

# **SECONDARY II**

Week of June 1, 2020

# **Table of Contents**

Identity	
#Mission FLS: Ça me dit de rire!	
Area of Circles	6
Appendix A - Area of Circles	7
Appendix B - Possible Solution	g
Layers of the Earth	10
Appendix – Layers of the Earth	11
Learn About the Canadian 24-Hour Movement Guidelines and Get Moving!	12
Messages on Stone	13
Appendix – Messages on Stone	15
Forests and Their Impact	16
Appendix – Forests and Their Impact	17







# **Identity**

#### Information for students

- 1. First, read the poem "Hanging Fire" by Audre Lord
- 2. Then, read the poem "I Remember" by Abundance C Nwosu
- 3. Think about the following questions and write a reflection of at least two pages:
  - o What are some of the difficulties in growing up that were identified in the poems?
  - o What are some of the challenges you face as a young adult?
  - o How do you define yourself as a young adult? How do you see yourself?

To go further: Write your own poem about coming of age.

#### **Hanging Fire**

by Audre Lorde

I am fourteen and my skin has betrayed me the boy I cannot live without still sucks his thumb in secret how come my knees are always so ashy what if I die before morning and momma's in the bedroom with the door closed.

I have to learn how to dance in time for the next party my room is too small for me suppose I die before graduation they will sing sad melodies but finally tell the truth about me there is nothing I want to do and too much that has to be done and momma's in the bedroom with the door closed.

Nobody even stops to think about my side of it I should have been on Math Team my marks were better than his why do I have to be





the one
wearing braces
I have nothing to wear tomorrow
will I live long enough
to grow up
and momma's in the bedroom
with the door closed.

(Reference: https://www.poetryfoundation.org/poems/42580/hanging-fire)

#### I Remember

by Abundance C Nwosu

I rememberof days so long in the past when I wished I would grow up so fast.

I rememberendless races we had to school. Coming first ensured you were cool.

I rememberthe sudden hot summer's rain, dancing 'round and 'round again.

I rememberplaying in the luscious grass with all my friends in my class.

I rememberthe spooky monsters under my bed; Mum and Dad said it was all in my head.

I rememberwhen I grew to be as old as ten, my dad made me a tree-house as my den.

I rememberhide-and-seek was the best game, but as we grew up it became so lame.

I remember-Haribos were as good as gold. I will have as many as I want when I am old.





I rememberwhen I wanted to be a king the one with a large throne and a diamond ring.

I remembermy first camping trip or my first time on a ship.

I rememberwhen I broke my wrist all the fun is what I missed.

I remember-Mr. Cuddles, my first teddy bear. I loved him so much and took him everywhere.

Now that I am grey and old, My childhood memories I have told.

(Reference: <a href="https://www.familyfriendpoems.com/print/poem/MTI4OTUz">https://www.familyfriendpoems.com/print/poem/MTI4OTUz</a>)

## **Materials required**

Paper and writing materials

# **Information for parents**

This activity asks your child to reflect on the challenges of becoming a young adult.

Discuss this with your child and share your own observations.



# #Mission FLS: Ça me dit de rire!

#### Information for students

Cette activité t'aidera à accomplir la mission FLS suivante : « J'imagine une mini pièce de théâtre ou un petit film en français avec ma famille ou virtuellement, avec mes amis ».

Qu'est-ce qui te fait rire ? Qu'est-ce qui fait rire les gens autour de toi ? Cette semaine, on t'invite à écrire un sketch rigolo!

Voici comment tu peux le faire :

- pense à l'histoire que tu pourrais raconter
- écris un court dialogue. Pour t'aider dans ton écriture, consulte cette capsule de LEARN : https://www.learnquebec.ca/fr/ecrire-un-dialogue1
- trouve des accessoires pour t'aider à réaliser ton sketch.
- joue-le avec les gens qui habitent chez toi ou filme-le avec un ami en ligne

#### Pour aller plus loin

- exprime ta créativité : utilise une application de création d'histoire comme Puppet Pal
- publie ton sketch avec le mot-clic #MissionFLS

## **Materials required**

- Écrire un dialogue
- Puppet Pal
- Mission FLS

## Information for parents

In this activity, children will practise:

- writing a short dialogue in French
- creating a story about an anecdote from everyday life

#### Parent can:

- share ideas about funny things their child could write about
- be an actor in the sketch
- watch the final product



# **Area of Circles**

The ability to find the area of whole circles and parts of circles is an important skill to master in Secondary II. Below are some challenges to help you practice working with the relationship between the radius and the area of a circle.

#### **Instructions**

- Read the two challenge questions in Appendix A.
- Try to find a solution for the challenge, using your knowledge of how to find the area of a circle.
- If you have time, try to find a different solution to the same challenge.
- Show your solutions to a parent, a peer or your teacher for feedback.

#### **Materials required**

- Questions in Appendix A
- Writing tools and calculator
- Materials

# Information for parents

#### Children could:

- find one or more answers to the problem
- · compare their answers with those of their teacher or a friend

#### Parents should:

- help their child organize the necessary materials, if needed
- read the instructions together with their child and help them create representations, if needed
- encourage their child to discuss the representations they found easiest and hardest to complete
- discuss the problems together with their child and/or ask them to describe how they determined the answers to the questions

A possible solution is found in Appendix B.



# **Appendix A - Area of Circles**

#### Information for students

Below are two circle problems. These questions are open-ended in that there are many possible answers. See if you can find more than one answer.

- Hints:
  - o to find the area of a circle, use the formula  $A = \pi r^2$
  - o think about the relationship between the diameter and the radius of a circle
  - o think about how the area changes as you change the value of the diameter and radius

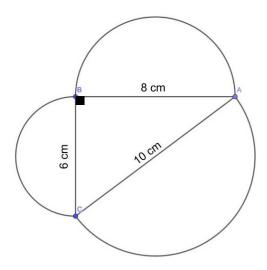
#### Question #1:

Create a design made of at least three circles of different sizes. The total combined area of these circles must be approximately 100 cm<sup>2</sup>. How do you know your design is correct?



#### Question #2:

Examine the figure below. It is made up of right triangle ABC with a semicircle along each side of the triangle. The side lengths of the triangle represent the diameter of the respective semicircles.



Determine the area of each semicircle.

What do you notice about the areas of the three semicircles?

#### **Extension:**

Draw a right triangle with three different side lengths, using multiples of the side lengths given in Question #2. For example, multiply each side length by the same number. On each side of the triangle, draw a semicircle so that each side of the triangle is the flat side of a semicircle like in the image above.

Repeat the steps from Question #2 above by finding the area of each semicircle and then comparing these areas.

Is what you noticed in Question #2 still true for a triangle with different side lengths?



# **Appendix B - Possible Solution**

Below is a sample solution to each of the two circle problems. Other solutions are possible.

Question #1: You can play with the number of decimal places to get even closer to 100. The more decimal places you use, the more precise your answers will be and the closer you will get to 100 as the sum of the areas.

	Possible Solution Where the Radii are Whole Numbers	Possible Solution Where the Radii are Whole Numbers	Possible Solution Where the Radii are Decimal Numbers	Possible Solution Where the Radii are Decimal Numbers
Circle #1	r = 5, A = 78.50	r = 5, A = 78.50	r = 3.3, A = 34.19	r = 3.3, A = 34.19
Circle #2	r = 2, A = 12.56	r = 3, A = 28.26	r = 1.75, A = 9.61	r = 1.75, A = 9.61
Circle #3	r = 1, A = 3.14	r = 1, A = 3.14	r = 4.23, A = 56.18	r = 4.24, A = 56.45
Total Area	94.20 units <sup>2</sup>	109.90 units <sup>2</sup>	99.98 units <sup>2</sup>	100.25 units <sup>2</sup>

#### Question #2:

	Side Length	Radius of the Circle	Area of the Whole Circle	Area of the Semicircle
	6 cm	3 cm	28.26	14.13
Ī	8 cm	4 cm	50.24	25.12
Ī	10 cm	5 cm	78.5	39.25

You might notice that the sum of the areas of the semicircles on the two smaller sides of the triangle is equal to the area of the semicircle on the longest side (14.13 + 25.12 = 39.25). If you are interested in an extension of this idea, which you will learn about next year, please watch the following two videos: <a href="water-demo">water demo</a> (<a href="https://safeyoutube.net/w/fweE">https://safeyoutube.net/w/fweE</a>) OR <a href="this video about the Pythagorean theorem">this video about the Pythagorean</a> (<a href="https://safeyoutube.net/w/vxeE">https://safeyoutube.net/w/vxeE</a>)



# **Layers of the Earth**

#### Information for students

The Earth is composed of four (4) layers: the inner core, outer core, mantle and crust. The radius of the Earth can vary depending on where it is measured. For this activity, the radius of the Earth is approximately 4 540 km. Figure 1.1 in the Appendix represents a wedge of the Earth's layers.

#### Instructions

- Colour and label the four (4) layers of the Earth in Figure 1.1 in the Appendix.
- The radius of the inner core is 1 300 000 m. Label the radius of the inner core in km above the appropriate arrow in Figure 1.1.
- If the approximate radius of the Earth is 4 540 km, the outer core's radius is 49.56% of the length of the Earth's radius. Calculate the radius of the outer core (rounded to the nearest whole number) and label it above the appropriate arrow in Figure 1.1.
- The mantle layer's radius is 650 km longer than the radius of the inner core. Calculate the radius of the mantle and label it above the appropriate arrow in Figure 1.1.
- Using the above information, determine the radius of the crust and label it above the appropriate arrow in Figure 1.1.

## **Materials required**

- Markers, coloured pencils or crayons
- Pencil
- Calculator

## **Extension question**

A quick Google search of "the radius of the Earth" returns a result of 6 371 km. Write a hypothesis as to why the radius of the Earth varies.

# Information for parents

## About the activity

#### Children should:

build a 3-dimensional model of the Earth's layers using play dough or other household materials

#### Parents could:

remind the students that the layers of the Earth are the inner core, the outer core, the mantle
and the crust (in order from inner to outer), if necessary



# **Appendix – Layers of the Earth**

Information for students

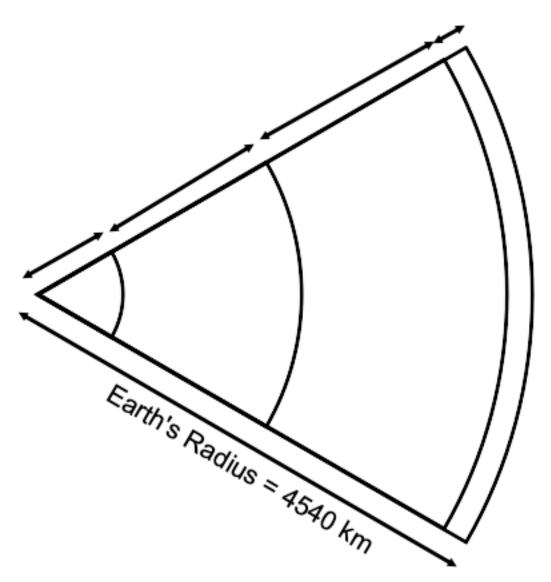


Figure 1.1



# Learn About the Canadian 24-Hour Movement Guidelines and Get Moving!

#### Information for students

#### **Activity 1**

- Take a look at the Canadian 24-Hour Movement Guidelines for teens (click here and scroll down to page 4).
- Read the recommendations for the four categories of daily activity: SWEAT, STEP, SLEEP,
   SIT.
- Do you get the recommended amount of sleep each night? Do you do the recommended moderate-to-vigorous physical activity each day? What are the light physical activities that you do each day? (Hint: if you're not sure what is considered "light" physical activity, <u>click here, then click on the letter L</u>).
- Scroll down to the infographic (D). Do you already do any of the suggested tips for getting more active? Are you interested in trying any of them?
- Discuss the movement guidelines and how well you meet the recommended time in each category with a parent.

#### **Activity 2**

Accumulate some SWEAT time with the Fitness Marshall. Follow this dance fitness workout

## **Materials required**

Device with Internet access

# Information for parents

#### About the activity

#### Children should:

- learn about the Canadian 24-Hour Movement Guidelines
- complete a dance workout

#### Parents could:

- discuss the movement guidelines with their children
- complete the dance workout with their children



# **Messages on Stone**

#### Information for students

Rock art is one of the oldest forms of communication in human societies. Take a look at these examples from the Musée de la Civilisation's virtual exhibition, *Images on Stone*:



PAINTING, LASCAUX CAVE, FRANCE
Photo: Wikimedia Commons



NEGATIVE HANDPRINTS, ARGENTINA Photo: Wikimedia Commons



PETROGLYPHS TRACED OVER USING QUARTZ, ALTA, NORWAY Photo: Wikimedia Commons

Prehistoric societies used rock art to represent religious and spiritual symbols connected with myths, values and beliefs. Look at the Musée de la Civilisation's virtual lesson, <u>Messages on Stone</u> to discover why Indigenous peoples created rock art sites and what types of images can be found at these sites.

The following activity allows you to explore an example of rock art and the associated myth from the Memekueshuat peoples. These images are found in Manitoba as well as in Québec.

Create your own legend about mythical beings to convey values for children 8-10 years old.

## **Materials required**

- Device with internet access
- Paper
- Writing materials



# **Information for parents**

#### **About the activity**

#### Students could:

- view the Musée de la Civilisation's virtual exhibit, <u>Images on Stone</u>, to gather information about rock art
- view the Musée de la Civilisation's virtual lesson, <u>Messages on Stone</u>, to gather information about the spiritual and religious aspect of rock art
- read the Memekueshuat legend that goes with the rock painting found in the Appendix and answer the questions
- · create their own legend to convey values

#### Parents should:

- view the Musée de la Civilisation's virtual exhibit on rock art and the spiritual and religious aspects with their child
- read the Memekueshuat legend that goes with the rock painting, and discuss possible answers to the questions and the reasoning behind them with their child
- help their child convey values through the creation of their own legend

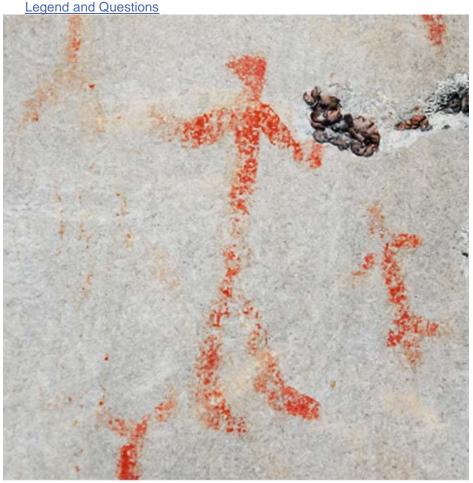


# **Appendix – Messages on Stone**

#### Information for students

Read the Memekueshuat legend that goes with this rock painting and answer the following questions:

- What characteristics of Memekueshuat are revealed by this legend?
- What values and beliefs significant to the Indigenous peoples are conveyed by this legend?



Source: https://imagesdanslapierre.mcg.org/wp-content/themes/mcg/img/nisula/representation/480/memekwueshuat.jpg

#### Now create your own legend:

Carvings and paintings representing various figures, such as supernatural beings that interact with humans, are found on rock art sites. In stories describing the actions of these mythical beings, values important to Indigenous peoples are conveyed: sharing, respect, tolerance, transmission of knowledge, etc.

Do the activity titled <u>A Telling Legend</u> by choosing a rock painting representing a supernatural being from the websites listed, applying a value and writing a legend that will convey that value to children aged 8 to 10.



# **Forests and Their Impact**

#### Information for students

The goal of this activity is to explore the role of forests in conserving the ecosystem and the impact of the forest industry on the territory. The readings in the Appendix are a starting point to help you generate your own ideas and make connections. You can do the mind map task alone and then compare your work with a friend or you can complete the mind map together.

- Think about or discuss with a friend or family member the many ways that people, animals and certain industries depend on forests.
- Read the related excerpts to better your understanding of the role of forests and the impact of the various forest industries.
- Create a mind map to show your understanding of the situation of forest territories in Canada. You may use the sample mind map attached.
- Think about what we can do better to protect forests and the natural habitats of animals and ecosystems.

#### **Materials required**

Useful resources, depending on personal preferences and availability:

- Writing materials (paper, pencil, etc.)
- Textbook (optional)

## Information for parents

#### About the activity

#### Children could:

 complete the mind map with a friend or on their own and then compare their work with a friend and add to their own mind map

#### Parents should:

 help their child think of other items that may not be in the excerpts but that can be added to the mind map. See how many new items you can find together



# **Appendix – Forests and Their Impact**

#### Information for students

Use the following excerpts and images from pages 166-219 of the textbook *Issues and Territories*<sup>1</sup> to complete the mind map.



A door and window manufacturing plant

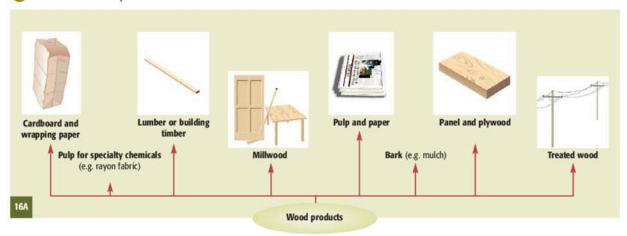
Millwood is bought by converting plants (door and window factories, furniture factories, etc.) that use it to manufacture various objects. Lumber is used in construction.



15F At a door and window retailer

Finished products are then merchandised, that is, put on the market by retailers (box stores, hardware stores, shops, etc.).

## Warious forest products



<sup>&</sup>lt;sup>1</sup> Nathalie Boudrias, et al.,, Issues and Territories, Geography, Secondary Cycle One (Montréal: Chenelière Éducation, 2006), Textbook B, 166-219.



## 6 Deforestation



Deforestation is the result of an intensive clearing of trees done in order to commercially exploit wood, use it as firewood or open up new farmland to feed a growing population. Since 1990, about 13 million hectares of forest have disappeared annually, which is the equivalent of a football field every two seconds! Such losses have, however, slowed down, thanks to the planting of new trees and the natural expansion of existing forests.

Certain forest practices degrade soil and are harmful for forest **ecosystems**. For example, the heavy trucks used for cutting trees pack down the soil and destroy young shoots, making natural regeneration impossible.

## Facts and figures

Exploitation of forests not only includes cutting trees, but also the processing of wood and the **commercialization** of various forest products. This industry is of major economic importance to Québec and Canada.

- In Québec, this industry directly contributes to maintaining over 80 000 jobs.
- The processing of forest products is the main industry in 245 Québec municipalities and it is vital to about 100 of them.
- The forest industry is one of Canada's largest employers: it creates over 361 000 direct jobs and nearly 920 000 indirect jobs.
- The value of wood product exports totals over \$50 billion.

Sources: Environment Canada, 2004; Ministère des Ressources naturelles, de la Faune et des Parcs du Québec, 2005.







Logs are transported by truck to sawmills, which turn them into lumber and millwood.





For thousands of years, Native peoples around the world have maintained a special relationship with forests. In Canada, Native peoples still practise traditional activities, such as hunting, fishing and trapping. The forest is also an essential element of their heritage, as it has shaped their identity, culture and spirituality. Approximately 80% of Canada's Native communities (nearly one million people) are established in forest regions.





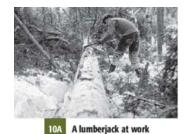
6 Recreational tourism activities



Two thirds of the Earth's plant and animal species live in forests. Forest ecosystems are essential to their survival. Forests provide animals with shelter, food and breeding grounds. White-tailed deer, for instance, need a habitat that will ensure protection and food to survive the winter. At this time of year, the deer take refuge in stands of conifers, where they find leaf shoots to eat and mature trees to shelter them from the wind. The trees also serve as a canopy for many other species of plants, moss, fungi, etc. Such biodiversity represents a vast wealth of resources for human beings. Forests provide them with food, fibres for making clothing, wood for heating and housing, medicinal plants, substances used to manufacture cosmetics, etc.

With the 1986 Forest Act, the Québec government significantly amended the rules for the exploitation of forestry businesses. The size of the territories they could exploit and the length of their contracts were now limited. Furthermore, forestry businesses could no longer simply cut down trees: they had to ensure forest renewal, notably through reforestation.

Since 1994, the Québec government has imposed other obligations on forestry businesses. First, the amount of wood these firms can harvest is limited. Second, in addition to reforesting, they must use cutting methods that ensure the protection of regeneration and soils. For instance, machinery has to protect the soil and young shoots so that the forest regenerates itself naturally. Unlike small trees that are planted by hand, seedlings that sprout on site have already adapted well to the land, which betters their chances of survival.





From the beginning of the colonization of Québec's territory to the mid-1970s, every winter, thousands of men made their way to logging camps to cut trees. By floating the logs, the cut wood was then transported to mills. A good lumberjack could saw between 35 and 40 logs in a day. Loggers reigned supreme over the vast territories they exploited, with contracts that could sometimes last for up to 100 years! Many of Québec's regional economies, such as that of Abitibi–Témiscamingue, the Mauricie and the Outaouais, grew at the pace of the exploitation of the forest.



Geography

Forests play an extremely important protective role in nature.

The roots of trees and plants hold in soil, which prevents its erosion. Their foliage intercepts drops of water when there is **precipitation**. By preventing this water from falling too quickly, foliage protects the soil.

Forest soil is made up of humus and moss, which absorb rainwater like a sponge. As a result, rainwater does not run off, which reduces the hazards of **erosion** and flooding.

Forests help maintain a climatic balance. They diminish the force of the wind, refresh the surrounding air by filtering the sun's rays and release humidity. In addition, they reduce winter frosts and peak summer temperatures.

When forests are young, trees are growing. They then play an essential role in purifying the air. Thanks to photosynthesis, trees, like all plants, absorb CO<sub>2</sub> (carbon dioxide) and release oxygen. When they reach maturity, however, they absorb less carbon dioxide. Their role as an air purifier is then more limited.

To ensure the protection and conservation of forest ecosystems, British Columbia has implemented the largest network of protected territories of any Canadian province. In 2005, it had over 800 natural parks, protected areas and ecological reserves, which represents over 12% of its territory. The 12 million hectares of forests that are protected in this way are shielded from the exploitation of forests, mining and industrial operations.

**3B** 

# The importance of the boreal forest ecosystem

In an increasingly industrialized world, Canada's boreal forest region is a breath of fresh air . . . literally. This forest ecosystem, filled with lakes and wetlands (marshes), moderates our climate, produces oxygen and purifies the water we drink. It is the source of life for many First Nations communities, and home to thousands of species of animals, birds, plants and insects. It is an ecosystem of astonishing power.

Source: Canadian Boreal Initiative, 2005.

Forestry businesses must follow very strict rules in order to have the right to exploit forests on public land. These rules concern the management, conservation and **sustainable development** of forests. They are intended to safeguard **biodiversity**, in particular by protecting wild animals, certain old trees, soil and watercourses. For example, at least once every five years, forest operators have to submit a forest **development** plan. This plan includes a detailed inventory of **resources** and of the activities practised in the territory: the amount of wood, number of fish caught, animals present, recreational activities practised, etc. In addition, every five years the government evaluates the limits established for the wood harvest in order to ensure renewal of this resource.



## Geography

Describe forests as a natural habitat.

In what ways are governments trying to protect forests?

What are some cultural and social activities related to forests?

How can forests be used in manufacturing industries?

**Forests** 

What are some environmental concerns related to forests and ecosystems?

What type of forests can be found in North America?