

TEACHA

Toledo Environmental and Cultural Heritage Alliance



An Environmental and Cultural Heritage
Workbook for Students and Teachers

What is "Environmental and Cultural Heritage"?

The word "heritage" is one that means many things to many people. It often brings to mind things like food, language, clothing, or other traditions that are passed on from generation to generation. But it also includes places, buildings, art, values, and ways of making a living in particular environments. In Maya communities, as is the case elsewhere around the world, cultural practices and the environment are tightly connected, with one shaping the other.

With this workbook we take a broad view of heritage, one that links cultural and environmental histories, landscapes, and practices together. A term that UNESCO and others often use is "cultural landscapes" to refer to a "long and intimate relationship between peoples and their... environment (<http://whc.unesco.org/en/culturallandscape/>)." This also reflects the ways many of the people who shared this information for the workbook view their own heritage.

Who is TEACHA and why did we create this workbook?

TEACHA as an organization was initiated in 2009 as part of the education plan of a collaborative research grant, "Development and resilience of complex socioeconomic systems: A theoretical model and case study from the Maya Lowlands," supported by the U. S. National Science Foundation, Human Social Dynamics program [Award number 0827277, Principal Investigator: Douglas Kennett (University of Oregon). Co-Principal Investigators: Keith Prufer (University of New Mexico), Rebecca Zarger (University of South Florida), Bruce Winterhalder (University of California Davis)]. Additional funding for workshops and this workbook came from the Anthropology and Environment Society of the American Anthropological Association and the InHerit Foundation. We thank NSF, AES, and InHerit for the funds that made this possible.

Although funding was secured for the project in 2009, the story of this workbook goes back to many conversations with educators, activists, and school children from Rebecca Zarger's dissertation research in 2000-2001. The collective idea was to bring valuable local environmental and cultural heritage to school classrooms with an emphasis on active learning, which is how much of that information is learned in outside of school settings. Interest continued to grow and develop over the years, with input and guidance from many people to the present form. Kristina Baines' hard work was instrumental to developing and piloting lessons, communicating with teachers and serving as ambassador for TEACHA during her dissertation research. Rebecca and Kristina's collaboration, along with the graphic design genius of Victoria Costa and www.by1982.com, allowed the vision to come to you in the present form.

Ethnographic and archaeological research in Maya communities in Toledo, from which information has been drawn includes: Rebecca Zarger's research on learning the environment in and out of schools in 2000-2001 and 2004-present; research by Shoshaunna Parks, Ph.D. who developed the first iterations of the booklet and the archaeological activities reproduced here in 2007-2008 in Santa Cruz; Keith Prufer (Director) and other members of the Uxbenka Archaeological Project; Kristina Baines guided the design of many of the activities, taught pilot classes, and carried out research in 2009-present.

We also thank contributors and collaborators Thomas Caal, Amy Thompson, Brendan W. Roussel, Andrew Hatala, Estrella Chévez, Erik Stanley, Lee McLoughlin, Julio Chub, Reina Cus and Luis Pacheco for the lessons they contributed and for drawing on their expertise. We would also like to recognize Sonja Mes, Monique Boileau and the students of San Miguel RC School for their artistic contributions in illustrating the lessons. The guidance of the local advisory board, educators, Maya leaders, parents, and children to help develop the curriculum has been instrumental from its inception and in its improvement over the years. Teachers who attended the five workshops between 2010-2012 gave wonderful feedback on the lessons and helped pilot test them in their schools. There are too many people to thank everyone here, but in particular, we express our gratitude to: Cristina Coc, Pablo Mis, Louis Cucul, Pulcheria Teul, Bartolo Teul, Aurelio Sho, Esther Sanchez Sho, Victor Cal, Elvia Bo, Denfil Rodriguez, Diego Bol, Cristobal Cal, Louis Chub, Felix Cal, Leonardo Cal, Felipe Ical, Richard Peck, Juan Mes, Miriam Sanchez, Dr. Carmen Jane Lopez, Filiberto Penados, Feliz Sho, Francisco Cal, and Froyla Tzalam.

Thank you!

We would first like to extend our sincere thanks and gratitude to the families and children in San Miguel and Santa Cruz, where much of the information for the workbook was gathered and these materials were piloted with elementary school students and teachers between 2009-2012. B'antiox and botik! We can never thank you all enough for your warm welcome and allowing us to become a small part of your lives over these many years. We hope the journey continues.

For the full story on TEACHA and to download a free version of this workbook go to: www.teacha.org! For the teacher's supplement that includes additional activities to go with the workbook page lessons, see the back of the book.



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We would like to thank the following organizations that have supported the development of this workbook in different ways over the past decade:

Belize National Institute for Culture and History (NICH)
Belize Institute for Social and Cultural Research
Belize Institute of Archaeology
Belize Ministry of Education, Toledo District Office
Belize Forestry Department, Machaca Office
Community of Santa Cruz
Community of San Miguel
Congress of Maya Teachers
Uchb'enka K'in Ahaw Association
San Miguel R. C. School

Santa Cruz R. C. School
R. C. Schools Toledo District Management Office
Ak' Kutan Radio
Tumul K'in Center of Learning
Ya'axch'é Conservation Trust
Maya Leaders Alliance
National Science Foundation
Uxbenka Archaeological Project
University of South Florida Department of Anthropology
and Botanical Gardens

So many thoughtful people have shared their expertise, enthusiasm and support, and this is your workbook, reflecting your heritage, as best we are able to represent it. Of course, we take responsibility for any errors or omissions. If you have suggestions for future versions of this workbook, please get in touch with us.



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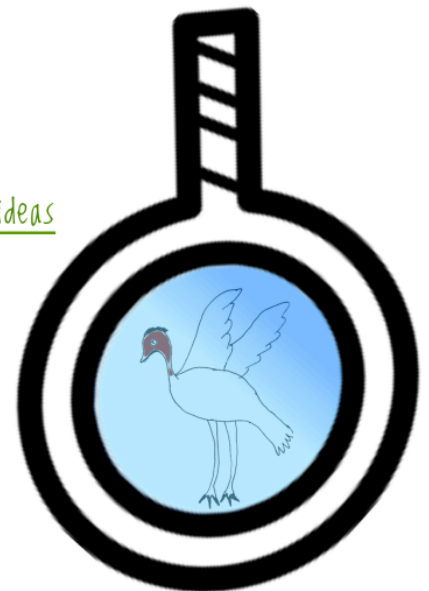
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UNDERSTANDING HERITAGE



How We Find Out About Our World

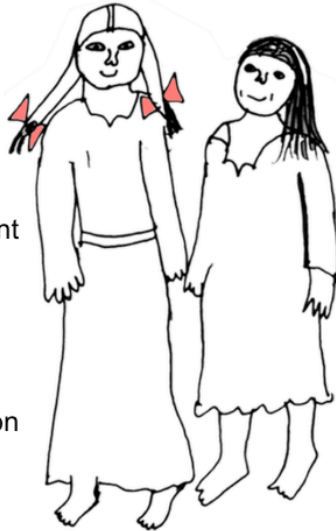


LEARN!

Learning about the past and its connection to the present can be very important when we are trying to understand the way we live and work today. There are many ways to learn about the world around us. Using our senses gives us a lot of information, but it is important to benefit from the knowledge that people have learned to help them in their lives. There are many ways to gather information from others. Two very important ways that we learn about ideas and practices from the past, as well as from the present, are by collecting **oral histories** and by looking at **written records**.

1. WRITTEN RECORDS

Oftentimes, people write down information that they have learned in books or other documents. For example, the Maya in the past carved into stone to record important information about when to grow certain plants. Looking at written information, including pictures and drawings, can help us learn what people did in the past. Today we record information through writing on paper and with computers.



2. ORAL TRADITIONS

Speaking to older people, like grandparents, is a good way to learn about what life was like in the past. Asking questions and listening to stories are two ways you can learn more about what was important in the past and what is important now. Oftentimes, older people will remember when things changed and what things have stayed the same. For example, some different plants are used on the farm now than were used by the Maya in the past, while some plants used are still the same. People around the world share their culture through oral traditions like these.



ACTION! Understanding Heritage: begin an oral history.

Ask your mother, father, a grandparent if they can spend a few minutes answering these questions for you. Write down the important details of what they say. Listen carefully- their answers are very important to your research!

1. How old are you? _____
2. How long have the Maya people lived here? _____
3. Can you tell me about the Maya in the past? _____

4. How did the Maya in the past use the land to make a living? _____

5. What plants did the Maya in the past use from the bush, the farm, or around the house? What did they use them for? _____

6. Do we use any plants that the Maya in the past used? Which plants? _____

7. What are the most important plants from the bush, farm, or around the house that you use now? _____

8. What did you learn from your oral history? You can also make up your own questions! _____

DIFFERENT WAYS OF KNOWING



The Environment Teaches Us



LEARN!

We learn about the world around us in many ways. We learn by going to school, by going to the farm or the forest with our parents or by talking with older people in our homes who have knowledge to share. We can also learn by exploring the natural environment on our own, as long as we know how to stay safe.

When we learn things in school, there is often a correct answer that we need to find and learn. For example, if you told your Mathematics teacher that the sum of 2 and 2 is 5, he or she would tell you that you are incorrect!



Environmental knowledge works in a different way. Sometimes what one person learns and knows is not the same as what another person learns and knows and neither one of them is “wrong.” For example, if you ask one person what to use the ginger root for, he might say for a cough. If you ask another person, she might say it is for a bad belly. Both these people are correct because they have experienced different ways to know about the ginger root.

Because we are used to learning about plants and animals in science class, it might seem strange that the environment can teach different people different things. However, environmental and cultural heritage knowledge works like this because you learn it by practicing it and different people have different experiences. If you talk to enough people, you will find that people share many ideas. This is why it is important to listen to many people who know about the area where you live and to explore the natural environment for yourself by going along when adults invite you.



ACTION!

Different Ways of Knowing: comparing and contrasting

First, choose an important plant you want to learn more about. To complete this activity, you will need to be a good observer and listener. Ask for permission from your family member before you write down what they know.

1. What is the name of your plant in your language? _____
2. Ask an older family member like a grandparent if they have a few minutes to talk to you. Ask them what they know about your plant. Write down what they say. _____
3. Ask if they can show you the plant. Depending on the plant and where you live, this may not be possible. If they can't show it to you, ask them to describe what it looks like and where you can find it. _____
4. Repeat the above 2 steps with the same plant but a different family member or older friend. What did the next person know about the plant? _____
5. What did the next person show/tell you about what it looks like and where you could find it? _____
6. Write 2 **SIMILARITIES** and 2 **DIFFERENCES** in what the people said and showed you. _____

LEARNING ABOUT THE WORLD

Using Our Five Senses



LEARN!

Researchers and scientists all over the world use their senses to find out information from the world around them. People have been doing this for a very long time, from ancient times until right now in the present. We all use our senses every day—at home, at school, in the bush and on the farm.

For example, the first Maya did not know what different plants could be used for. They had to rely on using their senses to try to figure out if a certain species might be useful for making baskets, for eating, or for making medicines and other useful products that they needed in their daily lives.

Sometimes, we learn how we can use plants by trying things out for ourselves. Or, we see others find and prepare a plant and we learn how it is useful. It is important to be careful, though, because many plants contain poison that can harm us if we do not understand how to prepare the plants for use.

People learn and remember things in many ways. Our senses can also provide a way for us to remember what we have learned and experienced. The Maya have used beautiful and colorful costumes to remember certain events and teach others about different ideas and experiences that they had. They also used pictures as part of their writing to help the reader understand the meaning of the information they wanted them to know.

Remember that you can also use your senses, your artistic talents, and your scientific abilities to tell others about the natural world. Showing them, as well as telling them, the unique qualities of useful plants will help them appreciate and understand the value of your knowledge about your local environment!



TEACH A
LESSON

03

ACTION!

Learning About the World: using all of your senses

From the Maya of the past to scientists today, all people use their senses to figure out different things about the natural world. Write your five senses in the blanks below.

Write what each one tells you about a plant that is important to you in the bush, the farm or around the house.

1. What is the name of the plant you chose? _____

2. Use your **EYES** and your sense of _____
Describe how the plant looks. (Hints: **color** **SIZE** **shape** of leaves)

3. Use your **FINGERS** and your sense of _____
What do the different parts of your plant feel like?

4. Use your **EARS** and your sense of _____
Can you hear something if you are quiet near the plant?

5. Use your **NOSE** and your sense of _____
What does your plant smell like? Which part has scent?

6. Use your **MOUTH** and your sense of _____
If you know it is safe, taste the plant. How does it taste?

7. Which sense told you the most about your plant? Why?

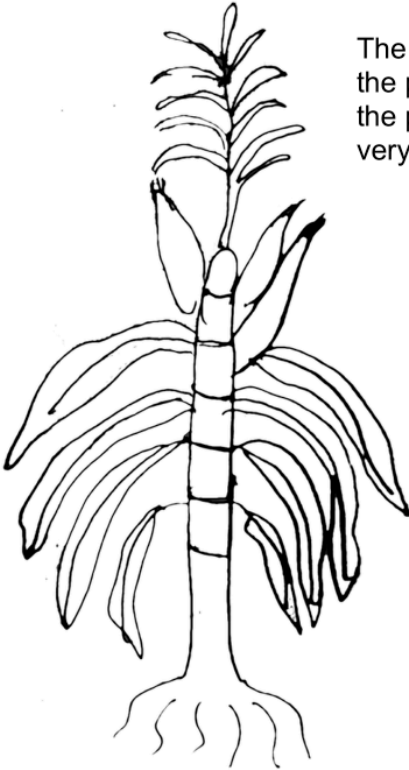
UNCOVERING PLANT HERITAGE

Plant Knowledge is Important



LEARN!

We need plants for our survival. They provide us with food to eat, as well as many other products that we need to make our lives better, like medicine for health, material for shelter, and clothing for protection. Some people dedicate their lives to understanding how plants are able to give us these great benefits and what each plant is capable of providing. Scientists who study plants are called botanists.



The Maya in the past were great botanical scientists. They had to know what the plants in their environment could be used for in order to survive. Many of the plants that the Maya used grow in our environment today and are used in very similar ways.

Q'eqchi' and Mopan Maya people in Belize today use many plants from the farm and forests for their needs. Knowledge about local plants, their names, their uses, and cultural meanings are an important part of Maya heritage and for other ethnic groups in Belize and around the world.

Learning cultural traditions and knowledge of local plants is important so that you can share your knowledge with young people and future generations. This knowledge is valuable for continuing many of the traditions for making a living and maintaining a strong community.



ACTION! Uncovering Plant Heritage: researching local plant knowledge

You will be given the name of one plant that grows here in Belize to research. It is your job to find out as much as you can about this plant. Answer the questions on this sheet to begin your research. You can use the back of the sheet or another piece of paper to write down other information you find. You can ask your family members, talk to elders, look at books, read on the internet, or just observe the plant yourself.

1. What is the name of your plant in your first language? Mopan?
Q'eqchi'?
other?

2. What is the name of your plant in English?

3. What does your plant look like?

4. What do the leaves of your plant look like?

5. What do the leaves feel like?

6. What do people use your plant for?

7. What did the Maya in the past use your plant for?

8. Where can you find your plant growing?

PLANTS ARE USEFUL



What do people use plants for?



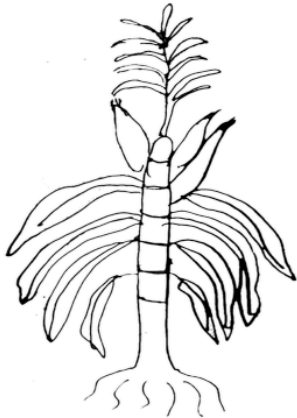
LEARN!

Plants have many different uses and are very important to people everywhere around the world. Although the type of plants may be different, they are relied on everywhere for many things, including food, medicine, clothing, shelter and tools.

ACTION! Plants are Useful:
how do we use local plants?

Draw pictures in the circles of the uses for these plants (for food, for making baskets, for making tea, for making medicines, for making containers, for killing fish) and then draw a line from each plant name to a picture that shows what it can be used for.

You can use each picture and each plant name more than once.



Plants provide food for us to eat.

COTTON

tumun / noq'

food

GINGER

ihimbre / xanxiwr

ch'alaam

ch'alam

basket

BASKET TIE TIE

b'u'ul / b'ayl

ch'i kaay

ch'i' kay

tea

BREADNUT

oox / ax

LEMONGRASS

secate / k'is k'im

medicine

CALABASH

luch / hoom

WAHA LEAF

le'che / mox

container

ALLSPICE

nab'a' ku'uk / peens

COCOYAM

mukul / ox

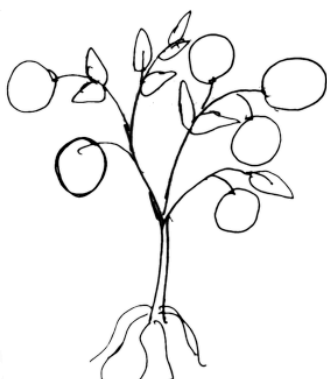
fish poison

JIPPY JAPPA

kula' / kala'



Plant sap, flowers and leaves can be used for food and medicines.



Plant fibers, leaves and fruits are used to make many types of containers and tools.

BEING WELL IN OUR ENVIRONMENT



Plants Can Keep Us Healthy



LEARN!

It is important to keep our bodies healthy so that we are able to accomplish many of the things that we want or need to do. Plants from the bush, the farm and the garden can help us maintain good health in many different ways.

We rely on plants for many of our foods. Different parts of plants, like fruits and shoots, provide nutrients to help our cells work properly. Plants also provide us with energy from **carbohydrates** (natural sugars) and help strengthen our muscles with **protein** when we eat their seeds. People all over the world grow plants for food, as well as collecting wild plants to eat.

For many Maya people today, growing and collecting plants are both important. The Maya in the past did both of these too, growing corn and cacao and harvesting plants like the breadnut. Many people believe that without these planting and gathering traditions, the Maya people would not be as healthy, so they need to be passed on to younger generations.



Quite a few plants contain special ingredients that make them helpful when we get ill. These plants can be used as medicines. It is important to use plant medicines only if they are given by someone who knows what they can do to the body and that they are safe. Many of the medicines from the clinic are made from the chemicals discovered from plants. Aspirin, for example, is made from **salicylic acid** found in the leaves of the willow tree.

The Maya used many plants they found as medicines too. They did not have clinics and relied on the bush completely to help themselves feel better when they were sick. They were very successful at using many parts of different plants to help promote their health.

⚡ ACTION! Being Well In Our Environment: making healthy choices

You make choices every day that help keep your body healthy. Answer the questions below. If you do not know the names of the plants, you can describe what they look like or use other resources for help.

1. List three plants that your family uses for food.

3. List two plants that your family uses for medicine.

2. Pick one of the plants you listed and explain why it is important for your health.

4. What is the most important thing you can do to stay healthy?

5. Why is it important to be healthy?

MEDICINAL PLANTS



Researching Traditional Healing



LEARN!

Medicinal plants have been used traditionally for thousands of years. Maya healers, as well as traditional healers all around the world, often recognize sickness as being the result of an imbalance in the sick person, and restoring balance means restoring health. Some medical scientists understand illnesses this way as well.

Some healers and researchers are interested to know how different plants work in the body. The first step in any study of traditional medicinal plants is to make sure permission is given from traditional healers and communities and they want the study to be conducted. With researchers and communities working together, they identify plants used to treat specific illnesses that they might want to know more about. Plant samples are then collected and identified so that their scientific names are known (for example, Gumbo limbo = **ch'i k'a / k'akajl** = *Bursera simaruba*). This allows healers and scientists to know that they are all talking about the same plant, because there can be many different names for one plant. Healers' knowledge is valuable in its own right. Sometimes it is difficult to translate traditional medicinal practices to scientific understandings and healers or communities may choose not to share that information for a variety of reasons.

UNDERSTANDING WHAT MAKES MEDICINAL PLANTS WORK

To better understand how medicinal plants work in the body, they can be tested in a laboratory using different types of experiments. An example that has been tested from work in Toledo is the **Gumbo limbo**. The bark of this tree is used by healers to treat different types of swelling and pain, among other things. Swelling and pain, along with redness and heat, are symptoms of inflammation. **Inflammation** is how the body fights off sickness and heals itself, but sometimes too much inflammation causes an imbalance in the body that is damaging. Gumbo limbo bark helps restore balance by "turning down" inflammation in the body. Health researchers know that white blood cells are related to the beginning stages of inflammation. In the laboratory, these cells can be kept alive and used in experiments. By adding a toxin to the white blood cell, scientists start an inflammation response. This inflammation in the white blood cells can be measured so that normal white blood cells and white blood cells with inflammation can be told apart. To see how Gumbo limbo can help control inflammation, small amounts of it are added to white blood cells. The toxin is also added to white blood cells. Cells that were treated with Gumbo limbo and the toxin have less inflammation than the cells treated with the toxin alone and they look more like normal cells. This shows how Gumbo limbo works as part of the traditional healing process and how that has also been documented in a laboratory.



ACTION! Medicinal Plants: exploring healing plants

Part 1. Circle TRUE or NOT TRUE for each statement regarding the study of medicinal plants below.

- Any research where traditional healers are involved requires their permission.
TRUE NOT TRUE
- Maya medicine is as old as the roots of Maya Culture.
TRUE NOT TRUE
- Medicinal plants have only been used for a few years all around the world.
TRUE NOT TRUE
- Gumbo Limbo bark helps restore balance by turning down inflammation in the body.
TRUE NOT TRUE

Part 2. Research a medicinal plant by asking your parent, grandparent or community healer if you have their permission to share some information about one plant. If they agree, ask them about one plant used for a common health problem.

Write the name of the plant and what it is used for.

How do you think you could design an experiment to test this?

HEALING PRACTICES

Many Ways to Feel Well Again



LEARN!

When we are feeling sick or ill in some way, sometimes we rely on others to help us to get better. Sometimes we visit the clinic or hospital. Other times, we might visit a grandparent or community member who is known to be able to help when people get sick. Knowledge of how to help heal people is very important and is learned over many years from elders who have a great deal of experience in each of the parts of the treatment.

Herbal medicines are made from certain plants that have powerful chemicals in their leaves, bark or roots. Healers learn over many years how to prepare the plants so just the right amount of chemicals are released and given to the ill person. Sometimes these plants are prepared to drink in tea but they can be given in many different ways.

It is important to understand that herbal medicines can be very powerful and you must learn how to prepare them from an older person who is experienced and respected and understands plant medicine preparation. Otherwise, you may get hurt. All parts of the healing process are important to feel well.

Special prayers and **spiritual ceremonies** are often used during the healing process. These prepare the body to heal by changing the ways in which we are thinking and feeling about the illness.

An example of an illness that can be treated in this way by Q'eqchi' healers is anxiety, worry or being always afraid (**xiw xiw / tuk'ul**). If someone is frightened or has worries, they can feel bad and have trouble sleeping. It can affect the spirit, heart, mind, blood and body. Through special prayers, herbal medicines and spiritual ceremonies, this illness can often be cured.



ACTION!

Healing Practices: investigating our wellness



1. Write the three things that a traditional healer could use together to help cure worry or being afraid.

2. Many people in Belize use different healing practices when they are sick. Read the list of illnesses below. On the line next to each word, write what your family does to help someone who has the illness feel better.

WORRY _____

HEADACHE _____

SADNESS _____

FRIGHT _____

FEVER _____

COUGH _____

BROKEN BONE _____

LOOSE STOOLS _____

BACK PAIN _____

BELLYACHE _____

FOOD AS MEDICINE



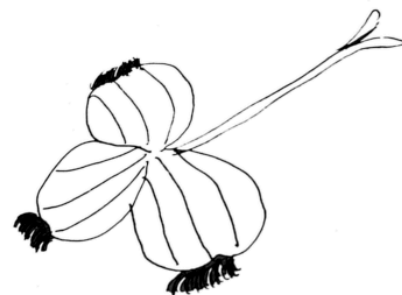
One and the Same



LEARN!

Plants are useful to us in many different ways at the same time. Some plants are grown for food, like corn, and some plants are harvested in the bush for medicine. Other plants are used for both food and medicine, even at the same time! Because healthy foods are so important for keeping our bodies well, it makes sense that they can be considered medicines too.

Researchers all over the world find that people use many of the same plants for food and for medicine. Often herbs are put into soups and are important in helping them taste nice. The same herbs can help cure “bad belly” and have important vitamins and minerals that make your body healthy and strong.



When we learn to cook certain foods, like caldo, we may not think about the fact that some of the ingredients make the soup taste nice but they can also make us well. Ginger leaves, kulantro (*samat*), garlic, and chiles (*ik*) all taste nice and work as “medicine” to keep you healthy.

People around the world have plants that are both food and medicine. It takes many years of learning to know what foods are also medicines, but children learn from their parents and grandparents, who work to show them how to make food that tastes nice and keeps them healthy.



ACTION! Food as Medicine: eating to be well

Research your family traditions and learn about new ways to use plants to be well. Answer the questions below. You can use your own knowledge, talk to your family members or use other research materials.

1. List two plants that your family uses for food *AND* for medicine. What is each plant used for?

2. List two other plants that you found in your research that can be used for food and medicine. What are they used for?

3. How can you learn what plants are also medicines?

MAYA FOOD

The Value of Traditional Meals



LEARN!

Cooking is an important traditional practice around the world. Different environments provide different kinds of foods. Here in Belize, we find a tropical forest, which is abundant in plants and animals that can feed us in many ways.

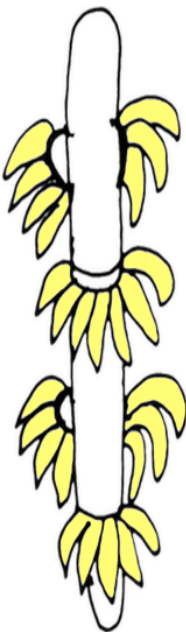
Our ancestors learned which foods were good and which ones were dangerous or not healthy to eat. After many years, some ingredients have changed and some new ones are included in our everyday kitchen, giving us new recipes to enjoy. For example, the Maya in the past did not eat chicken, pigs, or rice! All of these ingredients are fairly recent additions for Maya people.

However, there are many other things that we still cook just like our grandparents because they are good for our bodies and we think they taste nice.



Some traditional Maya foods come from the farm (**kol / k'al**), like corn, beans and pumpkin, but many others come from the forest (**nuk'che' / q'iche'**). When the bush is healthy, there are enough wild animals and plants there to eat for the community. If we do not take care of those resources in the bush, there may not be enough to eat in the future.

It is also important to value the way we cook food and traditional recipes. Caldo is a traditional meal, which can be prepared using hunted or farmed meat: chicken, turkey, fish, pig, ground mole, peccary, armadillo, and others. The steps to cook it are almost the same among Maya families. Certain "bush foods" like the **ch'i k'aay / ch'i k'ay**, **mabuy / tzi'**, **chayuc / ichaj**, cohune cabbage (**kool / mokoch**), jippy jappa (**kula / kala'**), and jute (**tutu / pur**) are also considered traditional dishes of Maya people. Not everyone's family cooks the traditional foods in exactly the same way. It is important to record your family's cooking knowledge so the way you like to eat your beans, tamales and caldo can be remembered for future generations.



ACTION! Maya Food: what does your family eat?

1. List the food you can find

IN THE BUSH



Ernaldocus

IN THE FARM



IN THE SHOP



2. Is it good for you and your family to eat local Maya food? Why or why not?

3. Name three of your favorite Maya recipes.

4. What dishes have you learned to cook?

5. Take out your Exercise Book and draw the steps necessary to cook fish wrapped in a leaf (**PACHA' CUI / LANCHA KAR**).

COOKING UP TRADITION

Food Knowledge is Heritage



Cooking and eating together are important activities in most every community, in Belize and throughout the world. Belizeans are well known for enjoying home-cooked food like rice and beans and stewed chicken, for example.

Mopan Maya and Q'eqchi people in Belize often prepare special meals for certain events in the year. For example, when men are building a house or planting corn, ladies will often prepare a traditional caldo with chicken or pork and corn tortillas. This is often the meal that is prepared at weddings, graduations, and other special ceremonies as well. Everyone works together, helping each other to make tortillas and do all the work that is necessary to feed all the men, women and children involved in the activity.

Before the day of the meal, corn must be shelled and boiled with white lime until the hard outer covering comes off the individual seeds. In the morning, the corn (**buch**) is washed and taken to the corn mill. After it is ground, the corn masa is made into tortillas, which are baked on the komal.

For chicken caldo, the chicken is killed and put into boiling water to remove the feathers. It is then cleaned and cut into pieces and boiled in a seasoned broth. People enjoy different types of seasonings in their caldo, but most agree that a traditional caldo will have onions, garlic, kulantro, salt and achiote (to give it its **red** color).



When preparing this meal to eat together, many people will say a prayer or blessing for a good harvest or a fruitful marriage. They will be sure, in the tradition of the Maya, to express their gratitude for the bounty of food: for the life of the animals to be eaten and for the abundance of life-giving corn.



Cooking Up Tradition: what does it take to prepare a traditional meal?

For this activity, you will need to work alongside a parent or teacher to investigate the details of preparing this special meal. Watch and listen carefully and try to make your measurements as accurate as possible.

1. What is the occasion for the preparation of the meal?

5. How long did it take to grind the corn?

9. How many pieces of chicken were put in to boil?

11. Was there gratitude, a prayer or a blessing shown for the caldo?

If yes, explain below.

2. How many people did your meal feed?

6. How many ladies were baking tortillas?

10. List the other ingredients added to the caldo.

3. How many pounds of corn did you need to grind?

7. How many ladies were preparing the chicken?

4. Where did you grind the corn?

8. How many pounds did the chicken weigh?

12. What is your favorite special meal?

MAKING CORN TORTILLAS

Baking the Wah / Wa



Corn tortillas (**Wah / Wa**) are the staple of the Maya traditional diet and the spirit of the Maya kitchen. They can be considered the main dish and are also enjoyed with almost any food: black beans, caldo (with any kind of meat: chicken, pork, peccary, gibbon, armadillo), jipiyapa, pumpkin, yams, greens (**chai yuk / ichaj**) and even along with tamales. If you have a day when you have not eaten corn tortillas, then you really haven't eaten!

Baking tortillas is an essential part of social life. The event gathers women and girls of all ages from entire families, especially during traditional events like planting corn or building a house. During these events, more than 20 women can work together to offer more than 26 pounds of the true star of Maya cuisine.

Depending on the season and how dry the corn is, there are some differences in treating the corn kernels and masa. If the corn is not completely dry, the tortilla is called **chu'uk wah**- the dough is lightly sticky but the taste is the best.



Making Corn Tortillas: working heritage

Watch your mother, grandmother, sisters and/or friends as they bake tortillas. Base your answers on your observations.

1. How many pounds of corn was ground for the meal?

2. How many ladies were baking?

3. List one similarity and one difference in how they made the tortillas.

4. Who makes the best tortillas? Why?

5. How many tortillas can you eat?

PREPARING THE CORN, STEP BY STEP

1. Shell the dry seed.
2. Put the corn in a pot with water, add a fistful of white lime and boil it until the outer covering of the corn kernel can be easily peeled off. This is an essential chemical process developed thousands of years ago. Cooking the corn with white lime makes sure that protein and other important nutrients and vitamins are available to be digested.
3. Leave to cool. If you use the ground corn while it is warm, the dough will be too sticky.
4. Wash the corn thoroughly until the peel comes off and you can see the white seed. Use a strainer with holes so it can drain.
5. Grind the corn. If you use a manual grinder, you have to do it twice so the dough will be soft. Remember to add some water so the texture is soft and little wet. The texture of the dough is important because it will allow it to bake it easier.
6. Knead the masa to form a cone-shaped mound in the middle of a large bowl. Make sure the firehearth is the right temperature. Each baker sits at a low table, with one woman in charge of putting the tortillas on the komal and turning them when they are ready. The others grab a fist-sized piece of masa and start to flatten the dough into a nice, round, even, not-too-thick circle. This part takes a lot of practice to get it just right!
7. Tortillas are stored in a calabash or basket to keep them warm with a cloth.

FARMING FOOD

Growing Plants to Eat



LEARN!

For thousands of years, Maya and other people around the world have learned to plant and grow their food, like corn, beans, pumpkin and other yams. Many parents still rely on this knowledge to plant and take care of the farm so every year we have something to eat.

Farming is defined as domesticating wild plants so that people can control and improve wild varieties in terms of size, taste, shape and even resistance to some infections. Some plants are easy to domesticate and others are rather difficult. It takes many years to domesticate a plant. For example, in the case of the corn, it took between 7,000 and 12,000 years. Now, we can enjoy white, yellow, red or black corn.

It is important to know the time to plant each crop to assure it will have everything it needs to grow, such as water, sun and a fertile soil. We still rely on the rainy season for our main crop of the year (**t'zot'zil kol / sakiwa**) to grow. In Toledo, corn is normally planted twice a year. The first time is from late April until late May. Before that, the farmers prepare the fields by chopping high bush and burning it to plant the corn we will eat by August, September and October. The second time is in November (**yax ki'nil kol / wamil**) when farmers do not need to chop big trees. Instead, they cut down smaller bush and leave it there to help the corn grow. By January or February, we can harvest the corn we call "**matahambre**".



Different crops are planted at different times of the year: beans in August, pumpkin in April and rice in May. Throughout the year, yams such as cassava, yampi, sweet potato and cocoyams are planted. There are some plants that do not need to be planted every year but are important to the diet and economy in Toledo, for example, cacao, coffee, bananas, plantains and other fruits.

Farming activities involve mainly men but women and children often help by shelling and breaking the corn, pulling beans and harvesting small plants such as pepper. Families often grow food around the house in dooryard gardens and orchards, and women and children often care for these crops.

ACTION! Farming Food: at your family's farm

1. Which farming activities do you help with?

2. Which other plants does your family grow that are not listed in the text?

3. What are the five most important crops in your family?

4. Take out your exercise book and draw an agricultural calendar with the plant and harvest times for the five most important crops in your family.

C A C A O



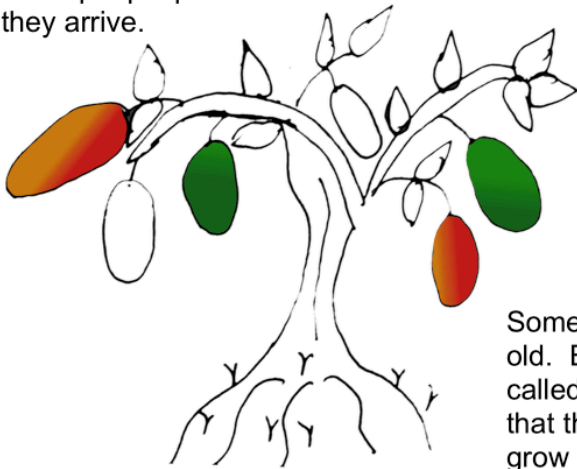
Important Then, Important Now



LEARN!

Cacao is one of the most important plants grown by Maya people in Belize. The cacao beans are the main ingredient in the chocolate drink called **kukuh / kakaw**. To make cacao drink, the colorful cacao pods are broken with a stick and the sticky white fruit inside is either washed or fermented, leaving behind the cacao seeds which are dried in the sun. These cacao "beans" are roasted on a komal, then ground up and mixed with water along with black pepper and spices like allspice or chile, and often sugar to make a delicious drink.

Drinking cacao brings people together. **Kukuh** is best when shared with friends, relatives and compadres. It is especially nice to drink cacao when celebrating big social events like engagements and weddings and when people plant corn or build a house. Cacao drink is often offered to visitors or important guests when they arrive.



Maya people have grown cacao for 2000 years. The Maya in the past planted cacao trees near their temples, on some of the same land where Maya people grow cacao today. In ancient times, cacao was given as tribute to the Maya kings and queens. They also drank cacao for their festivals and rituals. The descendants of those old cacao trees still grow wild in the forests of Belize today. Cacao trees are survivors and can live a very long time.

Some of the old cacao trees here in Toledo can be up to 100 years old. Even when hurricanes blow down cacao trees, new shoots called **chupons (paal)** can take the place of the broken trunks so that the tree can go on living. In the old days, the Maya used to grow small amounts of cacao for making cacao drink and

selling cacao beans to their neighbors. These days, people grow more cacao than ever so they can sell it to international chocolate makers. As of 2014, more than 700 Maya families grow cacao in villages across southern Belize. Most cacao farmers in Belize have small groves of trees, usually 2 acres or less, but all those small farms add up and all together Maya people have more than 400,000 cacao trees in southern Belize. For many Maya families, cacao now provides an important source of cash income, which helps to pay for children to go to school, food, clothes and other expenses.



ACTION!

Cacao: what do you know?

1. Does your family have any cacao trees?

Are they young or old trees?

2. Did you ever try to eat the white part around the cacao seed?

3. Does your family make kukuh/kakaw drink?

What ingredients do they use?

4. List other things you can make with cacao.

5. In your language, what are the names of the different parts of the cacao tree?

LIVING WITH LOCAL ANIMALS



Traditional Hunting Practices



LEARN!

Southern Belize is home to many different kinds of animals. Some, like the gibbon, peccary, armadillo and deer, are hunted to eat. Others, like the raccoon, coatimundis, opossum and turtle are not eaten as often today but may have been used for food in the past.

Many local animals found in the forest provide fresh, local meat for families living in this area. People may enjoy this meat and want to go hunting frequently to eat it often. It is important for the environment, and for us living as part of it, to understand how the hunting tradition started.

For hundreds of years, Maya people have grown corn to survive. Animals like the gibbon and peccary are known for coming into the farms and eating this corn. Hunting them was not just to satisfy a desire to eat meat but, also to protect the corn. If just those animals bothering the corn are killed then the animals deep in the forest have an opportunity to survive and reproduce, ensuring that they will stay plentiful for future generations.

Today, like in the past, these larger animals are often hunted using dogs to find and chase and a machete to make the kill. The increase in the use of guns, however, means that some animals are easier to hunt and may be over-hunted, meaning there are not enough left to reproduce.

Smaller animals, like some birds and the ground mole, are trapped using a traditional trap made of sticks and string. Many birds are also killed with a sling shot made from sticks and rubber and brought home to cook and eat. Hunting using traditional methods like these helps ensure that not too many animals are taken and there will still be animals in the forest for the future.



ACTION!

Living with Local Animals: becoming an animal tracker

Below are pictures of the groundmole, peccary, gibbon. For each animal, write the name of the name of the animal in Mopan or Q'eqchi' as well as in English, its physical description, where you can find it in your community (be specific!), and what you would use to hunt it.



Mopan
Q'eqchi'
NAME _____

English
NAME _____

Where
to Find _____

Color _____

Size _____

Shape _____

Hunting
Weapon _____



Mopan
Q'eqchi'
NAME _____

English
NAME _____

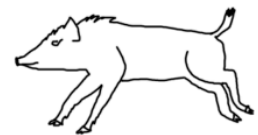
Where
to Find _____

Color _____

Size _____

Shape _____

Hunting
Weapon _____



Mopan
Q'eqchi'
NAME _____

English
NAME _____

Where
to Find _____

Color _____

Size _____

Shape _____

Hunting
Weapon _____

NATIONAL ANIMAL OF BELIZE



Learning About Baird's Tapir



LEARN!

Baird's tapir is known by many local names, in Q'eqchi' it is called **chixl**, in Mopan it is called **tzimin ch'e** and in Spanish it is known as **danto**. Some also know it as mountain cow. It is a very special animal and has been in the forests of Belize for a long time and, because of this, it is the national animal of Belize. The tapir is the largest native land animal living in all of Latin America, weighing up to 800 lbs and measuring up to two meters in length.

The tapir has very few predators because of its large size. The main predator of the tapir is humans who sometimes kill the tapir for damaging crops. In the past, Maya people would hunt the tapir for its meat. Maybe your parents and grandparents have eaten tapir before. Some farmers who kill tapirs for crop damage bring the tapirs back to the village to eat. Maybe you have had a chance to try it.

In the past, there were not as many people and not as many crops in the Toledo district and throughout Belize so tapirs did not interfere with humans very often. They were hunted only once in a while and so they had a chance to grow and have offspring. Hunters understood that they were special animals and could live more than 30 years in the forest. One of the most amazing things about the tapir is that they are pregnant for 400 days! Humans are pregnant for 270 days by comparison. The pregnancy period is called **gestation** and the tapir is one of the longest of any animal. This slow gestation rate makes the tapir very vulnerable to hunting or killing, since it takes so long for reproduction. Sadly, the Baird's tapir has become **endangered**.



The tapir is an **herbivore** (plant eater) and can eat huge amounts of leaves, twigs, seeds and fruit. Tapirs are mostly **nocturnal** which means they are active mainly at night. They also move around mostly on their own. This is known as **solitary**. However tapirs can sometimes be seen with their young or foraging (searching for food) along riversides in an area known as the **riparian zone**.

Just like us, tapirs love being in or around water, especially on hot days. The tracks of the tapir are very big and easily recognizable with their wide toe prints and you can often find them down the riversides. It is important that forests are kept connected so tapirs can continue to move from place to place.



ACTION!

National Animal of Belize: understanding the tapir

1. How long can a tapir live for?

2. Name two things a tapir likes to eat.

3. Ask your family what the **first thing** that comes into their mind when they think of the tapir.

4. Why is the tapir important to protect?

5. How long is a tapir's gestation time?

6. Which of these animal prints below belongs to the tapir? Can you also name the other two?



TAKING CARE OF THE INVALUABLE

Our Tropical Forest



LEARN!

Think about all the things you get and use from the bush around your village:

the plants and the animals you eat, the rivers you bathe and wash in, the trees to build your house, even the soil where your family has a farm.



People have been learning how to use their environment for long time, but now some people around the world have lost much of their knowledge about the bush or forest. They have to use money to buy everything, because they do not have a place to farm or rivers to go to and wash in. Your grandparents did not need money to buy the white lime (**kuta'an**), or sugar (**chu'uk** / **kab**). They knew how to make sugar from the jute and the sugar from the sugar cane. Older people in your village probably still know how to make glue from fruits of plants, get pipes from trees, make beds from bark and craft pots from mud. All these skills are part of your heritage, and the old people in the villages are the ones who can teach us about them. Knowing and practicing these skills is **invaluable heritage**, or very important heritage. Using the forest wisely is important for the future.

For example, many people love to eat jippy jappy (**kula** / **kala**) in many different ways, as well as making crafts with the leaves and shoots. If we cut all of the jippy jappa plants around our village, it will be more difficult to find them and it will be necessary to go further. Maybe, in the future there will be no more jippy jappa! It is better to learn how to take care of our environment by learning our heritage practices from our elders.



ACTION!

Taking Care of the Invaluable: what you can do

1. List all the things you can make or cook with jippy jappa.

2. How do you think you can help preserve this plant?

3. Write down 4 other things your father or mother have taught you to make using resources from the forest.

4. Is there a rule or agreement in your community that preserves the forest and the rivers around your village? Ask your parents or the leaders of your village. What did they say?

5. Ask an older person in your family or in your community how to do one of the traditional skills listed below. Take out your exercise book and write the steps to do it and make a drawing of the tools you need to make it.

Choose from: white lime (**K'UXUB** / **XIYOW**), sugar (**CHU'UK** / **KAB**), pottery (**HAY** and **K'ULTUN** / **KA**), handmade bags (**K'UXTAL**) or hammocks (**U'KA'AN** / **AAB'**).

HERITAGE ON THE LAND

What's In A Name?



People everywhere around the world give names to those places in their environment that are the most important or special to them in some way. These are called **toponyms**, or “place names.”



The Maya in the past had names for places that were important to them, like mountains, rivers, and caves. Maya people today have many names for special places around their community in the same way.

Sometimes places get a special name because they are easy to see from far away, or stand out in some way, like the tallest mountains, or the tallest tree in the forest. Other places have names because something important happened there in the past and people do not want to forget, so they give that place a name. Or, it could be that something unusual happened at that spot.

Another reason places have names is so we can keep track of how to get from one place to another, or who is able to use a piece of land. Certain places on the land may have a spiritual importance for some people. Often there are stories told about places on the land that have a name. Toledo district has many unusual place names. What are some names for the special places in your community?



Heritage on the Land: finding places in your community

Are there places in your community that have special names? Talk with older people in your family to find out about the names for important places around where you live. If you have a map of your community, you could add the places you find out about to the map and create a key.

1. List 3 places in your community that have a name.

2. For each of these places, explain why it is important.

3. What stories are told about these places?

_____	_____	_____
_____	_____	_____
_____	_____	_____

4. How can you learn the names of places in your community?

A MAYA HOUSE

Then and Now



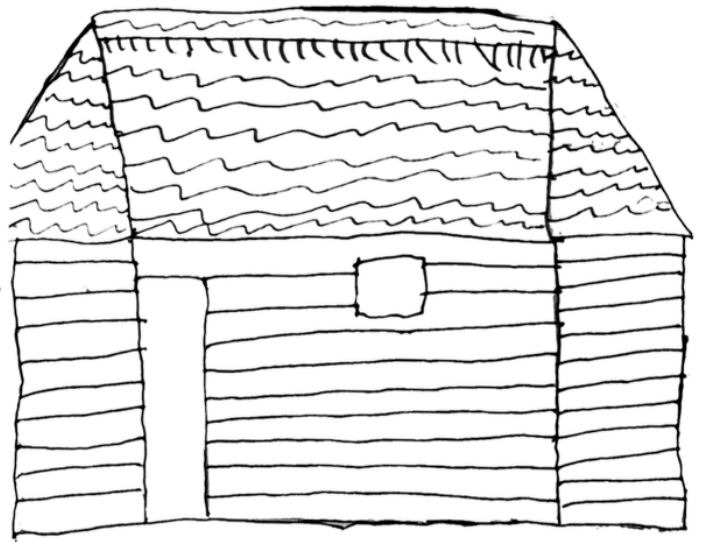
LEARN!

Maya people today live in many different kinds of houses. The traditional Maya house is made from sticks (**ch'e / che'**) and vines from the forest (**q'aham**), which are chosen very carefully for their strength. The roof is made from cohune palm leaves which are woven together very skillfully so no water can get through. Many people still choose to build this type of traditional house. One reason people give for keeping this tradition is that thatch houses stay very cool in the hot Belizean sun.

Maya people have built their houses this way for hundreds of years. Archaeologists tell us the Maya in the past first laid down a **platform** to build their houses on. The household platform usually consists of packed dirt or several courses, or layers, or rocks stacked up in a rectangle and filled in with smaller rocks and dirt. On top of the platforms, the Maya of Southern Belize used **perishable materials** such as sticks (poles and beams) and thatch to build the walls and roofs of their homes. In other areas where the Maya lived, walls were sometimes built of stones.

The Maya in the past lived in small clusters or groups of two or more buildings, much like people today. Some houses were for sleeping, others may have been kitchens, places to store corn, or maybe even religious buildings. These **household groups** varied in size based on the number of families living in the same place and based on how many people were in each family.

Maya ancestors cooked and ate within their household groups, they made pottery and tools, and they held small religious ceremonies. Can you think of any similarities between your home and the homes of the ancient Maya?



ACTION! A Maya House: investigating where we live

We spend many hours at home and it is very important to help us survive in our environment. Answer the questions to help you learn more about your home and why your parents have chosen to build it in the way that they have.

1. What did the ancient Maya build their homes on?

2. What is your house built on?

3. What are the different buildings around your house used for?

4. What materials did the ancient Maya construct their homes from?

5. What is your house made of?

6. List 3 steps needed to build your house.

7. How do you think the ancient Maya built their homes?

8. Take out your exercise book and write a paragraph about living in a thatch house. Write a second paragraph about living in a block house. List at least one benefit and one downside for each.

HOUSEHOLD ARCHAEOLOGY

How We Know About Life in the Past



LEARN!

Think about all of the things you've used throughout the day. You drink from a cup, eat food from a dish, you put your books in your book bag. Now think about the things your parents have used today. Your mother might cook on the komal and your father might use his machete to chop in the farm or drive a motorcycle to work. Your brother or sister might use a computer or a cell phone. If you were to get up and leave your house right now and never return, think of all the things that an archaeologist would find hundreds of years from now!



Household archaeology is what it is called when archaeologists study the houses families lived in the past. We can't talk to the people that lived there, because they are gone, but we can look at the things they left behind. Archaeologists look at the **material goods** (such as plates, bowls, tools and clothes) and buildings left behind by the Maya of the past.

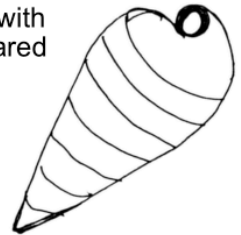
CORN is a very important crop for Maya people today. In the past, corn was farmed using the swidden method, just like in many places today. The Maya used to grind the corn using large stones called **mano and matate**. The corn was then cooked into food, such as tortillas (**wah / wa**) and tamales, using a **three-stone-hearth**, much like the fire hearths people use today. Archaeologists find mano and matate and can locate the places where the fire hearths were by carefully digging in areas where houses used to be.

JUTE shells were commonly found in houses of the past, as well as bones of wild animals such as deer and peccary. This suggests that the Maya from the past ate a variety of different kinds of foods.

However, many other food remains do not preserve for hundreds or thousands of years with all the rain in this part of Belize. So there are many other types of foods grown and prepared by Maya from the past that we can no longer see. Archaeologists can gather soils from **household contexts** (places where houses used to be) to look for very small pieces of

ACTION!

plant remains to find out what other kinds of foods were being eaten. These are some of the ways we know about the past.



Household Archaeology: what do you use around the house?

Archaeologists know about the daily lives of Maya ancestors by comparing practices of the modern Maya communities with written documents from the past and through archaeological excavations of ancient Maya households.

Investigate your household to discover what an archaeologist might learn about your community in the future.

1. What did the Maya in the past use to grind corn?

2. Ask your parents or grandparents when the corn mill was installed in your village. What was used before the corn mill?

3. Have you tried to use a **mano** and **metate**? Do you know anyone who would let you try?

4. Look around your home and write down 5 things that an archaeologist would find interesting (food remains, radio, toy, a piece of jewelry, etc.). For each object, write one thing they would learn about you from these objects. **Be Specific!!**

THEN AND NOW

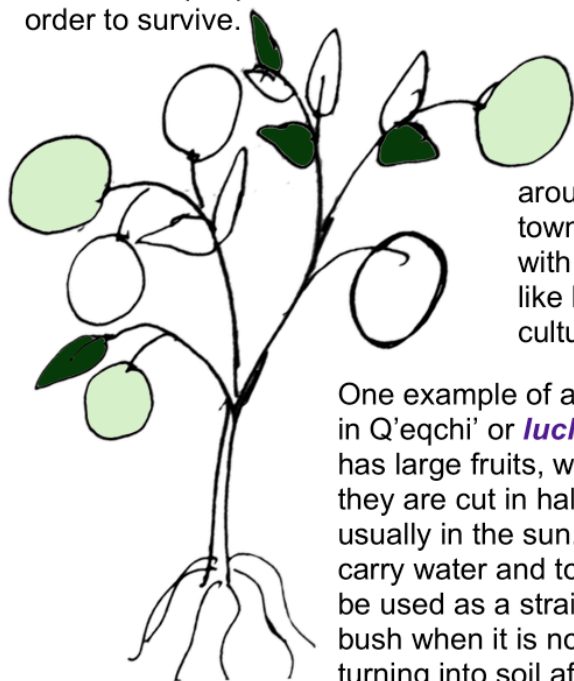


Useful Objects Change Over Time



LEARN!

People use many things that they find in their environment to help them in their daily lives. Today, many families use things from the bush, like vines and trees, to make what they need to make their work and their lives easier. In the past, before products made in other parts of the world were brought to Belize to sell in the shop or at the market, people needed to know how to make use of the resources near to their homes in order to survive.



While some products that come by boat or airplane to Belize can be very useful, forest resources that people have used for hundreds, and sometimes thousands, of years, also are very useful. They are available right

around the house or at the farm, so there is no need to travel to town to get them. Also, they do not cost money like products with similar uses in town. Making and using the things you need, like bowls and baskets with local resources also helps to keep cultural traditions and skills alive in a community for the future.

One example of a very useful tree with a long history is the calabash, (**hoom** in Q'eqchi' or **luch** in Mopan). This tree grows in many places in Belize and has large fruits, which are hard on the outside. People do not eat the fruits, but they are cut in half and the insides are hollowed out and the outside is dried, usually in the sun. Once the outside becomes dry and hard, it can be used to carry water and to drink or eat from. Also, holes can be made in it and it can be used as a strainer to wash corn. A calabash container can be left in the bush when it is no longer needed and it will degrade easily into the earth, turning into soil after a time. Things bought from the shop, like plastic bowls and containers can take hundreds of years to return to the earth and can cause environmental problems.



ACTION!

Then and Now: what is the same and what is different?

Research some of the changes in the things people use in your community. Pay careful attention next time you and your families are preparing food and drinks at home and when you are visiting friends and family. Answer the following questions about what you know and what you observe.

1. What is the name of the calabash in Mopan or Q'eqchi'?

4. List 3 other products your family uses from the bush.

7. How has what your family uses changed from the past?

2. Does your family use the calabash? YES ☐ NO ☐

If YES, what for?

If NO, why not?

3. Does your family use plastic? YES ☐ NO ☐

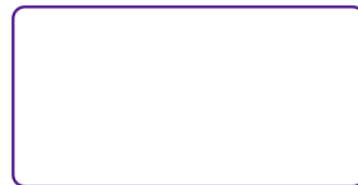
If YES, what for?

If NO, why not?

5. List 3 other products your family uses from the shop.

5. In the box below, draw a picture of a calabash container.

4. How long has your family bought plastic containers?



MAKING TOOLS

Using Our Environments to Create for Life



LEARN!

We use many tools every day to help make our lives easier. Today, people sometimes buy tools in the shop but we can also make many of our tools using things found in our environment. Sticks and vines used for

buildings and calabash used for bowls and cups are examples of tools made from what is available here in our environment.



Clay found by the river and in other areas around Belize is used today to make small dishes for achiote (**kuxub / xiyow**). The Maya in the past used clay to create ceramic plates, bowls and water jugs. The Maya also used clay to create **incensarios** (incense burners) in which they would burn **copal** or other incense. Small **candelarias** were used to burn fuels and make light and **ocarnias** (whistles) were created as musical instruments.

The Maya in the past had many tools. They did not have the knowledge of metalworking so they had no machetes, but instead relied on stones from all around to create tools. These tools were used everyday to chop bush, hunt, butcher meat and make other goods. **Obsidian** is a very sharp stone that breaks off in flat blades and was attached to sticks and used to cut. Large chert rocks were used to hammer. Some rocks, called "**doughnut stones**" have holes in them and may have been used to make a stick heavier and make a deeper hole to put the corn in while planting.

Learning to use and make tools is an important part of learning to live with your environment. Both Maya people today and Maya in the past were able to live well in the forest environment by learning to use a variety of different tools. What tools are the most important to you and your family?



ACTION! Making Tools: same and different

1. What tools does your father use? What tools does your mother use?

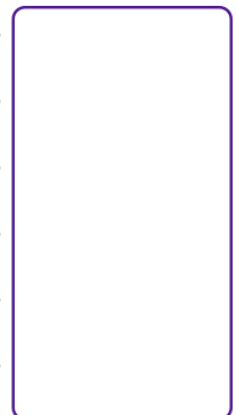
2. What tools did the Maya in the past use to do these jobs?

3. List 2 ways the that the tools are the same.

4. List 2 ways the that the tools are different.

5. Name one tool you can make out of things from your environment.

6. Describe how to make this tool as if you were teaching someone who is not from this part of Belize. Start by explaining where to find the materials, then write what must be done to create the tool. Finally, illustrate your lesson by drawing the tool.



MAYA MATH

Exploring an Ancient Number System



The Maya in the past did not use numbers like we use today. They used a system of dots and bars like the numbers to the right. One dot is equal to the number one. The number five is equal to a long bar. Any number more than five uses a bar with dots on top.

The Maya were the first people in the world to use the number zero.

0	1	2	3	4
5	6	7	8	9
10	11	12	13	14
15	16	17	18	19



Maya Math: be a Mayan mathmematician

Write the following answers in Maya numbers.

1. How old are you?

2. How many brothers do you have?

3. How many sisters do you have?

4. How many different kinds of plants grow around your house?

5. How many different kinds of plants grow on your family's farm?

6. How many different kinds of plants grow in the bush?

7. What is $8 - 1$ in Maya numbers?

8. What is $12 + 6$ in Maya numbers?

9. How would you write the number 36 in Maya numbers?

OUR LANGUAGES



Different Languages, Same Ideas



LEARN!

Belize is a relatively small country with many different cultures and a variety of languages. The government recognizes 10 different languages spoken here, including Garifuna and Creole. Among the Maya people, you will find that Mopan, Q'eqchi' and Yucatec are spoken.

These are not the only languages that Maya people speak. In México, Guatemala and Honduras, there are over 30 different Maya languages, including **Lacandon, Tzotzil, Tzeltal, Huatesco, Itza', Chontal, Ch'ol, Tojolab'al, Chuj, Q'anjob'al, Awakatek, Akatek, and K'iche**. How would you talk with other Maya people that do not speak **Mopan** or **Q'eqchi'**?

Languages represent the things from our environment, the way we understand the world, and our beliefs. Languages are much more than the words we use, they are how we communicate our culture. Some languages are more similar than others- for example it might be easier for you to learn Maya languages because the sounds are alike, than Arabic or Chinese because the sounds are very different.



The language that your mother, father and your family speak is called your “**mother language**” because you learn it at home from your own family. Ever since you were a baby, they have taught you how to pronounce and use the words. Now you are good at speaking it because you use it every day with people of your community. You may learn English in a different way, at school, and your teacher is the one who teaches the words and rules to speak it and write it. Some words are easy to translate-or express the meaning in another language- for example, **peek' / tzi'** = dog. Other words represent more complicated ideas and people cannot translate them exactly in another language. For example, **che'** = tree, stick, plant; or **kich'pan** = pretty, healthy, clean; or **mayehak** = offering, praying.

It is helpful to learn new languages so you can share your own thoughts with people from other areas or countries, but it is important to keep using your “mother language” because it is part of your own history, culture and represents where you come from.



Our Languages: let's play!!

We will make a memory card game to practice learning English and Maya translation. The words on the cards will represent the same idea but they will be written in different languages: Mopan/Q'eqchi' and English.

To make the game, draw twenty small squares on a piece of paper. Write one word in each square. You can also draw a picture alongside the word. Cut the squares, turn them over (so you won't see the drawing and words) and mix them up. Match the cards with the words that mean the same thing but are in different languages. You can try to play with another child. Whoever matches more pairs of cards wins the game!

Try it with any combination of the languages listed above!

ha'

water

ixi'im / ixim

corn

nuk'che' / q'iche'

rainforest

megah / k'anel

work

muk'a'an / kaw

strong

chu' / ixq'a'al

girl

ch'ahom / al

boy

xämäch / k'il

comal

hu'um / hu

book

k'an / k'anti

snake

EXPLORING SPIRITUALITY



A Mayan Prayer



LEARN!

Many people today have spiritual beliefs. They might pray or go to church or participate in special ceremonies to celebrate or communicate with God. Saying prayers together is an important tradition in many cultures. Learning about prayers can help us understand the spiritual beliefs of our family and community.

Maya in the past created a special prayer, which shows us the importance of spirituality in their lives. It was said at times when they wanted to show gratitude for what the earth had provided. Read the **Mayan Prayer** below. Pay close attention to the parts that you might recognize and those that are new to you.

The sticks did not worship, neither did the rocks, they did not remember the words of the Creator, the Former, of the Heart of Sky and of the Heart of Earth.

This is the way they spoke and waited patiently for the arrival of the aurora and exalted their request those adorers of the Word of God, obedient and timid lovers, lifting their faces to the sky when they asked for sons and daughters.

Oh Tz'aqol, B'itol look at us, listen to us, do not leave us, do not foresake us. Oh God who art in heaven and on earth. Heart of Sky, Heart of the Earth, give us our offspring, our succession, while the son moves across the sky, that there be clarity and that it dawns, let the aurora comes and give us good plain roads, that the towns have peace, a lot of peace, and that they are happy, and give us good life and useful existence. Oh Hunraqaan, Chipi kaqul ha', Raxa Kaqul Ha', Chipi Nanawak, Raxa Nanawak, Voc HunAjPu, Tepew, KukuMatz', Alom, Qajolom, Ixpiyakok, Ixmukane, Grandmother of Sun, Grandmother of Light, let it dawn and let the aurora comes.

ACTION!

Exploring Spirituality:
what is important to you?

1. Write two things that God is being asked for in the Mayan Prayer.

2. Write a prayer that you have learned at home, at school, or at church.

3. Write one thing that was important to the Maya that is also important to your family now?

VALUES FOR LIFE



Understanding Important Ways to Live



LEARN!

Throughout our history, human cultures have developed systems of values. These values are important to learn so that we can live by the rules of our community and respect the other people around us. They help teach us how to be good people in our community. Different cultures have different values but many moral values are similar across different communities. For example, many communities include showing kindness toward others as part of their value system.

Maya communities have a value system that has been handed down from the ancestors but it is still very important today. Below is a sample of some of these Maya Values. As you learn about them, think about how you might have noticed people following values like these in your community.

- ★ The Value of Our Star, Our Mission
- ★ The Value of Gratitude and Appreciation
- ★ The Value of Protecting Everything Because Everything Has Life
- ★ The Value of Helping Each Other, Cooperating with Others and the Community
- ★ The Value of I Accept Advice, Accepting Advice
- ★ The Value of Work in Our Lives
- ★ The Value of Reaching Fulfillment, Performing Tasks and Meeting Commitments
- ★ The Value of Purpose of Peace, Peaceful State and Sense of Responsibility
- ★ The Value of Beauty and Cleanliness in Our Lives

Our fundamental value is related to each person's development and understanding of how their purpose in life is within communal life. Each person's star must be respected.

We strengthen our humility and dignity through showing our gratitude for each new day and for friends and family.

The community is strengthened by people that are motivated to achieve success in the completion of tasks, meetings or ceremonies.

We show responsibility for individual spiritual peace and peaceful social coexistence.



ACTION! Values for Life: finding what is important to you

1. Write two Maya Values from the list here and explain why they are important.

2. Which Maya Value is most important in your family?

3. Describe how your family shows that this is an important value to them.

4. Which two values are most useful to consider when you are at school?

5. Take out your exercise book and write a story and/or draw a picture showing how you follow one of these values in your life. Make sure you make the value clear when you describe what you do.

TELLING STORIES

The Lazy Man and the Vulture



There was this lazy man who didn't want to work and he was always jealous of the vultures. Early in the morning he would go to his plantation and tell his wife he was going to work. He would leave there later in the day- no work! He would always wish that he was one of those vultures.

One day a vulture got tired of flying and he came down and asked the man, "Why are you sad? I look at you and you have it easy. Do you want to make an exchange?" The man looked up at the vulture and said, "I think you have it easy, flying up there. OK, we can exchange. You come down here and I'll go up there." And they exchanged. The man, who had been a vulture, went back to the wife and when he was hired to work, he worked hard now. The other one, the man who was now a vulture, he was looking for food. There was no food and he starved, starved.

But, the man had it easy now. The man had a big plantation and he invited his wife to come and see it. But then the wife, to her surprise, began to smell the man's scent.

"Why do you smell so?" she asked her husband. He made no answer and eventually she got used to the smell. Then one day the vulture flew down to the man and asked him, "Let's change back. I don't find any food." The man was hard-working and happy now and he didn't want to turn back again into a vulture so he refused to change. The vulture kept coming back again and again, asking to change.

The man was afraid he might try to kill him so he told the vulture, "I will give you some food. When you see small smoke there will be a small fire and a small amount of meat. When there is big smoke, there will be a large amount of meat." So, one day the vulture was so hungry that when he saw big smoke he flew right into the fire and he was destroyed. After that, the man and the woman lived happily ever after.

*As told by Louis Cucul 1992, Aguacate
Published in "Stories from the Air"*



LEARN!

Many people throughout the world tell stories. Stories are a great way to teach children

about the values that are important to their communities, like how to be a good member of the society. The Maya in the past told many stories and Maya people still tell stories today. One example of a story that has been told in Toledo District is called "**The Lazy Man and the Vulture**".



ACTION! Telling Stories: discovering important values

Read the story "The Lazy Man and the Vulture" and answer the following questions about it.

1. Why did the man want to change places with the vulture?

2. After they changed places, how did the man (who used to be a vulture) feel? Why did he feel that way?

3. What do you think the vulture (who used to be a man) did wrong?

4. Why is it important in your community to do the things that the man (who was a vulture) did?

5. What are 2 important values that the story teaches?

6. If you were the man, would you have changed places with the vulture? Why or Why not?

WORKING TOGETHER

Valuable Values



LEARN!

Working together is an important Maya value. Without help from family, friends and neighbors in the community, it would be very difficult to plant corn, prepare a large meal or build a house. It is a long tradition for people in Maya communities in Toledo to exchange their time and labor with each other and help get important tasks done in a timely fashion.

The practice of helping each other with work and then returning back the favor is known as **reciprocal labor exchange** (*usk'inak'in*). This tradition is still practiced in many Maya communities today and allows a lot of work to get done without the need for large amounts of money.

Another way in which communities can interact and get work accomplished without the need for large amounts of money is by holding a **fahina**. Each month, traditional communities hold a meeting to discuss community affairs and community members work together to clean and take care of their village. Fahinas are also called when disagreements or problems arise in a community. During the meeting, solutions to the problem are reached through discussion by the community leaders.



ACTION! Working Together: solutions

Working together is a value that is important in many aspects of our lives. Think about the work you do everyday, both in school and at home. Make a list of all the work you do and draw a line to the person who helps you when you do it.

MOTHER

FATHER

SISTER

BROTHER

GRANDPARENT

GODPARENT

FRIEND

NEIGHBOR

Lesson Ideas

For Teachers to Use with Students



This supplement is intended to provide some suggestions and examples of how these lessons might be used with your students. For each lesson, we describe some additional activities you might try along with the information presented in the Learn! and Action! sections, and additional materials that would be useful as you incorporate them into your curriculum. Lessons are intended for use with Lower, Middle, and Upper Division students of primary school age, but they can be extended and adapted for students of all types.

A few notes about what guides these lessons:

Following the Belize national curriculum standards for Language Arts, we agree that "lessons are more meaningful to students if they listen to, read, speak about and write about topics that are of interest to them," and for which "sufficient resources are available." The themes of the lessons were developed with this in mind.

We have suggested where lessons match up with thematic units for subjects like Social Studies, Language Arts, Science, HFLE, and Expressive Arts at different levels.

Lessons were developed to be used inside and outside of classroom settings. In fact, most of the lessons include information content (the Learn! sections at the top of each lesson) and a way for students and teachers to bring that content alive for students outside the classroom as they engage in active learning (the Action! sections at the bottom or to the side of each lesson), and then bring their experiences back to classroom to share with others.

Although many of the details in these lessons focus on Maya heritage, there are many ethnic groups in Belize who have oral histories, local plant uses, traditional healing practices, farming techniques, or material culture similar to what is presented here. Using the format of the lesson as a base, teachers can adapt the activities to the students you teach, regardless of ethnic group.

Each of these lessons was developed with input from many educators and we continue to welcome your feedback and suggestions. You can share your ideas, photos of students using the lessons, or additions to these lessons online at www.teacha.org. Check there for the most recent updates and to see what other teachers are doing with their students!

Lesson 1. Understanding Heritage

The short interview script in this lesson is designed to get students started thinking about how to approach elders and why the information elders possess is valuable. Students will need to complete this lesson at home. This lesson is easily adapted to all ethnicities and students can be invited to compare and contrast in class. For example, do all of their grandmothers use lemongrass for a fever?

Lower division

Listen to a story. It may be more challenging for younger students to conduct an interview. They may prefer to ask elders to tell them a story about their heritage. In class, students can retell or illustrate the story they were told.

Middle/Upper division

Conduct an oral history project. Students work to design a more detailed and extensive list of questions to document a particular aspect of heritage knowledge. They interview their elders on several occasions, audiotaping or videotaping the interviews if possible. The students then compile a heritage document with

the results and share this document in the community. Elders need not be named if they choose not to be.

Belize National Curriculum Standards (BNCS)

Themes: Social studies-Government and Citizenship (My family, my home); Society and Culture (Stories, traditions; Belizean culture, Maya culture; Society and Culture Early Civilization (Maya civilization in Belize). Science-People, Plants, and Animals. Language Arts-Listening, Speaking, Writing.

Lesson 2. Different Ways of Knowing

The activity is designed for students to discover similarities and differences in what people know, using plant knowledge as an example. They will need to complete this lesson at home using a plant that you assign or that they choose. This lesson is about the nature of knowledge and can be adapted to focus on various knowledge areas.

Lower division

Compare and contrast class knowledge.

Make a chart on large paper to show what different students know about a plant. Ask the students to identify what elements of knowledge are the same and which are different.

Middle/Upper division

Research an animal. Repeat the lesson using an animal about which the students must compare family knowledge.

Discuss the "whys". Generate a class discussion surrounding why the knowledge discovered might be different. What life experience might lead to different ideas?

(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture); Early Civilization (Maya civilization in Belize); Government and Citizenship (My family, my home); Society and Culture (Stories, traditions). Science-Living Things; People, Plants, and Animals. Language Arts- Listening, Speaking, Writing

Lesson 3. Learning about the World Around Us

This lesson is designed to encourage students to use the discovery method of scientific inquiry. It can be completed either inside or outside the classroom. There are no correct or incorrect answers but students should make careful observations.

Lower division

Make a senses chart. Students write and/or draw the five body parts associated with the senses. Next to each they show what can be learned about a plant using that body part/sense.

Middle/Upper division

Test hypotheses. Students predict how their plants will feel, smell, etc. and write if their observations matched their predictions. A discussion of different physical characteristics of plants will assist in the predictions.

(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture); Science- Living Things; People, Plants, and Animals; Healthy Environments; The Human Body (Parts of the Body and Senses); Expressive Arts (Drawing).

Lesson 4. Uncovering Plant Heritage

The goal of this lesson is to ask students to research a specific local plant, understanding how it is used, and traditions associated with the plant. Afterwards, they also can appreciate the value of the knowledge they share.

Lower division

Draw the plant. Students can be asked to draw the leaves of their assigned plant and/or someone using the plant in a scene. Encourage

students to focus on the shape and other distinctive features of the leaves.

Middle/Upper division

Make a botanical specimen book. Each student can press the leaf of their local plant until it becomes flat and dry. These leaves can be carefully mounted on thick paper with glue or tape and marked with the local names several languages and the scientific name. The location where the specimen was found and the date should be added. These mounted pages can be compiled in a book and kept for reference for the school and the community.

(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture); Science- Living Things; People, Plants, and Animals; Plant Growth and Development; Plant Diversity; Healthy Environments; Expressive Arts-Drawing, Painting.

Lesson 5. Plants are Useful

This lesson can be used as part of a broader discussion of what different plants are used for and how we rely on them for many things.

Lower division

Play "guess that plant." The game below can be adapted for younger students with you reading the clues at the front of the class and having the children guess the plant and discuss the reasons for their guesses.

Middle/Upper division

Play "guess that plant." Plant uses can be useful clues to guessing what a plant is. On small cards or papers, write five sentences that describe a particular plant. Repeat this for as many plants as you would like- 4 is a good number for a class. Mix the "clues" and give each student a card or cards. Explain that students must work together to determine the name of each plant based on the clues using trial and error. At the end of the game, students should read the clues they have worked together to gather and declare the name of each plant that each set of clues describes.

Sample clues:

For the plant, "allspice":

"My leaves smell nice and sweet"
"My berries are small and black"
"My leaves are used in special ceremonies like weddings"
"I am sometimes cooked in caldo with fish or armadillo"
"Both my leaves and berries have a sweet and spicy taste"

For the plant, "lemongrass":

"You can make a tea from my leaves"
"Some people use me for a fever"
"When you crush my leaves, it smells like a sour fruit"
"I have very thin and long leaves"
"I grow from the ground like a grass"

For the plant, "chi k'aay":

"You harvest my flowers in July"
"My flowers are good to eat"
"You can eat my flowers in caldo or fried"
"My flowerbuds are yellow/orange in color"
"My plant disappears but grows again the next year"

For the plant, "suhab":

"You can use my leaves to clean pots"
"I have large leaves that feel rough"
"I have small little "hairs" on my leaves"
"Use me instead of a scrubber from the shop"
"My leaves are strong and do not break very easily"

Lesson Ideas

For Teachers to Use with Students



For the plant, "waha leaf":

"You use me to wrap tamales"

"You use me to wrap leftovers"

"I have a long, flat leaf that looks like a banana leaf"

"You use me to cook fish"

"You need many of my leaves if you are making something special for a birthday or Christmas."

(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture); Science- Living Things; People, Plants, and Animals; Healthy Environments; Plant Growth and Development. HFLE-Eating and Fitness. Language Arts-Listening, Viewing, Speaking, Reading.

Lesson 6. Being Well in our Environment

This lesson focuses on the role plants have in keeping us healthy, both as food and as medicine. It also provides an opportunity to discuss what makes a healthy person in general.

Lower division

Create a healthy scene. Students draw a scene of themselves being healthy: eating healthfully, doing healthy activities, etc.

Middle/Upper division

Keep a health log. Students write down foods they eat and activities they do for one week. After that week they analyze how healthy they have been. What foods did they eat most of? What was most of their time spent doing? Ask for volunteers to share their week and their analysis to discuss as a class.

(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture); Science- Living Things; People, Plants, and Animals; Healthy Environments; Plant Growth and Development. HFLE-Eating and Fitness. Language Arts-Listening, Viewing, Speaking, Writing. Expressive Arts-Drawing.

Lesson 7. Medicinal Plants

This lesson discusses scientific study of medicinal plants. It is important that students understand the importance of respecting traditional healing knowledge and always asking permissions from healers to research their knowledge. You could also point out that often grandparents or elders know a lot about traditional medicines and cures, not just healers.

Lower division

Make a plant medicine list. Compile a list, with illustrations, of plant medicines used in your community. Include information from each student and make a chart to hang on the classroom wall.

Upper division

Design an experiment. Students are asked to design a scientific experiment to test the medicinal properties in the plant that they learned about in Part Two of the activity.

(BNCS) Themes: Science- Hypothesis Testing; Living Things; People, Plants, and Animals; Healthy Environments; Plant Growth and Development. HFLE-Eating and Fitness. Language Arts-Listening, Viewing, Speaking, Writing.

Lesson 8. Healing Practices

The aim of this lesson is to discuss how there are many paths to getting well when a person is sick. Many people in Belize practice "medical pluralism," meaning they use a variety of types of health care including clinics, hospitals, traditional medicines, healers or "bush doctors." Discussion might include when people experience the illnesses listed and what kind of care options they seek when they do.

Lower division

Describe a recent illness. Students could

discuss the last time they were ill and what they did about it; whether they used bush medicine or not. If they did, what did they learn about the treatment?

Middle/Upper division

Interview a family member or friend about a recent illness. Students can interview someone they know well about a recent illness. How did it start? What were the symptoms? How did they diagnose the problem? Did they use bush medicine or not? If they did, what did they learn about the treatment? This lesson could be used to understand how to problem solve or how to test hypotheses.

(BNCS) Themes: Science- Hypothesis Testing; Living Things; People, Plants, and Animals; Healthy Environments; Plant Growth and Development. HFLE-Eating and Fitness. Language Arts-Listening, Viewing, Speaking, Writing.

Lesson 9. Food as Medicine

With this lesson that focuses on how foods and medicines are often one and the same, you can prepare a meal that includes foods that are also used as medicine. A good example of this might be: caldo with lemongrass tea or chamomile tea.

Lower division

Record a recipe. Have students ask a family member about any plants they know that are used for both food and medicine. They can make a list and also record a recipe to share with the class.

Middle/Upper division

Describe how food/medicines work in the body. Students can carry out research on the plants that are food/medicine and explore how they work in our bodies. What are the chemicals in the plants that act as "medicine"? What are the benefits of ingredients like: chile, lime, herbs, cacao, etc. for human health? They can do research in reference books or online to find out more about a specific plant and write a report on what they discover.

(BNCS) Themes: Science- Hypothesis Testing; Living Things; People, Plants, and Animals; Healthy Environments; Plant Growth and Development. HFLE-Eating and Fitness. Language Arts-Listening, Viewing, Speaking, Writing.

Lesson 10. Maya Food

This lesson focuses on how traditional food has changed over time. How did Maya sweeten their food before you could buy processed sugar at the shop? (Consider other natural sweeteners that were produced locally, like honey.) How has the diet changed over time? Which foods were consumed before but people do not often eat them now?

Lower Division/Middle/Upper Division

Roast fish with waha leaf. The fish wrapped in waha leaf (lancha) recipe was chosen because it is easy to explain, and it is a very healthy food that most people like. All of the ingredients are pretty easy to find. Ingredients: waha leaf (leche/mox), ubel (cowfoot), fish (sea or freshwater, clean without scales and guts), salt, pepper and chile.

Step 1: place the waha leaf and add some ubel leaves.

Step 2: put the fish on top of the leaves; add salt, black pepper and chile to taste

Step 4: cover the fish with more ubel and then wrap it tightly into a packet.

Step 5: place the packet on an aluminum sheet that can be set into a fire (oven could be used but would change flavor). Cook it for 30 to 40 min (doneness can be measured by the change of color of the waha leaf).

(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture); Science- Living Things; People, Plants, and Animals; Healthy Environments; Plant Growth and Development. HFLE-Eating and Fitness. Language Arts-Listening, Viewing, Speaking, Writing.

Lesson 11. Cooking Up Tradition

This lesson includes some math skills along with the process of documenting a traditional meal that is prepared for a special event like a wedding, graduation, or other occasion.

Lower Division/Middle/Upper Division

Make a cookbook. Have students collect traditional recipes from their parents or grandparents and compile them, with student illustrations, into a class cookbook. Older students can make their cookbook more elaborate and may be able to reproduce for sale for a fund-raising project.

(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture); Science- Living Things; People, Plants, and Animals; Healthy Environments; Plant Growth and Development. HFLE-Eating and Fitness. Language Arts-Listening, Viewing, Speaking, Writing. Math skills.

Lesson 12. Making Corn Tortillas

How many tortillas can you eat? The information here includes basic math skills and allows students to learn about the detailed process of making corn masa and baking tortillas from raw harvested corn.

Lower division

Have a tortilla taste test. Ask a small number of families to participate in a "bake off" where they prepare their best tortillas. Elect student judges who will decide who the winner of the tasty tortilla contest is!

Middle/Upper division

Investigate the chemical process. Invite students to research the chemical process involving the release of protein and nutrients from the corn during the boiling with white lime. How does the white lime (calcium carbonate) facilitate this release? How did people in the past get this chemical (from jute shells)? What other chemical reactions can be compared to this one?

(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture); Science- Living Things; People, Plants, and Animals; Healthy Environments; Plant Growth and Development; The Human Body (Eating for Health). HFLE-Eating and Fitness. Language Arts-Listening, Viewing, Speaking, Writing. Math skills.

Lesson 13. Farming Food

Understanding the seasonal production of food through farming is the main aim of this lesson. Students can learn about the logic behind growing food in their community that takes advantage of seasons, rainfall, and which crops grow best in which conditions.

Lower division

Create a flip book. Have students take 5 pieces of small square paper. On each paper, have them draw a picture of the life cycle of one crop from seed to harvest, as the plant grows and develops. Once they are done, staple them together on one side. Students can flip through the books and watch the plant grow!

Middle/Upper division

Create an agricultural calendar wheel. Managing several crops at once is part of being a successful farmer. Have students work in teams of two or three to create a

Lesson Ideas

For Teachers to Use with Students



calendar wheel with 12 pieces of the "pie." What is planted, growing, and harvested for each month of the year? When is the rainy season and dry season? How do farmers change their strategies between the two seasons? Students can use color coding to represent different months, or particular crops.

(BNCS) Themes: Science- Living Things; People, Plants, and Animals; Plant Growth; Heredity and Reproduction; Healthy Environments; Plant Growth and Development; The Human Body (Eating for Health). Language Arts-Listening, Viewing, Speaking, Writing.

Lesson 14. Cacao

Here students learn about preparing cacao drink and cacao production for local use and export. Information includes discussion about how the use of cacao has changed over time.

Lower division

Make cacao drink. Have a parent or older student prepare cacao drink for the class. Discuss different recipes and the use of traditional cups like those made from the calabash. Ask students to bring in cacao beans in various stages of processing, from raw pods to roasted beans, to ground cacao.

Middle/Upper division

Research the economics of cacao as a cash crop. The growth of the cacao industry in southern Belize has been quite rapid in recent years. How are farmers benefitting from this increase in cacao growing? What is the current rate that farmers receive when they sell cacao to buyers? Who are the buyers? Where do they take the cacao and how is it processed? How is it exported or sold to international companies? Where do they take the final product(s) to sell? Students can find out much of this information on the "commodity chain" of cacao locally, but can also discover what happens to cacao after it leaves Belize.

(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture); Science- Living Things; People, Plants, and Animals; Family Life and Culture; Industries; Home Economics.

Lesson 15. Living with Local Animals

Students explore traditional hunting practices and consider why people hunt and how this has changed over time. The idea of managing the environment to meet human needs and protect species is also introduced.

Lower division

Draw animal tracks. Paying attention in the forest and along trails to the marks animals leave behind is one way to learn more about the habits and lives of animals. Have students draw a picture of what they think a gibbon, peccary, and groundmole track or footprint looks like. Then, show them a picture of the track and talk about what it might mean when you see that track (for example, was the animal searching for food or water?).

Middle/Upper division

Research an animal. Students could choose another animal that is not on the lesson to find out more about (examples are bush dog, anteater, ground mole, tapir, nightwalker). Is this animal hunted? If so, why? Is the population strong or is the animal threatened or endangered?

(BNCS) Themes: Science- Living Things; People, Plants, and Animals; Healthy Environments; Animal Growth and Development; Language Arts-Listening, Viewing, Speaking, Writing. HFLE-Managing the Environment; Eating and Fitness.

Lesson 16. National Animal of Belize

Students learn about Baird's Tapir and some of the challenges faced by this species today in Belize.

Lower division

Compare adult and young tapirs. To understand the life cycle of the tapir and animal growth and development, you could have students discuss how the baby and juvenile tapir are striped/spotted and the adult is grey. Why is this adaptive for the baby? What purpose does it serve?

Middle/Upper division

Write a short story about a tapir. Students could create a short story that features a tapir and include information they learn about the tapir's habitat and the fact that it is an endangered species. Why is it endangered? How can we protect the tapir as the national animal of Belize?

(BNCS) Themes: Science- Living Things; People, Plants, and Animals; Healthy Environments; Animal Growth and Development; Language Arts-Listening, Viewing, Speaking, Writing. HFLE-Managing the Environment.

Lesson 17. Taking Care of the Invaluable

This lesson tries to connect students to the idea that traditional skills needed to make a living in the local environment are also part of our heritage.

Lower division

Invite an elder to class. Have an older person or someone very knowledgeable about a traditional skill or craft come to class and show students how to make the item(s) described in the activity. What materials are needed? How do they do it and how long does it take?

Middle/Upper division

The apprentice, traditional style. Match up your students with a person in the community to learn over several meetings how to make a specific tool or craft. Students write a report on their experience and what they learned, and then come back to share with the class what they learned and the items they made.

(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture); Home Economics. HFLE-Managing the Environment. Language Arts-Listening, Viewing, Speaking, Writing. Math skills.

Lesson 18. Heritage on the Land

This lesson encourages students to consider and investigate why certain places in their community have certain names.

Lower division

Take a field trip. Bring students to one of the nearby places in your community that has a "place-name" and a story attached to that place. Find out about the story or ask an elder to explain to students while they are in the space why the place got its name or why it is significant.

Middle/Upper division

Make a map. Have students create their own unique map of their community. Ask them to include a key with symbols representing what is most important, community resources, roads, borders, etc. They may also make a map of the places that are most important to them in their community.

(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture). Science-Healthy Environments, Landforms and Changes, Rocks, Minerals, and Soils. HFLE-Managing the Environment. Language Arts-Listening, Viewing, Speaking, Writing.

Lesson 19. A Maya House

This lesson encourages students to appreciate and understand the benefits of a traditional house.

Lower division

Draw your house. Have students draw their house, complete with any beds, hammocks, etc. Have them label the parts of the house in multiple languages. Each post, tie, and thatch has different names and different wood is used for construction. Ask students to label each part of a thatch house.

Middle/Upper division

Investigate properties of materials. Have students explore the properties of different building materials, for example, wood, concrete, zinc. Students can research and test them for flexibility, reflection of heat, strength, etc.

(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture). Home Economics. HFLE-Managing the Environment. Language Arts-Listening, Viewing, Speaking, Writing. Math skills.

Lesson 20. Household Archaeology

In this lesson, students learn more about what many archaeologists investigate and relate that to the items they use as part of their daily lives.

Lower division

Household show and tell. Have students bring in one item that they use every day in their family. Have them show it to the class and talk about what someone might learn about them if they found that item hundreds of years from now.

Middle/Upper division

Social class investigation. Have students research and write a short essay about the class systems and how they are reflected in the archaeological findings we normally learn about. Discuss the monumental architecture they might be familiar with at local archaeological sites, for example, Nim Li Punit and Lubantun.

(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture). Home Economics. HFLE-Managing the Environment. Language Arts-Listening, Viewing, Speaking, Writing. Math skills.

Lesson 21. Then and Now: Useful Objects Change Over Time

In this lesson, students learn about the environmental impacts of products that were traditionally made from biodegradable materials but are now often manufactured using other materials. While environmentalism is often thought of as a new concept, this lesson emphasizes that people in the past used environmentally sustainable practices, particularly in regard to everyday objects.

Lower division

Have a drink from a calabash bowl. Identify which students have families that use calabash containers. Have those students bring in the containers and use them to have a drink in the classroom.

Middle/Upper division

Organize a village clean up. Have students group into teams and collect plastic garbage from around the school and the village. Give rewards for the team that collects the most pieces. When all teams return, discuss what the pieces of garbage are primarily made of and how long they might take to biodegrade.

Lesson Ideas

For Teachers to Use with Students



(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture); Home Economics. Science-Ecosystems; Conservation. HFLE-Managing the Environment. Language Arts-Listening, Viewing, Speaking, Writing. Math skills.

Lesson 22. Making Tools

In this lesson, students learn about the important tools used in the past, many of which are still relevant today.

Lower division

Conduct a "tool test". Have students bring in a tool that is used by their family members for a specific job, for example, digging a hole or cutting fruit. Have students try different tool to accomplish the task. What tools worked best?

Middle/Upper division

Make a tool. Identify a task that the class would like to accomplish. This could be putting in plants at the school, fixing a desk or something the students consider important to accomplish. In groups, have them design a tool to make to accomplish the task. Using simple materials they are able to find (wood, vines, rocks), have them create the tool they have designed. Discuss what they learned from the process.

(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture); Home Economics. Science-Ecosystems; Conservation. HFLE-Managing the Environment. Language Arts-Listening, Viewing, Speaking, Writing. Math skills.

Lesson 23. Maya Math

Here students learn how Maya ancestors created their own mathematical system.

Lower division

Count things in the classroom. Once students complete the workbook page questions, have them count other things in the classroom, such as windows, desks, or even the number of students. Make it a contest to see who can figure out the answers in Maya numbers first.

Middle/Upper division

Math contest. Students might apply their understanding of Maya math to solve an addition or subtraction problem. Write the math problem to solve on the board using Maya numbers and hold a contest to see who can solve the problem using Maya numbers first. Have students write their own problems on the board to quiz the rest of the class.

(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture); Early Civilization (Maya civilization in Belize); Government and Citizenship (My family, my home); Society and Culture (Stories, traditions). Language Arts-Listening, Viewing, Speaking, Writing. Math skills.

Lesson 24. Our Languages

Language is so important in communicating cultural ideas and beliefs. In this lesson, students see why language is important and how difficult it may be to translate terms and concepts from one language to another.

Lower division

One world, many languages. Ask for student volunteers to come to the front of the classroom who may speak two different languages at home (for example, one Mopan speaker and one Q'eqchi' speaker). Give them a series of short statements from Language Arts texts to translate in their first language. Once each presenter does this, ask them to repeat again what they said and ask students to listen for differences in the two languages. What words are different? Are any the same?

Middle/Upper division

That doesn't translate. Some words or concepts are difficult to translate from one language to another. Often these may be things like "love," "beauty," or "health." Give students a project to complete at home where they interview four people about words they think are hard to translate into English or from English to another language. They record these and write a short essay about why these concepts are hard to translate. Students present and share their findings to the class.

(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture); Early Civilization (Maya civilization in Belize); Government and Citizenship (My family, my home); Society and Culture (Stories, traditions). Language Arts-Listening, Viewing, Speaking, Writing.

Lesson 25. Exploring Spirituality

Spirituality can mean many things to many people. This lesson shares the foundation of Maya spiritual thought but can be used as a springboard to explore other religions as well.

Lower division

Sharing prayers. Have students recite a prayer that they know. Discuss who taught them this prayer and what it means to them.

Middle/Upper division

Prayers of the world. Have the students research, compare and contrast the prayers of 2 different religions from around the world. Have them prepare an oral presentation highlighting the similarities and differences in the prayers.

(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture); Early Civilization (Maya civilization in Belize); Government and Citizenship (My family, my home); Society and Culture (Stories, traditions).

Lesson 26. Values for Life

In this lesson, students understand that values are important for structuring their social lives. This lesson can be used to integrate important values of classroom interaction with those traditionally upheld at home.

Lower division

The good life. Ask students what they think makes a good life. What are the elements most important to them? How are they the same or different from the values in this lesson? Is what makes a good life changing?

Middle/Upper division

Class values: codes of conduct. Students can reflect on what values they think contribute to a good life. What behaviors reflect this in the classroom? Have students work in teams of 2-4 to create their list of "top five" values that should be in the classroom codes of conduct. Then, compile the lists together. Ask students to vote on what they think the 5 most important values are. Post the list on the classroom wall and remind students what they prioritized and agreed to follow for their codes of conduct.

(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture); Early Civilization (Maya civilization in Belize); Government and Citizenship (My family, my home); Society and Culture (Stories, traditions). Language Arts-Listening, Viewing, Speaking, Writing.

Lesson 27. Telling Stories

Telling folk stories is an important way for us to teach younger generations shared values. In this lesson we hear a commonly told tale that was recorded several decades ago.

Lower division

Tell a story together. You can create your own folk tale or story with your students. Ask them to select one animal that they make the focal point of the story. Then, choose a hero or heroine for the story. You can structure the tale similarly to the Lazy Man and the Vulture. What value do they want the story to convey? What should happen between the hero/heroine and the animal to show how this value works? Lead students through each part of the story and be sure to write down the key elements as you go. Read the story back to the students and ask them what they think about their story.

Middle/Upper division

What's your story? Researchers sometimes record the story of one person (a biography or life history). If you tell your own story, or personal life history, it's called an "autobiography." Have students write a short autobiography of their "story." Ask them to think about the most important events that have happened to them in their lifetime and what they would want to share with others in the future. Are there values they learned from these important events that they still remember? Students can work on this at home and then share with the class by reading or presenting.

(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture); Early Civilization (Maya civilization in Belize); Government and Citizenship (My family, my home); Society and Culture (Stories, traditions). Language Arts-Listening, Viewing, Speaking, Writing.

Lesson 28. Working Together

In this lesson, students learn the importance of accomplishing tasks through collaboration. The tradition of working together lends itself well to the classroom environment and building a mini-community in the classroom.

Lower division

Make a fahina. Consider using this system to solve disagreements and make decisions in the classroom. Next time there is a problem, conduct a classroom fahina and address the problem.

Middle/Upper division

Create a plant trail for your community. Plant trails require research, time and effort to be successful. Have students contact the leaders of their village or school for permissions. Have them research important plants community members would like to see of a plant trail in their community. Tally the plant frequencies (how many people named each plant) to determine which plants are the most important to them and the people they spoke with. What were the top 3 plants mentioned? Do some research on these top 3 plants. Where do these plants grow? Can you find them nearby? What are they used for? Determine if these plants would be suitable.

(BNCS) Themes: Social Studies-Society and Culture (Belizean culture, Maya culture); Early Civilization (Maya civilization in Belize); Government and Citizenship (My family, my home); Society and Culture (Stories, traditions). Science-Healthy Environments. HFLE-Managing the Environment.

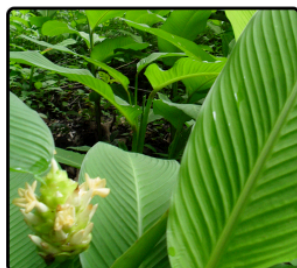
Local Plants

Reference Guide

Ch'ikaay Ch'i'kay

Calathea lutea

Flowerbuds used in caldo



Nab'a ku'uk Peens Allspice

Pimenta dioica

Leaves used for special celebrations, wrapping with roasted fish



Ihiimb're Xanxiwr Ginger

Zingiber officinale

Roots for tea and treating cold and cough, flowerbuds for caldo



Kula' Kala' Jippy jappa

Cardulovica palamata

Edible soft shoots, use leaves for making baskets, tying tamales

B'uyul B'ayl Basket tie tie

Desmoncus orthacanthos



For making large baskets for corn



Kukuh Kakaw Cacao

Theobroma cacao

Seeds ground for use in cacao drink and used in chocolate

Sub'in Sub'in Cockspur

Acacia Collinsii Saft.



Edible fruit, thorns for needles

Local Plants

Reference Guide

Samaat Samat Culantro

Eryngium foetidum L.

Leaves used for caldo



Ch'alaam Ch'alam Barbasco

Lonchocarpus castilloi

Leaves crushed for fish poison



Ikilab' Ich wow

Sapindaceae

Leaves used for fish poison

Mabuy Tzi'

Zingiberaceae

Fruit used in caldo



Tutz Mokoch Cohune palm

Orbigyna cohune, syn Attalea cohune

Leaves used for thatching houses, edible heart and fruit

Le'che' Moxl Waha leaf

Calathea lutea

Leaves used for wrapping tamales



Sacate K'is k'im Lemongrass, fevergrass

Simbapogon citratus (D.C.) Stapf.

Leaves used for tea as food and medicinal

Local Plants

Reference Guide

Tumum Noq' Cotton

Gossypium hirsutum

Clothing, wrapping
wounds, applying
medicines, bags

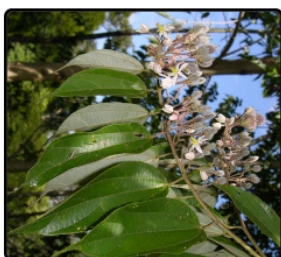


K'uxub' Xayaw Achiote, Annatto

Bixa orellana L.



Used as spice and coloring for caldo



Hol Chahib' Macapal

*Trichospermum
grewiifolium*

Bark strips used for
tying straps

K'un k'uxub' K'an inoq Yellow ginger, Turmeric

Curcuma longa L.

Used as spice and
coloring for caldo



Suhaab' Sahab' Sandpaper tree

Curatella americana

Leaves used for
scrubbing pots, tables



Luch Hoom Calabash

Crescentia cujete L.

Inedible fruit hollowed
out and used for cups,
bowls and strainers

Oox Ox Breadnut, Ramon

Brosimum alicastrum

Firewood, food:
seeds for people,
leaves for animals,
medicinal resins





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