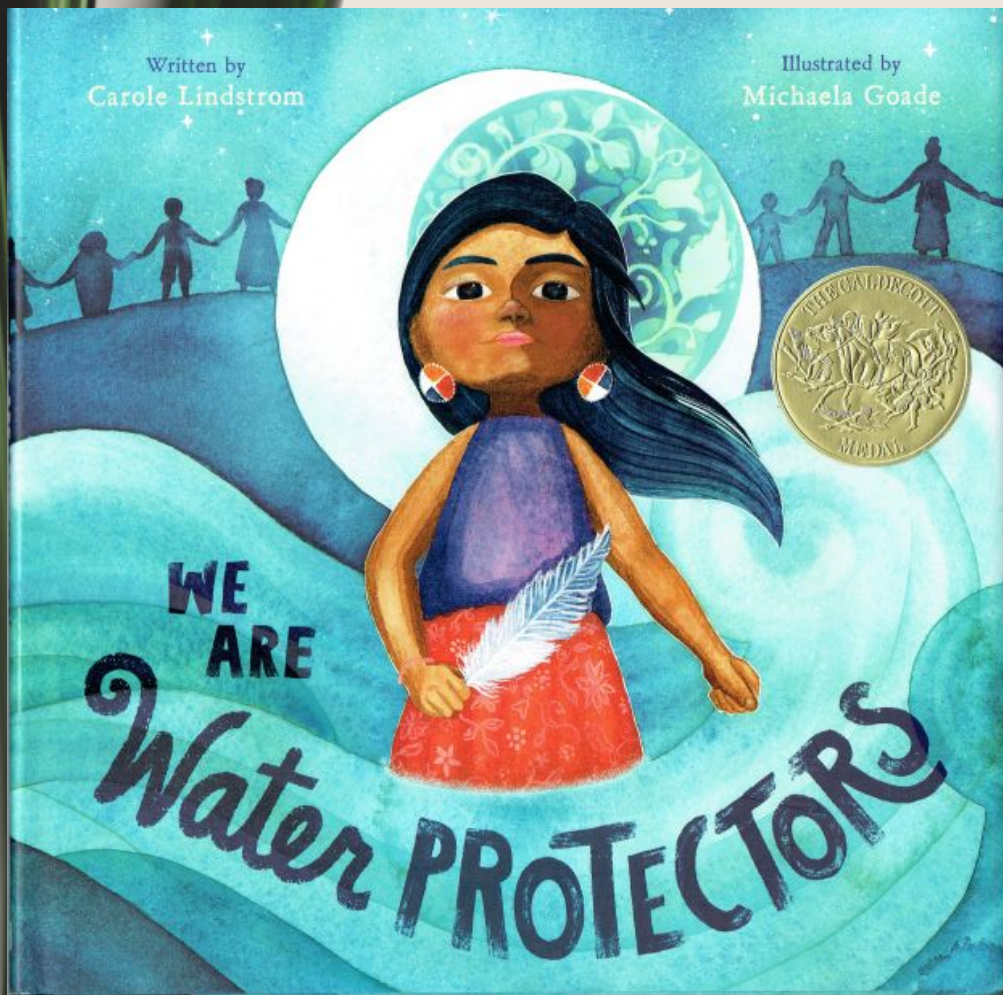


Grandfather, tell us about the  
**fire ceremony.**



Grandfather, tell us about the  
**fire ceremony.**





Several  
Read-ALouds and  
YouTube versions  
available.

# The Walk



The Walk is a wonderfully drawn story about the Seven Teachings. Join Johnny and an Elder from his community as they go for a walk on a beautiful sunny day. They observe the animals of the Seven Teachings and Johnny is taught by the Elder how important the Seven Teachings are for all of us including himself.



[www.nativerellections.com](http://www.nativerellections.com)

*The* **ELDERS**  
ARE WATCHING



*David Bouchard & Roy Henry Vickers*

# Water Sources



by Rebecca Olien

First  
Facts

# Water Sources

How much water is on Earth? Learn about all the different places on Earth we find water. Discover facts about rivers, ocean, lakes, groundwater, and water that is frozen on Earth.

## Water in Our World

Water is all over our world. From rivers and lakes to oceans, water makes up 70 percent of Earth's surface. Learn where water comes from and its role in the weather. Discover how human actions are damaging water on Earth and why it must be protected.

Titles in this set:

Cleaning Water Saving Water The Water Cycle at Work Water Sources

capstone  
www.mycapstone.com



# Saving Water

by Rebecca Olien

First  
Facts

# Saving Water

Why do we need to save water? Learn about the importance of saving water and ways that water is saved and reused. Discover the many ways that you can help save water.

## Water in Our World

Water is all over our world. From rivers and lakes to oceans, water makes up 70 percent of Earth's surface. Learn where water comes from and its role in the weather. Discover how human actions are damaging water on Earth and why it must be protected.

Titles in this set:

Cleaning Water

Saving Water

Water Cycle

Water Sources



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# WHY SHOULD I SAVE WATER?



~ Illustrated by Mike Gordon ~

 SCHOLASTIC

Part of a child's development is asking questions and learning about the environment. With amusing pictures and simple text, this book shows the importance of saving water.

Added notes for parents and teachers will help them use this book most effectively.



## TITLES IN THE SERIES

- WHY SHOULD I Protect Nature?
- WHY SHOULD I Recycle?
- WHY SHOULD I Save Energy?
- WHY SHOULD I Save Water?

This edition is available for  
distribution only through  
the school market.

 SCHOLASTIC

[www.scholastic.com](http://www.scholastic.com)



# Posted and Upcoming Sessions (ARPD)

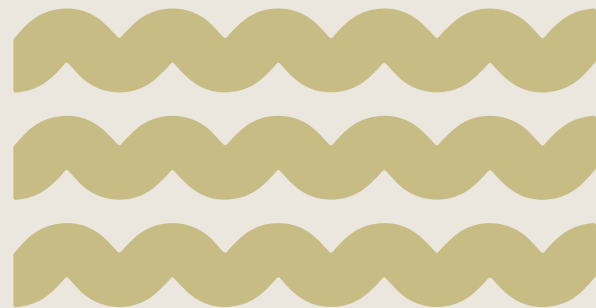
## Have been Completed Before the End of June

- Introductory Videos
- Living Systems - May 1 (Grade 1) +
- Matter - June 8 (Kindergarten) +

## *Coming in the Next School Year* Fall (6-8 weeks apart)

- Earth Systems (Oct 10 - 19)
- Energy (November 20 - 29)
- Space ( Feb 5, 6, 12)

Check the [CARC](#) or [ERLC](#) website for registrations





# Thanks!

Do you have any questions?

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[ted.zarowny@erlc.ca](mailto:ted.zarowny@erlc.ca)



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Photo by [Gaelle Marcel](#) on [Unsplash](#)