Regenerative agriculture fights climate change

Student Workbook
10-12 Yrs
Slow Food is a way of living and a way of eating. It is a global, grassroots movement with millions of supporters in 164 countries that links the pleasure of food with a commitment to community and the environment.

**Slow Food seeks to steward a dramatic and lasting change in the food system.**

At Slow Food Barbados we reconnect locals with the people, traditions, plants, animals, fertile soils and waters that produce our food while protecting the rich heritage, traditions and culture that food makes possible. Furthermore, we want to reinvigorate the youth's interest in food and bestow on them the knowledge of where it comes from.

**Educational Gardens & Regenerative School Bus**

Slow Food identified educational gardens and working with youth as a key to developing Good, Clean and Fair food systems. Slow Food’s physical Educational Gardens at schools and institutions island wide instill a love of Good Clean and Fair in students, while integrating garden activities into the school curriculum and building school community. The Regenerative School Bus is a way of taking students on a virtual field trip, bringing gardens and farms to so many more students than our existing gardens can reach.

Exposing students to possibilities and inspiring youth, with a hope of instilling a life long love for regenerative agriculture, health and wellbeing.

**Project Background**

With rising rates of non-communicable diseases (NCDs) like diabetes, hypertension, heart disease and stroke; and with the increasing rates of childhood obesity in the Caribbean, the “Improving Household Nutrition Security and Public Health in CARICOM” or Food and Nutrition (“FaN”) project focuses on improving dietary diversity to help in lowering the burden of NCDs in the region. The project is generously funded by the International Development Research Centre, Government of Canada.

In collaboration with CARICOM Secretariat and other partners, the FaN project created the Health and Family Life Education (HFLE) curriculum at the Early Childhood Development level and revised the curriculum at the Primary Education Level to include more information on unhealthy diet and physical inactivity as risks for NCDs.

**Project Resources**

The FaN project partnered with CARICOM Secretariat to develop digital ‘edu-tainment’ materials to help deliver the revised HFLE curriculum in classrooms. These include a collaboration with Slow Food Barbados’ educational consultants to deliver (3) three educational videos, filmed on farms in Jamaica, St. Kitts & Nevis, and St. Vincent & the Grenadines which focus on regenerative agriculture/farming, nutrition, and cooking.

The videos are accompanied by worksheets, games, and challenges designed for students aged 6-9 years old and students aged 10-12 years old. Paired with a teaching guide, each video and the corresponding lesson has been designed for use in a fully virtual situation or an in-person hands-on setting in the classroom.
WHY REGENERATIVE AGRICULTURE?

One of the most pressing topics of our time, climate change. Also referred to as global warming, is an often under taught and misunderstood concept. A concept with the potential to significantly impact our lives and the lives of today's youth, if adequate education is provided covering the WHYs and HOWs.

Regenerative agriculture is a method of producing food, on a small or large scale, which does not deplete the health of the environment. By design, regenerative agriculture increases the health of the environment, biodiversity and humans with every harvest.

**Regenerative agriculture produces healthy soil, biodiverse ecosystems, abundant organic harvest, nutrient dense food and healthy people.**

Regenerative agriculture seeks to keep the soil structure intact (no till / no dig farming); keep the soil covered (cover crops or mulch), does not introduce chemicals (synthetic fertilisers, pesticides or herbicides), Invites beneficial insects to create a biodiverse system.

By creating systems of regenerative agriculture we have the potential to: Draw down carbon through photosynthesis, and capture and store water in the soil structure, diverting run off to the oceans by infiltrating clean, chemical free water into the water table.

The United Nations Sustainable Development Goals suggest that major mindset shifts and action must be taken by the year 2030. Slow Food Barbados believes, that through education, a generation of regenerative youth will evolve, who will have far greater impact on this earth, than any adult will be able to make by the year 2030. **Our health and the health of our planet depends upon the issues that we choose to educate the next generations on.**

SLOW FOOD ETHOS

Slow Food envisions a world in which all people can access and enjoy food that is good for them, good for those who grow it and good for the planet.

Our approach is based on a concept of food that is defined by three interconnected principles: good, clean and fair.

- **GOOD:** quality, flavoursome and healthy, nutrient dense food
- **CLEAN:** production that does not harm the environment or humans
- **FAIR:** accessible prices for consumers and fair conditions and pay for producers
ST VINCENT AND THE GRENADINES:
FARMER LUKE
Food groups, processed foods and food preparation
While you watch:
As you watch Farmer Luke, listen closely to foods he and his family grow and eat. Draw a picture of anything Healthy inside of your plate and anything Unhealthy outside the plate.

Fruits and vegetables
Legumes (peas and beans)
Fats and oils
Food from animals
Staples (starches)
While you watch:
As you watch Farmer Luke, listen closely to foods he and his family grow and eat. Make a list of the foods and create a pie chart, using the plate as the pie with bigger sections for the foods the family eat more of and smaller sections for foods the family eat less of.

- Fruits and vegetables
- Legumes (peas and beans)
- Fats and oils
- Food from animals
- Staples (starches)
FACT: Food is medicine! A healthy diet contains all the nutrients you need to stay healthy and strong.

1) Which foods are healthy Treats?

MANGO  COOKIES  SUGAR CANE  BANANA

2) Which banana will you choose?

IMPORTED  IN A PLASTIC WRAP
STRAIGHT FROM A TREE  IN YOGURT

3) Good Micro Organisms live where?

ON VEGETABLES  ON HANDS
IN THE SOIL  IN YOUR STOMACH

4) Healthy Soil = Healthy Plants = Healthy ME!
Micro organisms in the soil give plants and humans who eat fresh plants all the nutrients we need. Nutrients are:

VIT_M_N_ + MI_E_ALS

Unscramble and fill in the blanks
1) Farmer Luke says that Healthy treats should be fresh and not have chemicals or added sugar. Why?

2) Farmer Luke says that a healthy soil food web will grow healthy fruits and vegetables. How does that help us get healthier?

3) When food travels far to get to us it loses its nutrients. If you choose locally grown food, will you be healthier or more unhealthy?

4) Farmer Luke’s family preserves food using good bacteria. Can you make a list of reasons why this is good for your health and good for the environment?
Take it to the next level...
Farme Luke says that a healthy SOIL FOOD WEB helps to make sure that there is Good Bacteria and Micro Organisms which grow Nutritious food! Can you draw a picture and explain what you think this would look like?

Soil Food Web:
Take it to the next level...
Farme Luke says that a healthy SOIL FOOD WEB helps to make sure that there is Good Bacteria and Micro Organisms which grow Nutritious food! Can you research and explain what you think this would look like?

Soil Food Web:

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EXTENSION DISCUSSION QUESTIONS:

FACT: Food is medicine! A healthy diet contains all the nutrients you need to stay healthy and strong.

1) Farmer Luke says that food loses nutrients when it travels far. Make a list of places you could get food from which will be full of nutrition and healthy for you!

Where My Food Comes From:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

2) When you look at packaged food it has lots of ingredients we can't read and don't know! Choose one ingredient from a package to research and write a few reasons down or draw a picture showing why it isn't good for our bodies!
EXTENSION DISCUSSION QUESTIONS:

FACT: Food is medicine! A healthy diet contains all the nutrients you need to stay healthy and strong.

1) Healthy Soil = Healthy Plants = Healthy ME!
When soil is full of good bacteria and microorganisms healthy plants grow. When we eat healthy plants we grow healthy!
When we compost our fresh food scraps we add nutrients and health back into the soil in a Closed Loop System! Everyone Wins!
Can you tell us what happens to your body, and to the earth when you choose Packaged, Processed foods instead of whole fresh foods?

3) Chemicals sprayed on plants harm the insects.
Discuss as a group:
Would you choose to eat a fruit or vegetable with spray all over it?
Would you choose to eat a treat in a package that contains chemicals?
Brainstorm together and draw, write words or cut from magazines and make a collage - foods that fit in each of the food groups

Be Creative!

Fruit
Brainstorm together and draw, write words or cut from magazines and make a collage - foods that fit in each of the food groups

Be Creative!

Vegetables
Brainstorm together and draw, write words or cut from magazines and make a collage - foods that fit in each of the food groups. Be Creative!

Food from Animals
BRAINSTORM PAGE

Brainstorm together and draw, write words or cut from magazines and make a collage - foods that fit in each of the food groups
Be Creative!

Starches
(Staples)
Brainstorm together and draw, write words or cut from magazines and make a collage - foods that fit in each of the food groups

Be Creative!

Legumes
(Peas and beans)
BRAINSTORM PAGE
Brainstorm together and draw, write words or cut from magazines and make a collage - foods that fit in each of the food groups
Be Creative!

Oils and fats
Brainstorm together and draw, write words or cut from magazines and make a collage - foods that fit in each of the food groups

Be Creative!

Sugars and sweeteners
BRAINSTORM: PROCESSED FOODS VS WHOLE FOODS

take it to the next level

Let's break down a processed food into the ingredients that make it up.
You will need a food label to help you.

Name of the food: _______________________

Food Ingredients:
• ____________________________
• ____________________________
• ____________________________
• ____________________________
• ____________________________
• ____________________________
• ____________________________
• ____________________________

Not food ingredients

Do you think these are healthy?

YES/NO
Investigation: Food Labels

All packaged food is required to display a nutrition information label. These labels and the information they display are regulated by the countries they are produced in. Food labels show the average amount of vitamins and nutrients in a food product. They tell the consumer exactly what is in the product they are eating or drinking and help people to make healthy food choices.

Nutrition Information

Tells you the quantities of vitamins, minerals and fats which are in the serving size quantity of the package.

Serving Size

Tells you the quantity of food which the measurements on the label are referring to. (So if the serving size is 1 cup, the amounts of vitamins and minerals listed will be the amount there is in 1 cup of the product, not the whole package).

Ingredient list

Lists all of the food and non food items which are in the package. The list is in order starting from the item used the most in the recipe to the item used the least.

<table>
<thead>
<tr>
<th>NUTRITION INFORMATION</th>
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<tbody>
<tr>
<td>Servings per package: 4</td>
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<tr>
<td>Serving Size 150g</td>
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<thead>
<tr>
<th></th>
<th>Quantity per serving</th>
<th>Quantity per 100g</th>
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<tbody>
<tr>
<td>Energy</td>
<td>600kJ</td>
<td>450kJ</td>
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<tr>
<td>Protein</td>
<td>4.2g</td>
<td>3g</td>
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<tr>
<td>Fat, total</td>
<td>7.4g</td>
<td>5g</td>
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<tr>
<td>- saturated</td>
<td>4.5g</td>
<td>3.0g</td>
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<tr>
<td>Carbohydrate, total</td>
<td>18.6g</td>
<td>12.4g</td>
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<tr>
<td>- Sugars</td>
<td>18.6g</td>
<td>12.4g</td>
</tr>
<tr>
<td>Sodium</td>
<td>90mg</td>
<td>60mg</td>
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Ingredients: Whole Milk, concentrated skim milk, banana (10%), strawberry (5%), kiwi fruit (4%), plum (3%), pear (2%), gelatin, culture, thickener (1442).All quantities above are averages.
**INVESTIGATION**

**Anatomy of a Food Label**

### Serving Size

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WORKSHEET packaging design

Read the ingredients on the label on the info card and draw a design for the package (container, box or bag) which would have your product in it.

**Things to think about:**
What ingredients are in it?  Is it healthy or unhealthy?
What is the most used ingredient in it?
Is it a food, drink, sauce, snack?  Does it need to be cooked?

Draw and colour:
WORKSHEET Label design

Think of your favourite healthy home cooked dish or food. Design a food label to stick on your dish. Make sure you put the ingredient list in the correct order and ask for help or research the nutritional information for each of your ingredients.

Nutrition Facts

<table>
<thead>
<tr>
<th>Serving Size: oz.</th>
<th>Serving Per Container</th>
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<tr>
<td>Amount Per Serving</td>
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<table>
<thead>
<tr>
<th>Calories</th>
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<tr>
<td>%Daily value*</td>
<td>%</td>
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<tr>
<td>Total Fat</td>
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<td>Saturated Fat</td>
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<td>Cholesterol</td>
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<td>Sodium</td>
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<td>Total Carbohydrate</td>
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<td>Protein</td>
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Ingredients
ACCOUNTABILITY CHALLENGE

I will eat five fruits or vegetables every day!

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REMINDERS

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ACCOUNTABILITY CHALLENGE

I will eat five fruits or vegetables every day!

30 Days!

Thirty Days!

Sticker or colouring chart
**TAKE ACTION PROJECT!**

**THE PROBLEM**
Processed foods contain chemicals and preservatives that are not good for our bodies or for the environment. Storing food for natural disasters, and to keep the grocery bill down is important. Storing food so that nothing goes bad and wastes is important!

**THE SOLUTION**
Preserving foods using natural ingredients can be YUMMY!

1. Research fruits or vegetables that are in abundance
2. Collect recycled materials to use to help preserve (Glass Jars)
3. Make a list of ingredients and gather as much as I can for free!
4. Make sure to follow safe food handling. Wash hands and prepare.
5. Have a fun day of cooking and storing your preserves
6. Raise funds or awareness by having a stall to sell your products!
TAKE ACTION PROJECT!

1. Ingredients:

2. Method:

3. Supply list:

4. Plan for giving away, sharing or selling our preserves!
This work is carried out with the aid of a grant from the International Development REsearch Centre, Ottawa, Canada.