

## SECTION ONE: Project/Lesson Overview

**Grade:** 9

**Subject:** French (10131-10132)

**Lesson Title:** *Your Geological Genealogy*

**Themes:** prefixes and suffixes, genealogy, geologic time scale (or geologic time chart), scientific terminology

### **Lesson Description and Objectives:**

Inspired by genealogy, students will make a family tree showing three or four generations to illustrate the major divisions of the geologic time scale (Precambrian, Paleozoic, Mesozoic and Cenozoic).

In every branch of science, common terminology is used to ensure that everyone understands. The objective of this lesson is to enable students to discuss topics in science in order to develop their ability to reuse the vocabulary specific to the field.

The activity will also enable them to create a visual representation to help them remember the major divisions of the geologic time scale by associating them with different generations of their family.

**Time Required:** One to two 60-minute periods

### **Learning Outcomes:**

(French)

*Understand new information or share it orally or in writing in a clear and coherent manner.*

- Language skills: identify the meanings of certain prefixes and suffixes.
- Language skills: identify and reuse vocabulary specific to a given subject.

*Organize information (diagram or graphic organizer).*

(Transdisciplinary)

*Communication: Communicate clearly in correct and appropriate language according to the given context.*

- Demonstrate an understanding of various topics orally and in writing through oral presentations, summaries, laboratory reports, field descriptions, etc., using appropriate language specific to each topic.

## SECTION TWO: Project/Lesson Implementation

### Equipment/Materials Required:

- Family tree handout (Appendix 1)
- Computers with access to the Internet and to the “Magnificent Rocks” website
- Geologic time scale from the “Magnificent Rocks” website.

### Lesson Procedures/Teaching Strategies:

1- As homework, with the help of a parent, each student will prepare a family tree (mother’s or father’s side) showing three or four generations of their family (see Appendix 1).

2- Once the names have been written on the handout, show the students the geologic time scale on the “Magnificent Rocks” website and ask them if they notice anything in particular about the four major time divisions.

3- Point out the suffixes common to certain major divisions.

4- Explain the etymology of words associated with the major divisions of the time chart (Precambrian, Paleozoic, Mesozoic and Cenozoic). Point out the suffix “-zoic” (which, like “zoo,” comes from the Greek word for “animal”) and the prefixes “paleo-” (ancient), “meso-” (middle), and “ceno-” (recent or new). Explain that in “Precambrian,” the prefix “pre-” means “before.” The term “Cambrian” comes from the Latin word *Cambria*, which means “Wales,” a country where the rocks of the Cambrian era are very prominent.

- *Why do you think the oldest of the four time divisions does not end in “-zoic”?*

- *Can you think of any other words you have seen that start with “meso-”?*  
*e.g. “Mesopotamia”: “meso-” (in the middle of) and “-potamia” (river).*

5- Ask the students to write the four major time divisions on the lines at the bottom of the page in order to connect the structure of their family tree to that of the simplified geologic time scale (their own generation should correspond to the most recent period, Cenozoic).

6- For each generation on their tree, students should invent new names, i.e. for themselves, their parents, their grandparents, etc. These new names should sound scientific and use the prefixes and suffixes from the time scale. They can write the new names on the lines underneath the real names. There are no wrong answers during this phase of the activity; it should be fun. Students should be encouraged to share the names they have made up with the rest of the class.

- *Example: “Paleosophic” for the name Sophie and the Paleozoic era.*

7- Just as in every generation in a family, certain important events have taken place

in each period of the Earth's history. Once the new names have been added to the handout, the students will explore the "Magnificent Rocks" site. For each major period, they should find a concept, a notion or a fact which is of special interest to them and then summarize this information clearly and concisely without copying it word for word.

8- Notice how the different sections of the site are laid out. They are connected not by "eras" (Paleozoic, Mesozoic, etc.) but rather by "periods" (Cambrian, Ordovician, Silurian, Devonian, etc.) One of the challenges for the students reading the time scale will be to identify the different divisions and understand that each era is made up of a number of periods. Knowing this will help them explore the eras and select information for each major period.

9- Oral presentations of the information gathered by the students when they explored the "Magnificent Rocks" site would be a good way to finish up the activity, enabling the students to learn a little more about what interested their peers.

### **Suggested Assessment Strategies:**

We suggest a formative evaluation of this activity, placing emphasis on the originality of the invented names for family members.

For the information they collect and summarize, their ability to understand and to convey the information, using vocabulary specific to this field of study, should be assessed. Ideally, the student will be able to paraphrase the information rather than simply quoting it word for word.

### *Vocabulary:*

- Precambrian
- Paleozoic
- Mesozoic
- Cenozoic

## **SECTION THREE: Project/Lesson Resources**

### **Supplementary Resources:**

Magnificent Rocks:

<http://www.nbm-mnb.ca/magnificent-rocks-roches-magnifiques/home-accueil-eng/>

Etymology of the term "Cambrian":

<http://www.larousse.fr/encyclopedie/divers/cambrien/186115>

<http://www.britannica.com/EBchecked/topic/532163/Adam-Sedgwick>

Etymology of the term "Paleozoic":

<http://www.larousse.fr/encyclopedie/divers/pal%C3%A9ozo%C3%AFque/186093>

Etymology of the term "Mesozoic":

<http://www.larousse.fr/encyclopedie/divers/m%C3%A9sozo%C3%AFque/69593>

Etymology of the term “Cenozoic”:

<http://www.larousse.fr/encyclopedie/divers/c%C3%A9nozo%C3%AFque/31732>

**Disclaimer:**

The online resources recommended in this document have been selected according to their relevance in terms of the age and grade level of the students. However, given that the content of online materials is subject to change at any time, teachers are advised to consult the websites before recommending them to their students.

**Extension/Enrichment:**

- Ask students to write a short family history outlining the most important events in the lives of their close family members.

**SECTION FOUR: Additional Information**

**Credits: Sophie Auffrey and Sara Waitzer**

