Secondary Cycle One
Core and EESL

EDIBLE INSECTS:
COMING SOON TO A TABLE NEAR YOU!

Learning and Evaluation Situation
STUDENT BOOKLET

EDIBLE INSECTS: COMING SOON TO A TABLE NEAR YOU!

Introduction

- Would you be willing to add insects to your diet?
- During the upcoming tasks, you will learn more about edible insects.
- Some experts say that we might soon have to include insects in our eating habits for many reasons.
- After previewing some key vocabulary words, reading texts and viewing videos, you will individually create a public service announcement (PSA) to raise awareness among your peers to eat or not to eat edible insects.

Track your use of strategies in the chart on p.15 as you carry out each of the tasks.

Constructs Meaning of Texts (C1-C2)

1. A) **How likely are you to eat insects?** Draw an arrow (↗) to indicate the number that best represents your opinion.

Possibly

No Way! **Certainly**

Because: _____

B) Take a look at the picture(s) your teacher shows you.

	What do you notice?	What do you think?	What do you wonder?

2. A) Read the words below.
B) Match each word to its definition. Write the corresponding letter in the *Answer* box.
C) For information about nutrients, visit[1]: https://bit.ly/389zsp4

A- Words	Answers	Definitions
1-cricket		A. B. C. D. E. F.
2-earthworm		
3-silkworm		
4-mealworm		
5-livestock		
6-cochineal		
B- Words	**Answers**	**Definitions**
1-fry		to cook in hot water
1-boil		to cook in the oven
2-roast		to cook in fat or oil
3-palatable		safe to eat
4-edible		having a pleasant or agreeable taste
5-enticing		interesting, good looking display
C- Words	**Answers**	**Definitions**
2-food colouring		element found in salt
3-protein		a substance used for changing the colour of pastries
4-sodium		a substance found in the body which contains a lot of fat. It can cause heart problems.
5-vitamin B12		substances found in certain foods (such as bread, rice, and potatoes) that provide your body with heat and energy
6-iron		mineral that carries oxygen throughout the body so cells can produce energy. It can be added to grain products to increase the intake.
7-vitamin C		a type of fat found in meat, eggs, milk and cheese
8-carbohydrates (carbs)		vitamin found in fruits and vegetables such as oranges and peppers. It contributes to the regeneration of tissues.
9-cholesterol		vitamin important for the normal formation of red blood cells and the health of the nerve tissues; an insufficient amount can lead to anemia.
10- saturated fat		nutrient often found in meats and eggs. Legumes are an excellent source
D- Words	**Answers**	**Definitions**
1-entomophagy		a set of instructions for preparing a particular dish, including a list of the ingredients
2-farming		synonym of problems
3-benefit		the practice of eating insects
4-household		cereal made from oats and generally eaten at breakfast or used to bake muffins
5-woes		a group of animals or plants that are similar
6-species		a unit to measure weight
7-coffee beans		the job or business of running a farm
8-oatmeal		seeds of a tropical tree or bush from which coffee is made
9-pound (lb)		a good or helpful result or effect
10- recipe		people living together in one house

[1] Full URL: https://www.canada.ca/en/health-canada/services/nutrients.html

3. A) Place the previous vocabulary words in the mind map below.
B) Regroup these words under categories (e.g. insects, nutrients, adjectives).
C) Add more words as you carry out each activity.

Use semantic mapping

Edible Insects

4. How much do you know about the topic?

A) Read the statements below.

B) Complete the Fact Sheet below (*Before Reading* column only).

FACT SHEET					
	STATEMENTS	**Before Reading**		**After Reading**	
		TRUE	**FALSE**	**TRUE**	**FALSE**
	1- Billions of people eat bugs as part of their regular diet. _____				
	2- People in over 100 countries, 20 of which are in America, eat insects. _____				
	3- Entomophagy is the science of studying dead insects._____				
	4- Over 200 insect species are being eaten on a regular basis around the world. _____				
	5- Insect fragments can be found in cocoa beans and coffee beans. _____				
	6- Some food colouring is made with cochineal shells. _____				
	7- There are many health benefits to entomophagy. _____				
	8- There are no environmental advantages to eating insects. _____				

C) Discuss your answers with a peer. Use the language below:

- I think it is true because . . . / I think it is false because . . .
- I agree because . . . / I disagree because . . .
- Statements number . . . surprised me the most because . . .

D) Visit:
http://bugsonthemenu.com/

E) Scan the texts on the website to complete the *After Reading* Column (not the video).

F) Using the line provided in each box, correct the false statements as needed.

5. **Using the Jigsaw structure, you will learn more about farming insects.**
   A) In teams of four, choose who will learn how to raise (1) ants, (2) crickets, (3) yellow mealworms, (4) praying mantids
   B) To find the information, visit: https://espacepourlavie.ca/en/raising-insects
   C) Compare your findings in expert groups.
   D) Jot down your notes in the chart below.
   E) Share your notes with your team to learn about what each of you discovered.

Ants (materials, caring tips, important facts) **Student's name:** _____	**Crickets** (materials, caring tips, important facts) **Student's name:** _____
Yellow mealworms (materials, caring tips, important facts) **Student's name:** _____	**Praying mantids** (materials, caring tips, important facts) **Student's name:** _____

6. A) View the *Bugs on the Menu movie trailer available at:* http://bugsonthemenu.com/ (click on *The Film*)
B) Fill in the chart below.
C) Discuss your answers with a partner.

Regular			**Enrichment**
What do you notice?	**What do you think?**	**What do you wonder?**	**Why do people eat insects?**
			People eat insects because…

7. Enrichment

A) Complete the T-Chart below with information comparing different proteins.
You can refer to the following texts:

- http://bugsonthemenu.com
- https://artifactsjournal.missouri.edu/2015/04/insects-its-whats-for-dinner/ (see green table)

Insect Protein	**Other Types of Protein** **(chicken, pig, cow)**
Farming Info	
Environmental Info	
Costs	
Health Info	

B) How would life be different if edible insects were part of the North American diet?

Demonstrates Understanding Through the Response Process (C2)

8. **Explore some risks about eating insects.**
   Read the texts[2] and answer the questions using keywords.

Discuss: What risks do you think are associated with eating insects?	
Explore	
Article 1: Insects: It's what's for Dinner? https://bit.ly/3niQ3xa Why are farmed insects safer than the ones you would find in your backyard?	Article 2: Is it dangerous to eat insects? https://bit.ly/3abpVjR What are the risks mentioned about eating insects?
Connect	**Generalize**
Article 3: The truth about eating insects https://bit.ly/37Ydsxo Which guideline do you think is the most helpful for someone that may want to eat insects? Why?	Based on all the texts you have read/seen, do you think the risks of eating insects outweigh the benefits? Why?

[2] Article 1: https://artifactsjournal.missouri.edu/2015/04/insects-its-whats-for-dinner/, Article 2 : http://www.bugsfeed.com/are_they_dangerous
Article 3 : https://willowhavenoutdoor.com/featured-wilderness-survival-blog-entries/the-truth-about-eating-insects-can-you-eat-bugs-to-survive/

Demonstrates Understanding Through the Response Process (C1-C2)

9. A) Visit http://bugsonthemenu.com/ and click on *Meet the Chefs*.

B) Choose one chef and answer the following questions.

Explore

a) Chef's name:_____ Recipe:_____

b) I learned a cooking tip:

_____

c) What I remember about the chef's choice:

_____

d) **How likely are you to eat insects now?** Draw an arrow (↗) to indicate the number that best represents your opinion.

Possibly

No way! **Certainly**

Because: _____

Connect

e) Which family recipe could you modify in order to add insects to it? How?

_____

_____

Generalize

f) Which actions should be taken for insects to become part of the North American diet?

_____

g) How important will it be in the future to consider protein sources other than meat? Explain.

_____

C) Discuss your answers with peers.

1- How are your answers similar? *We both chose . . . / agree that . . . / wrote . . .*

_____

_____

2- Write something you disagree on: *We have a different opinion on . . .*

_____

_____

3- Which idea still puzzles you? *We don't understand . . .*

_____

_____

Constructs Meaning of Texts - Text Components (C1-C2)

10. Now that you know more about edible insects, create a public service announcement (PSA) to inform peers about this important topic.

Refer to[3]:

Text	Video	Video
https://bit.ly/37kqxBW	https://bit.ly/3rceYEK	https://bit.ly/3pie4Ff

A) **Definition:**

As opposed to a commercial break, the purpose of a public service announcement is to raise awareness about an issue of public interest. A PSA may be in print (e.g. newspapers, magazines, flyers, pamphlets), audio (e.g. radio) or audiovisual (e.g. television, Internet).

Based on the texts provided, what information can be added to this definition?

_____

_____

_____

_____

B) **Characteristics:**

1. Based on the texts provided, what are the characteristics of a PSA?

_____ _____

_____ _____

_____ _____

_____ _____

[3] Full URLs: https://www.govtech.com/education/news/How-to-Create-the-Perfect-Public-Service-Announcement.html, https://www.youtube.com/watch?v=eywBa0xfQFw and https://www.youtube.com/watch?v=tdG1GCg1inI

2. In your opinion, when designing a PSA for teens, which characteristic would be more important to consider? Explain.

_____

_____

C) Let's watch a few examples to compare various PSAs.

Comparing Various PSAs	
What do I notice?	
What do I think?	
What do I wonder?	

D) **Enrichment**

1- Name 3 types of organizations that might create PSAs.

a. _____

b. _____

c. _____

2- After watching various PSAs, would you say they all serve the same purpose? Explain.

_____

_____

3- In your opinion, what are some relevant issues that could be addressed in a PSA?

_____

_____

4- In your opinion, should we be exposed to more PSAs? Explain.

_____

_____

_____

5- What is the difference between a PSA and a commercial?

_____

_____

6- In your opinion, are commercials and PSAs of equal importance? Explain.

_____

_____

_____

_____

Reinvests Understanding of Texts (C2)

11. What do you think people need to know about edible insects?

- Which are the most popular edible insects?
- What are the advantages to eating insects?
- What are the risks related to eating insects?
- How can edible insects be incorporated in the North American diet?

What Should People Know about Edible Insects?	
Level	Secondary Cycle One (Core and Enriched)
Meaningful/ Authentic Task	**Create a public service announcement (PSA) on edible insects**
Purpose	To raise awareness
Audience	Peers
Evaluation Criteria	• Use of knowledge from texts in a reinvestment task • Use/management of strategies and resources* **The teacher provides students with feedback, but this is not considered when determining students' marks in the report card.*
Reinvestment Task Requirements: Select, organize and adapt knowledge from text provided in light of purpose and audience	• Select relevant knowledge from the texts provided and notes taken (e.g. Student's Booklet) to gather information for the task, which could include: ○ **edible insects** ○ **advantages** ○ **risks** ○ **ways to incorporate insects in North American diet** ○ **theme-related vocabulary words** • Organize knowledge from texts in a coherent manner. Use a planning tool to help you: ○ **adjust notes** ○ **regroup ideas using a PSA planner** ○ **take into account text components of the text form you selected** ○ **consider target audience** • Adapt knowledge from texts in view of the task in order to deliver a personalized final product individually (e.g. a PSA in the form of a **video, podcast** or **stop motion**) ○ **combine accurate and appropriate information/ideas and language from texts with your own words and ideas**

12. Choose the format of your final product (e.g. video, podcast or stop motion).

A) Ask your teacher for the PSA planner that corresponds to your choice of final product.
B) Complete the PSA planner.
C) Create your final product individually

Reflects on Learning (C1-C2)

13. Complete the chart to track the strategies that helped you carry out each task.

Targeted Strategy	Definition	Date	How did it help you?

Reflects on Learning (C1-C2) – Definitions provided

13. How do strategies help you carry out tasks?

Targeted Strategy	Definition[4]	Date	How did it help you?
	Note significant similarities and differences.		
	Work with others to achieve a common goal.		
	Identify the necessary elements to carry out a task.		
	Make hypotheses based on prior knowledge, topic, task at hand, text components or glancing through a text.		
	Construct a meaningful sentence by putting together known words and expressions in a new way.		
	Look for specific information in a text.		
	Read through a text quickly to get a general overview.		
	Write down relevant information in an organized way.		
	Push oneself to experiment with language and ideas without fear of making errors.		
	Group ideas in meaningful clusters to visually represent relationships between concepts.		

4 The definitions provided come from the: *Progression of Learning in Secondary School,* English as a Second Language, Core Program, Cycle One