



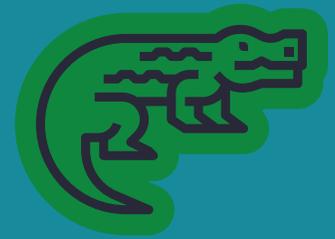
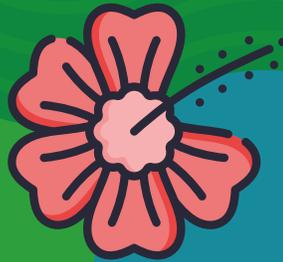
ALCALDÍA DE  
**BARRANQUILLA**

| Soy **BARRANQUILLA** |



Soy **Bilingüe**

# 21st Century **KIDS**



**A1 Secondary  
Teacher's Guide**

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Sustainable Diets, Teacher's Guide  
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Hecho en Colombia  
*Made in Colombia*





I'm Isa the Iguana, here to welcome you to **21st Century Kids!** These materials will help you teach English in a way that will allow your students to explore, understand, and participate in their local and global communities.

**Are you ready to start? Let's go!**



**¡Soy Isa la Iguana** y te doy la bienvenida a **21st Century Kids!** Estos materiales te ayudarán a enseñar inglés de una manera que les permitirá a tus estudiantes explorar, entender y participar en sus comunidades locales y globales.

**¿Estás listo? ¡Vamos!**





## Sustainable Diets



**Learning Objective:** By the end of this lesson, students will be able to discuss sustainable diets and the importance of reducing greenhouse gases such as methane and carbon dioxide.





## DBA 9º Ciencias Sociales

1. Analiza la situación ambiental de los geosistemas más biodiversos de Colombia (selvas, páramos, arrecifes coralinos) y las problemáticas que enfrentan actualmente debido a la explotación a que han sido sometidos.

- Explica las consecuencias para la biodiversidad colombiana acciones como la ampliación de la frontera agrícola, el turismo desmedido y la explotación minera.

- Describe los niveles de deforestación observados en las selvas colombianas y la disminución de las áreas de páramo en nuestro país, así como su incidencia en el deterioro de las fuentes hídricas en Colombia.

## Pre-task

### Activity 1

**Synchronous:** Test students' prior knowledge by asking them to complete the following activity. They should include three short sentences for each food category by responding to the questions included. You can ask students to respond to the first category of dairy and eggs together as a class or in small groups before completing the rest of the activity individually (5 minutes).

**Asynchronous:** Ask students to complete the activity below individually to demonstrate prior knowledge. You may want to create a LiveWorksheets or a Jamboard activity to allow students to respond virtually.





# Pre-task

## Activity 1

Look at the list of foods. Respond to the questions for each category.

### 1. Dairy and Eggs



Do you like dairy and eggs? YES  NO

What's your favorite dairy item?

How often do you consume dairy?

- A) All the time
- B) Usually
- C) Sometimes
- D) Never

### 2. Legumes



Do you like legumes? YES  NO

What's your favorite legume?

How often do you consume legumes?

- A) All the time
- B) Usually
- C) Sometimes
- D) Never

### 3. Fruits



Do you like fruit? YES  NO

What's your favorite fruit?

How often do you consume fruit?

- A) All the time
- B) Usually
- C) Sometimes
- D) Never





#### 4. Vegetables



Do you like vegetables?

YES  NO

What's your favorite vegetable?

How often do you consume vegetables?

- A) All the time
- B) Usually
- C) Sometimes
- D) Never

#### 5. Grains



Do you like grains?

YES  NO

What's your favorite grain?

How often do you consume grains?

- A) All the time
- B) Usually
- C) Sometimes
- D) Never

#### 6. Nuts and Seeds



Do you like nuts and seeds?

YES  NO

What's your favorite nut or seed?

How often do you consume nuts and seeds?

- A) All the time
- B) Usually
- C) Sometimes
- D) Never





### 7. Meat



Do you like meat?

YES  NO

What's your favorite meat?

How often do you consume meat?

- A) All the time
- B) Usually
- C) Sometimes
- D) Never

### 8. Seafood



Do you like seafood?

YES  NO

What's your favorite seafood?

How often do you consume seafood?

- A) All the time
- B) Usually
- C) Sometimes
- D) Never

## Activity 2

**Synchronous:** As a class, look at the pictures of the vocabulary words below and review the pronunciation for each word. Then, ask students to complete the crossword puzzle below using the vocabulary from the word bank and their dictionaries. Review the words "across" and "down" if necessary and remind students that the words must fit in the number of boxes provided for each letter (10 minutes).

**Asynchronous:** You may want to send students an audio clip of the vocabulary words for them to hear the proper pronunciation and practice saying each word. Then, students should complete the crossword puzzle below individually. You could use LiveWorksheets to create a digital copy of





the crossword where students respond virtually and receive immediate feedback.

As an extension activity, students could create flashcards with the vocabulary using drawings or a website like Quizlet.

## Activity 2

Read the definitions of key vocabulary below. Then, practice pronouncing each of the words with your teacher.



### Locavore

Someone who eats locally grown food whenever possible.



### Agriculture

Cultivating land and producing fruits and vegetables or raising cattle and other livestock.



### Deforestation

The process of cutting down trees in forests.



### Farmer

A person that cultivates the land and/or raises animals.



### Sustainable

This word describes actions that help conserve the environment and the world's resources.



### Cattle

Animals such as cows, bulls and buffalo that are raised on a farm.





**Methane**

An organic compound with the chemical formula CH<sub>4</sub>. It is a greenhouse gas that heavily impacts the environment.



**Fossil Fuels**

Organic materials found in the ground such as coal, oil, or natural gas that are used as fuel.



**Carbon Footprint**

The amount of carbon dioxide emitted due to a person's actions and activities.



**Vegetarian**

Someone that does not eat meat (including fish, mammals, seafood, and poultry).



**Plant-based**

Something that is made of plants. This can be a diet or the composition of a food.



**Vegan**

Someone who does not eat or purchase any animal products such as meat, eggs, leather, or wool.







**Down:**

2. Cultivating land and producing fruits and vegetables or raising cattle and other livestock.
3. Someone who eats locally grown food whenever possible.
4. Someone who does not eat or purchase any animal products such as meat, eggs, leather, or wool.
5. Something that is made of plants. This can be a diet or the composition of a food. For example, vegans eat \_\_\_\_\_ hamburgers.
6. The process of cutting down trees in forests.

## Task

### Activity 1

**Synchronous:** Ask students to read the text below and highlight or circle the vocabulary words they see. Then, they should respond to the comprehension and discussion questions that follow. Students can take turns reading out loud to the class or they could read together in groups of 4-5 (15 minutes).

**Asynchronous:** Ask students to read and highlight vocabulary words in the activity below. Then, they should respond to the questions related to the text. Students could use a text to speech website such as Natural Readers in order to hear the correct pronunciation for the words in the text.

### Extension Activity

Ask students to check their water footprint at <https://www.watercalculator.org/wfc2/q/household/> and their carbon footprint at <https://www.carbonfootprint.com/calculator.aspx>.





## Activity 1

Read the text. As you read, highlight or circle the vocabulary words you see.

### Sustainable Diets

Did you know that some diets are more sustainable than others? It's true! What we eat can strongly impact our world. This is because some of the foods we eat require a lot more water and land than others.

For example, did you know a hamburger needs about 3,000 liters of water to be produced? Why does a hamburger need all that water? Well, a cow drinks up to 136 liters of water a day--about 50,000 liters of water a year. Imagine how much water farmers use for an entire cattle farm!

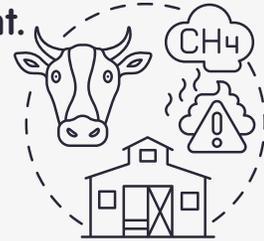


The problem isn't only the water use but also deforestation. Many trees are cut down to make space for cattle. This is especially true in places like the Amazon rainforest. According to WWF, the Amazons lost 30 soccer fields worth of trees every minute in 2019. Most of this was due to deforestation for agriculture such as cattle-ranching or the production of soybeans and palm oil. Soybeans are often used to feed cattle and palm oil is in many foods that we eat.





Another problem is the **carbon footprint** that the production and transportation of some foods has. This is because cattle produce a large amount of **methane** which goes into the atmosphere and is damaging to the environment. Similarly, transportation can also create pollution to the environment. When we buy imported food, it requires using a lot of **fossil fuels** to transport the products to Colombia. Burning **fossil fuels** such as gasoline produces a lot of greenhouse gasses like carbon dioxide which goes into the atmosphere and negatively affects the environment.



**Sources:**

<https://www.watercalculator.org/footprint/foods-big-water-footprint/>  
<https://www.worldwildlife.org/threats/deforestation-and-forest-degradation>  
<https://css.umich.edu/factsheets/carbon-footprint-factsheet>  
<https://sustainablefoodtrust.org/articles/dairy-cows-livestock-behind-growth-soya-south-america/>

**Comprehension Questions:**

1. How many liters of water are used to produce a hamburger?

3,000 liters of water are used to produce a hamburger.

2. Why are the trees in the Amazon rainforest cut down?

They cut down the trees to make space for agriculture.

3. What contributes to a high carbon footprint?

Methane and fossil fuels contribute to a high carbon footprint.





### Discussion Questions:

1. Does it surprise you to read about how much of the Amazon rainforest is lost each minute?

YES  NO

How does it make you feel to know this?

Answers will vary. Possible answers could include:

It makes me feel sad because the rainforest is so important.

It makes me feel angry because we should take care of the planet.

2. What are three things we can do to live a more sustainable lifestyle?

Answers will vary. Possible answers may include:

- We can eat locally grown food.
- We can limit the amount of animals we eat.
- We can consume less palm oil.
- We can eat less meat.

### Activity 2

**Synchronous:** Ask students to predict whether they think their carbon footprint is high or low. Then, give them some time to complete the Carbon Footprint test below to see how sustainable their diets are. After this, they should add up the points and share their scores with their classmates. Finally, they should answer the discussion questions (10 minutes).

**Asynchronous:** Ask students to take the test and share their results on your preferred online platform. You could create a Google Form which allows you to collect data from the multiple-choice questions and show it to students in pie charts. Have students comment on their classmates' results.





## Activity 2

### Carbon Footprint Test

Do you know what your diet's carbon footprint is? Respond to the questions below and add up your points to see how sustainable your diet is.

1. How often do you eat meat?

a. Everyday

b. Sometimes

c. Rarely

d. Never



2. How often do you drink cow's milk?

a. Everyday

b. Sometimes

c. Rarely

d. Never



3. Do you eat food items with palm oil? (You can find palm oil in some foods such as peanut butter, cookies, ice cream, cereal, and bread.)

a. Yes

b. I think so.

c. I'm not sure.

d. No, I avoid it.



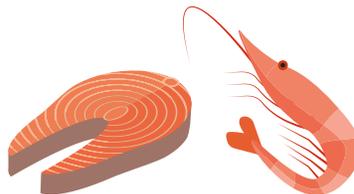
4. How often do you eat shrimp and tuna?

a. Everyday

b. Sometimes

c. Rarely

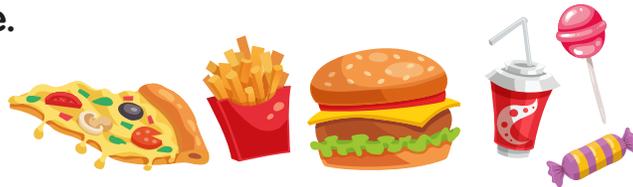
d. Never





5. Do you eat foods with the sweetener High Fructose Corn Syrup? (You can find HFCS in some candy, sodas, juices, and fast food.)

- a. Yes, all the time.
- b. Usually
- c. I'm not sure.
- d. No, I try to eat foods with natural sugar.



6. Does your family buy locally grown fruits and vegetables?

- a. No, we buy mostly imported fruits and vegetables.
- b. I'm not sure.
- c. Usually.
- d. Yes, all the time.



7. Does your family buy imported food products?

- a. Yes, we buy a lot of food products from other countries.
- b. We buy some imported food products and some Colombian brands.
- c. We usually eat Colombian food products.
- d. We eat Colombian foods all the time.

Now, add up how many points you have.

- A = 3 points
- B = 2 points
- C = 1 point
- D = 0 points

How many points do you have? The lower the number, the lower your carbon footprint from your diet!

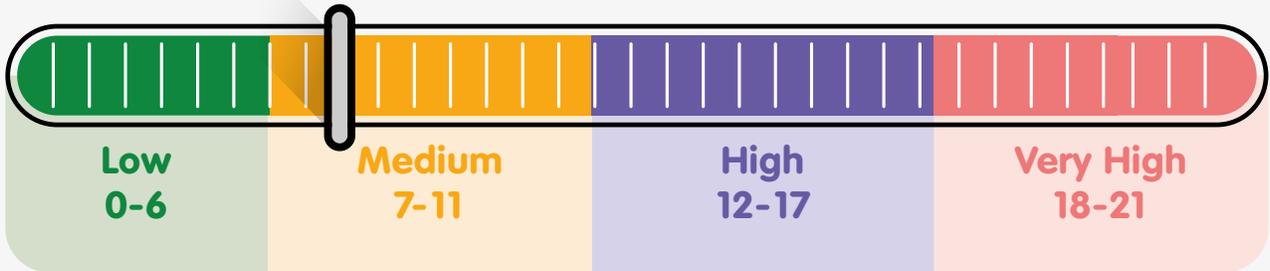
My carbon footprint from my diet:

points





How high is the impact of your diet's carbon footprint on the environment?



- Compare your number with your classmates.
- 1. Are you surprised by your number? YES  NO
- Did you expect it to be higher or lower? Higher  Lower

2. Circle the categories where you received the most points.



meat



cow's milk



food with palm oil



shrimp and tuna



food with high fructose corn syrup



locally grown fruits and vegetables



imported food products





### Activity 3

**Synchronous:** Discuss vegetarian and vegan diets by asking students to circle whether or not vegans and vegetarians eat foods from each of the categories below. Then, ask them to respond to the discussion questions. They may work on this in pairs or individually (5-10 minutes).

**Asynchronous:** Students complete the activity individually. You could consider creating an online interactive worksheet or Google Form for students to submit their answers, and then, share the results with the class.

### Activity 3

One way that we can have more of a sustainable diet is to limit how many animal products we eat.

Many people adopt vegan, vegetarian, or plant-based diets to reduce their carbon footprint.

What do you know about these diets? Circle what food you think vegetarians and vegans eat in each category.

#### 1. Dairy and Eggs



Vegetarian?  Y  N

Vegan?  Y  N

#### 2. Legumes



Vegetarian?  Y  N

Vegan?  Y  N

#### 3. Fruits



Vegetarian?  Y  N

Vegan?  Y  N





### 4. Vegetables



Vegetarian?  Y  N

Vegan?  Y  N

### 5. Grains



Vegetarian?  Y  N

Vegan?  Y  N

### 6. Nuts and Seeds



Vegetarian?  Y  N

Vegan?  Y  N

### 7. Meat



Vegetarian?  Y  N

Vegan?  Y  N

### 8. Seafood



Vegetarian?  Y  N

Vegan?  Y  N

### 9. Honey



Vegetarian?  Y  N

Vegan?  Y  N

### 10. Gelatin



Vegetarian?  Y  N

Vegan?  Y  N



Remember that vegans do not eat any animal products and vegetarians don't eat meat or seafood, but they do eat dairy, eggs and other animal products.

\*People that eat seafood or fish are considered pescatarians, not vegetarians.





**Discussion Questions:**

Write your answer for each question.

1. Do you know anyone that is vegetarian or vegan? If so, who?

2. Do you think it is easy to have a vegan or vegetarian diet?

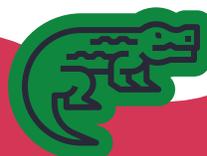
YES  NO  Why?

3. What are some reasons why someone would want to become vegan or vegetarian? Check the answers that you think apply.

- To reduce their carbon footprint.
- They don't know how to cook meat or seafood properly.
- For ethical reasons. They don't want to consume animals or animal products.
- It's popular. A lot of people are vegetarian or vegan now.
- To live a healthier lifestyle and reduce their cholesterol.

Other (add your own response):

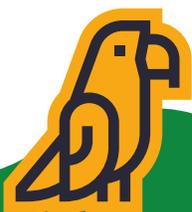
  




#### Activity 4

**Synchronous:** In preparation for the project in Activity 5, show students the example pamphlet below. This will serve as an example of a visual aid they can create with their groups for their own projects. Ask students to focus on the content in the pamphlet and to check whether it meets the requirements in the box provided below. They should highlight the key information they find in the text related to the checklist below (10 minutes).

**Asynchronous:** Ask students to read the pamphlet provided below, highlighting any key information they find. Feel free to use a web tool such as Kami, Active Textbook, or Kaizena, to allow students to interact with the text by highlighting, underlining, and adding voice notes.



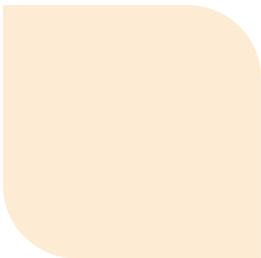
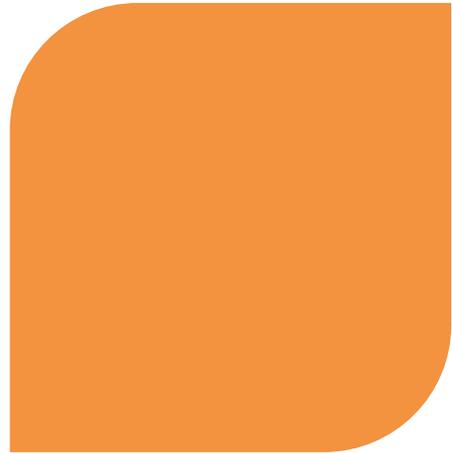


## Activity 4

Read the pamphlet below about sustainable diets.

### How can I adopt a more **sustainable diet?**

Did you know that one hamburger needs almost 3,000 liters of water to be produced? Isn't that crazy? That's a lot of water! In order to produce meat, farmers need lots of land, water, and food to give to their cattle.





On the other hand, plants (fruits, vegetables, grains, etc...) use much less water. For example, one cup of brown rice only requires 72 liters of water to be produced. Milk made from plants (oat, soy, almond, etc...) is another good example. It requires less resources than cow milk, and it is a better option for the environment, too!



Some food also causes harm to places like the Amazon rainforest. Many farmers cut down trees in the Amazon for their cows, for example. This creates deforestation and hurts the Amazon ecosystem and indigenous communities that live there.





The distance our food travels to get to our plate is also important. Food that travels on trucks for long distances requires a lot of fossil fuels. International food (imported food) has the biggest impact! Locally grown food is the most sustainable option and has a lower impact on the environment. You also support local farmers when you buy local food!

These are just some of the ways that our diet can affect the environment. There are many things we can do to eat more sustainably.

### Which ones will you choose to do?

#### What can I add to my diet?

- + More plants (*fruits, vegetables, grains*)
- + Locally grown foods
- + Plant milk

#### What can I reduce in my diet?

- Meat
- Imported foods

#### Sources:

<https://www.watereducation.org/post/food-facts-how-much-water-does-it-take-produce>

<https://www.bridgerphotonics.com/blog/how-does-methane-affect-environment>





Does the pamphlet above include the following information? Put a checkmark next to the things that you see are included in the pamphlet. Then, highlight the sentences from the text above where you found this information.

**Don't forget to include the following:**

- Water usage: How can we reduce the amount of water we use to produce food?
- Carbon footprint: How can we reduce greenhouse gas emissions?
- Things to add to your diet
- Things to reduce in your diet

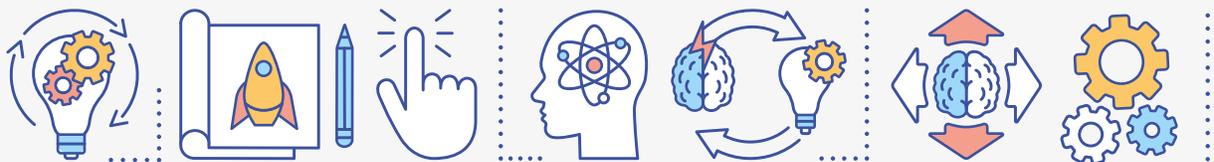


### Activity 5

In groups of 3 or 4, create a presentation about how we can adopt a more sustainable diet.

Your presentation needs a visual aid. This can be a poster, video, Power Point slides, pamphlet, or even a drawing.

Before you create your visual aid, use the graphic organizer below to brainstorm some ideas.





**Things to add to your diet**



Empty dashed-line box for notes.

Empty dashed-line box for notes.

Empty dashed-line box for notes.





Things to reduce in your diet



Three large, empty rectangular boxes with dashed red borders, intended for writing notes or answers.





## Post-task

### Activity 1

**Synchronous:** Ask students to present their visual aids to the class. As students watch the presentations, they should take notes on what their classmates suggest to add to or reduce in their diets to reduce greenhouse gas emissions and have a more sustainable diet (10 minutes).

**Asynchronous:** Students should look at their classmates' visual aids and take notes about what they see. Again, this could be done on Padlet or through a Google Drive folder as mentioned in Task, Activity 4.

### Activity 1

Present your visual aids to the class.

As you watch your classmates' presentations, take notes.

Things to add to my diet...

Things to reduce in my diet...





## Activity 2

**Synchronous:** Ask students to reflect on what they have learned in today's lesson and how they can eat more sustainably. Read the questions aloud to students and consider doing an example answer together before asking them to work individually and write their own answers (5-10 minutes).

**Asynchronous:** Ask students to respond to the reflection questions below. Consider asking students to share their answers on Padlet, so the whole class can see.

## Activity 2

- What are some things that your family consumes at home that are unsustainable?

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

- What are some things your family can do to eat more sustainably?

- *For example: We can limit our meat consumption.*

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

