

Let's Learn a Sustainable Lifestyle with the Earth Charter

For Second Cycle Students
of Basic General Education



Decade of Education for Sustainable Development: 2005-2014

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c. The Earth Charter Initiative

<http://www.earthcharterinaction.org>

Let's Learn a Sustainable Lifestyle with the Earth Charter

San Jose, Costa Rica, 2005

ISBN 9977-925-32-1

1. Sustainable Development 2. Values Education 3. Environmental Education

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Endorsed by the Ministry of Public Education, Costa Rica

This project was made possible by the combined efforts of the *Universidad Nacional*, the *Universidad Estatal a Distancia*, the *Museo de los Niños*, and the Earth Charter International Secretariat, with support from the Costa Rican Ministry of Public Education.

The Japanese Embassy in Costa Rica financially supported the making of this publication.

First Edition: March 2005

106,000 copies

Printed in Costa Rica by Editorama, S.A.

Preface

Hello friends! We hope you will enjoy this workbook as much as we have enjoyed putting it together.

The intention of this book is to provide you with a better understanding of the meaning of sustainable development and to inspire you to practice attitudes which contribute to the wellbeing of all life forms. No one knows how things will be on this planet in the future, but we do know that things will likely be very different from how they are today. In order to have a sustainable future and for all life forms to live well, human beings need to change their attitudes. If we all commit to contributing to the common wellbeing, not only for current generations but also for future generations, it will be easier to create a better world.

We hope this workbook helps you discover the importance of being an agent of change in our world. We invite you to share what you learn with your family and to start making a difference by making our planet a better place for all living things.



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Chapter I General Concepts

Our planet is crying out for environmental conservation and protection and for a better quality of life for all forms of life. We, as humans, are the only ones capable of responding to this outcry.

We must understand that the way we care for our environment, as well as our daily attitudes, largely determine whether future generations will be able to enjoy our planet's natural resources and all its beauty.

Let's learn some ways to make the world a better place!

1. What are values?

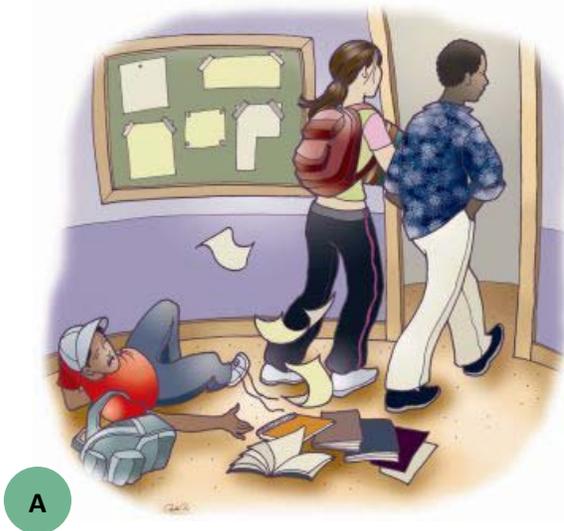
Values are things which are important to us and worthy of praise and admiration. In general, they are the foundation for our decision-making. Culture, family, religion and the times directly influence our values. Some examples of values are justice, equity and respect.

In order to create a better world, we need to understand the values of our own society as well as those of all humankind. This will help us identify our personal values and to better understand their meaning.

A *countervalue* is the opposite of a value. Countervalues go against the common good, the wellbeing of our planet, and human progress.

Activity 1 - Look at the drawing and identify the value or countervalue they are practicing

Values and principles are very important, because they shape human behavior.



What is happening in Drawing A?

What is happening in Drawing B?

Which value or countervalue can you identify in each situation?

How would you react if your classmate fell?

How do you show solidarity?

Activity 2 - Understanding meanings

In your own words, define each of the following. Give an example of a situation where the value is used and an example of where it is not used.

- Respecting all forms of life means:

Example of a respectful attitude: _____

Example of a disrespectful attitude: _____

- Being responsible means:

Example of a responsible attitude: _____

Example of an irresponsible attitude: _____

- Social justice means:

Example of a situation where social justice exists: _____

Example of a situation where social justice does not exist: _____

Activity 3 - Which values do you think are most important for creating a better world?

In our lives, one way or another, we have practiced values such as: honesty, respect, love, care, cooperation, perseverance, tolerance, solidarity, responsibility, etc. Which three values do you believe are the most important for creating a better world? Justify your answer.

Value	Why?
1. _____	_____
2. _____	_____
3. _____	_____

2. What is sustainable development?

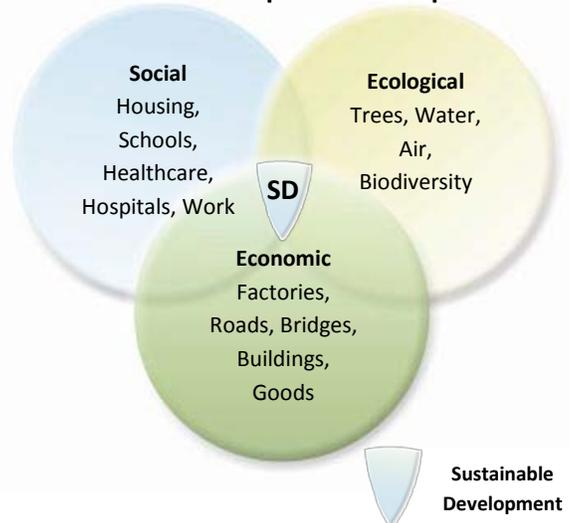
There are many beautiful things on our planet such as waterfalls, animals and happy families. However, there are also problems like poverty, violence and environmental destruction. In order to solve these problems, we need a better understanding of what is happening, a change in our attitudes, and cooperation by all.

Did you realize that in the pursuit of progress and development humanity has ignored the health and wellbeing of the Earth?

We know, as humans, that we need things to fulfill our needs: food, clothes, shoes, housing materials, cars, bicycles, toys and much more. In order to produce these things, we need to extract many resources from nature: trees, minerals, water, etc. This is why we must use these products in moderation.

Sustainable development aims to meet all human needs without harming nature, thereby ensuring all people's needs are met. This concept demonstrates that social issues are linked to economic and environmental ones, and therefore these issues must all be addressed together. The principles of sustainable development help us think in terms of the future, so we can leave the planet in a better condition for generations to come.

Sustainable development can be found where these three spheres overlap



Activity 1 - Comparing communities

Answer the following questions about the two communities below.

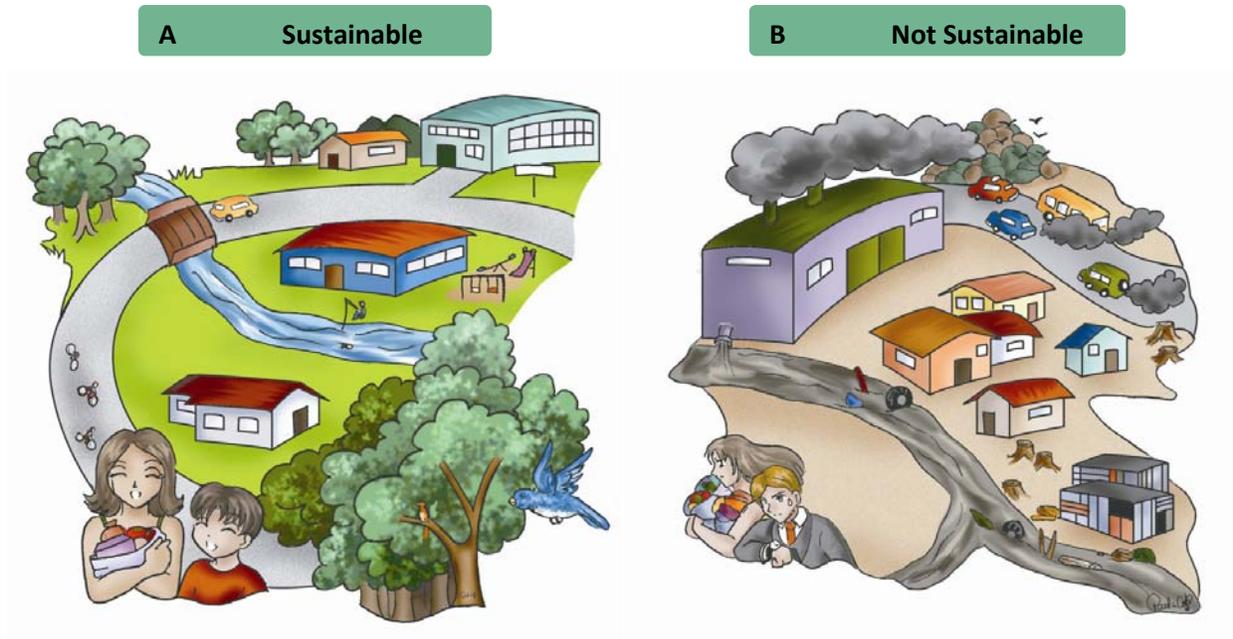
What are the differences between these two communities?

Which is the sustainable community and which is not (the unsustainable community)?

Which values can be associated with each community?

A. _____ B. _____

Which community would you want to live in? Why?



Activity 2 - Learning with a story

What is good for everyone is also good for each of us individually

Mirian Vilela



In the town of *Tucurí*, there were several groups of people who passionately struggled for their causes and interests. Often these groups fought with each other, because they each valued things only from their own points of view. They all had the poor habit of blaming the others for the problems they were facing.

Amongst the citizens of *Tucurí*, there was a scientist named Mr. Pedro who had many associates. This group took every opportunity to show people that the little birds and the trees in the forest are very fragile and that our lives depend on oxygen and natural resources. Mr. Pedro and his associates were known as “the environmentalists” since they wanted to protect the environment at any price. They insisted that progress was not good and that development served no purpose other than contaminating and destroying natural resources.

Fundamental changes are needed in our values, institutions, and ways of living. We must realize that when basic needs have been met, human development is primarily about being more... not having more...

Preamble
The Earth Charter

On the other hand, there was a group of friends, led by Mrs. Marta, who primarily fought against poverty. They wanted everybody to have a job, a house, and the opportunity to go to school. Many people in this community could not even go the doctor, because their families did not have enough money to pay for the doctor's visit. This group worked nonstop to ensure everyone could receive medical attention, vaccinations and other medicine. This group was known as the "humanitarians."

In this town, there was also a group known as the "tycoons." They were entrepreneurs and owners of factories, supermarkets and other businesses.

This group was only concerned with making money and building highways, bridges and factories. Mr. Martin, the most well-known person in this group, had a leather shoe factory. Even though this group made things that people from the other groups needed and they provided employment for many people in the community, the "environmentalists" and the "humanitarians" did not speak to them. The "humanitarians" could not accept that some people had too much money while others did not have jobs or even anything to eat. Meanwhile the "environmentalists" did not approve of the way Mr. Martin and his team exploited natural resources. Mr. Pedro frequently said, "It is unacceptable for the shoe factory to throw its trash (like shoe dye) into the river where our children swim! They are polluting our waterways that were once was crystal clear!"

The people of the town had never seen these groups meet to talk about the future or about how the community should grow. Mr. Martin feared the "environmentalists" and the "humanitarians", because they were always at his factory doors with posters protesting their disagreement with the way things were run.

One day a young boy, very worried about the lack of communication between these community leaders, got together with his classmates. They invited Mr. Pedro, Mrs. Marta and Mr. Martin to meet in the community park. Many people passing by noticed the event, and they stopped to see what would happen.

The young boy took a deep breath and got up the courage to speak. "Thank you for coming to our meeting. My classmates and I want to request that you all cooperate, despite your differences, in ensuring everyone has a good future," he said.

The young boy took advantage of everyone's silence and continued speaking. "I have no doubt that everyone living in this community wants to live in a beautiful place, and we all want the best for everyone. I am sure that you each share this feeling as well. Therefore, I encourage you to find ways to cooperate and work together."

Before...



At this point Mr. Pedro, obviously upset, turned to Mr. Martin and said, "Look, the reality is that in your quest for more money and more development, you have contributed to many ecological disasters. I tell you - for the good of all of us - we must figure out a way to take care of our natural resources!"

Mr. Martin responded, "Perhaps you are right! However, you must remember that many people in this community have jobs thanks to our factories. Also the products we make supply many people's needs. You must understand that development is necessary."

Mr. Pedro immediately responded, "Yes, but not without boundaries."

Mrs. Marta took the floor and said, "The best way forward is for us to work together. This way we can avoid bigger environmental problems and, at the same time, ensure we all have employment, homes and access to education. I suggest we begin to get together once a week to identify our community's needs and clarify what we can do. Certainly, we will be able to achieve much more working together."

After...



Since everyone agreed, from this moment on, these groups began finding ways to work together. Furthermore, they understood that they needed to unite their knowledge and strengths in order to ensure everyone's wellbeing. Mr. Martin, very happy with the results of the meeting, invited the young boy responsible for it to help them create a better community.

Questions:

What other title would you give this story?

Do you believe the young boy behaved responsibly?

Why? _____

What happens when people or groups do not cooperate?

What do you think each of these groups can learn from the other?

-Environmentalists and humanitarians? _____

-Humanitarians and tycoons? _____

-Tycoons and environmentalists? _____

Name three ways the relationship between these groups could be improved? _____

Find out whether there are groups in your community working to make it better.

Chapter II Environmental Culture for Sustainable Development

Theme 1 - Sustainable Human Development

“Secure Earth's bounty and beauty for present and future generations.”

The Earth Charter: Principle 4

The Earth Charter

Imagine a group of people from all over the world: men and women from Africa, the Middle East, North America, Asia, Latin America, the Pacific and the Caribbean. Imagine that the people in this group have all kinds of jobs and professions: scientists, lawyers, politicians, doctors, singers, indigenous people and also youth. Now imagine that these people spent ten years writing to future generations.

You must wonder, “What did they write, and why did it take so long?”

They wanted to note down everything that was needed to make this world a better place. Yet, in order to do this, everybody needed to agree. This is why it took so long. They spoke a lot, and after many years everyone agreed upon the same concepts. When they finished writing everything down, this four-page document we call “The Earth Charter” was born.

Introduction

The Earth Charter provides us with a set of values and principles for sustainable development. It is a tool which helps us adjust our attitudes so we can create a better world. It is comprised of sixteen principles, which are divided into four parts:



- I. Respect and care for the community of life
- II. Ecological Integrity
- III. Social and economic justice
- IV. Democracy, nonviolence and peace

The Earth Charter is like a map, which helps us get oriented and figure out which way we want to go. It also helps us make good decisions, not only for ourselves, but also for others and for its namesake, Earth.

As you read the Earth Charter, you will start thinking about the world you live in. Everything you do impacts this world. The Earth Charter helps us understand that each one of us has a responsibility to take care of our planet.

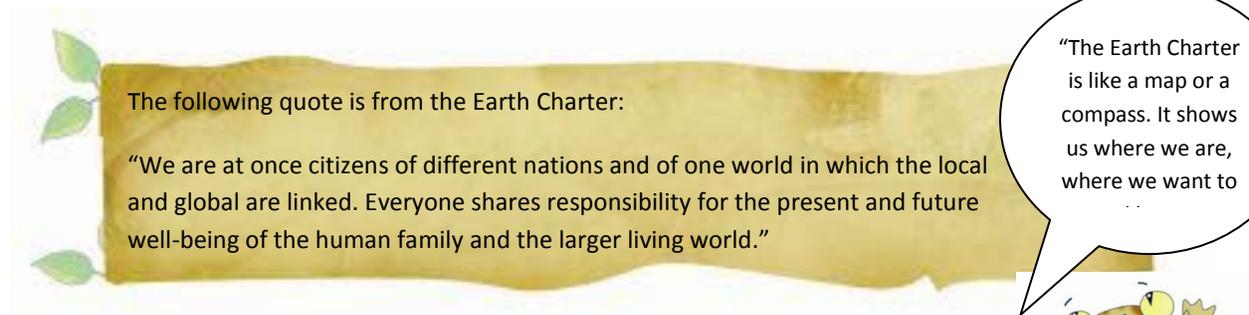




Did you know that boys and girls around the world have read the Earth Charter? Perhaps someday you will meet someone from a faraway country, like India, and you can talk about the Earth Charter!



Activity 1 - Learning with the Earth Charter



What do you think about this quote? _____

What do you think *the present and future well-being of the human family* means?

Do you feel like you have a responsibility toward the well-being of others?

How can you demonstrate this responsibility?

Activity 2 - Learning from other girls and boys

The Earth Charter was primarily written by adults and is sometimes a little difficult to understand (you can find it at the end of this workbook). For this reason, in many parts of the world, boys and girls have rewritten the Earth Charter in their own words, declaring the values and principles they consider most important. Next you will find a short version of the Earth Charter written by boys and girls your age in Australia. After reading it, we have a few questions for you.

The Earth Charter Adaptation for Younger Children

We are living at a very important moment in Earth’s history. Every day, the people of the world are moving closer together. We need to unite across cultures to choose our future: to protect nature; to respect human rights; to create a world where all can live together in peace and justice. We have a responsibility to care for life - both at present and into the future.

The Global Situation

Today, our way of living often harms the environment. The way that we produce and consume goods depletes the Earth of its supplies of water, air and soil, endangering the lives of many plant and animal species. The growing world population continues to drain the Earth of its natural resources. At the same time, we are faced with war, famine and disease.

What can we do?

The choice is ours: we can start making changes so that we can build a better future for everyone. The **Earth Charter** gives us a path to follow.

Everybody is responsible

To change our world, we need to be responsible for our actions, because everything that we do is interconnected - everything on our planet is woven together into the fabric of life. We need to think about the way that we use resources and the way that we care for plants and animals. We need to think about the way that we treat other people. If we all take responsibility for our own actions, we can start to work together to care for the present and future wellbeing of humanity and all living things on this planet. Together we can all share in the hope for the future.

RESPECT AND CARE FOR ALL LIVING THINGS

- 1. Respect the Earth and all living things: people, animals and plants.**
 - a. Understand the importance and the interconnectedness of all living things.
 - b. Accept all people as unique and valuable.
- 2. Care for all living things, with understanding, compassion and love.**
 - a. Use natural resources wisely, taking care not to cause harm to the Earth
 - b. Protect the rights of people and accept their differences.
- 3. Form groups of people who act justly, treat others equally and work together peacefully.**
 - a. Recognise everyone's right to be free and the right to choose how they will develop and grow.
 - b. Include all people and work towards safe, peaceful and fair communities.
- 4. Co-operate so that all people can enjoy the beauty and the fruits of the Earth.**
 - a. Act responsibly for the present, making sure not to neglect the needs of future generations.
 - b. Pass on knowledge and encourage future generations to be caretakers of the Earth.

Questions:

- Choose your favorite principle: _____
- Write down your understanding of this principle and why you chose it: _____

- In small groups, discuss each of your favorite principles.

- Give two examples of where this principle is used.

- Can your group agree on which principle is the most important?
- How can you practice this principle?

Activity 3 - Sharing knowledge

If you like the Earth Charter, it is important to introduce it to others. Share your knowledge with someone in your family.

How would you explain the Earth Charter to this person?

Ask this person if he or she has heard of anything similar to the Earth Charter.

Ask if this person has a favorite principle and how he or she would put it into practice.

Share the results of this experience with you class.



Activity 4 - Learning from a historical account

Many years ago, human beings wanted to discover other lands so they could find resources for their growing needs. They left their countries by boat to conquer new territories. They found the rich lands today known as Africa and Latin America. These lands had abundant minerals, like gold and silver, as well as wood and other resources. These lands also had their respective inhabitants. The conquistadors not only took control of these lands, they also extracted its riches to take back to their home countries and enslaved its inhabitants who once lived free and controlled these lands (conquistador period).





Years went by, and the conditions of these slaves and indigenous peoples relatively improved. They fought for, and eventually achieved, their liberty.

Many years later, the leaders of some countries felt they had the right to invade territories of other peoples. Once again, due to disrespect, certain peoples were discriminated against, and they lost their right to live with dignity. This resulted in a great war, where many suffered and others died (the First and Second World Wars).

In 1945, the United Nations was created to accomplish three great tasks: a) securing world peace and security, b) human rights, and c) cooperating for socio-economic development. The environment was not part of the original pillars which founded the United Nations.



Little by little, regulations and laws were created to protect human rights and respect toward peoples. These national and international regulations were improved little by little. In 1948, the Universal Declaration of Human Rights was produced. Certain documents in history have succeeded in changing the course of the world, and this is one of them.



Next, in the 1950s and 1960s, human beings became concerned with national development, without measuring its consequences. They excessively deforested their lands to build highways and cities, as well as to improve agriculture and livestock. There were great advances in industrial and technological development, but this came at the cost of environmental destruction. These actions were not sustainable.



For these reasons, in 1972 the United Nations agreed that we should work on the environment.

In the 1980s, it was decided to work on all these themes, approaching them in a coordinated joint effort. In order to do this, a new charter was requested, with the purpose of guiding people toward sustainable development.

For this reason, during the 1990s, many people from all regions of the world got together to develop this document, which would serve as a guiding tool for the inhabitants of our planet.



The Earth Charter was launched in 2000.



With your classmates, comment on this history and answer the following questions.

- How did the conquistadors act? Which values or countervalues did they show?
- Did the conquistadors have the right to take all the resources they encountered in the new lands? Why?
- Why do you believe wars have happened and are still happening?
- Do you believe that humanity is improving?
- What are regulations and laws for?
- What are the tasks of the United Nations?

Suggestion: Along with your classmates, can you act out different moments in history.

The Relationship between Population, Environment and Development

Sharing what we have

Mohit Mukherjee

A young man and his wife bought a farm in Puriscal. This farm was big enough to produce enough food for a large family. Soon this couple had a baby named Jose. A year later, Luis was born. Cynthia followed

two years later, and finally three years later their last son, Manuel, was born. This couple soon had four children and many new needs to fulfill. This was not easy!



Many years later, when the couple was older, their children grew up and got married. The couple decided to divide the property into four equal parts and give one part to each of their children. Of course, when they divided the land they realized that these parts were very small. There was not enough land for each child to build a house and grow the food they needed for their own families.

For the first time, the parents wondered if it would have been better to only have two children instead of four. What is your opinion?

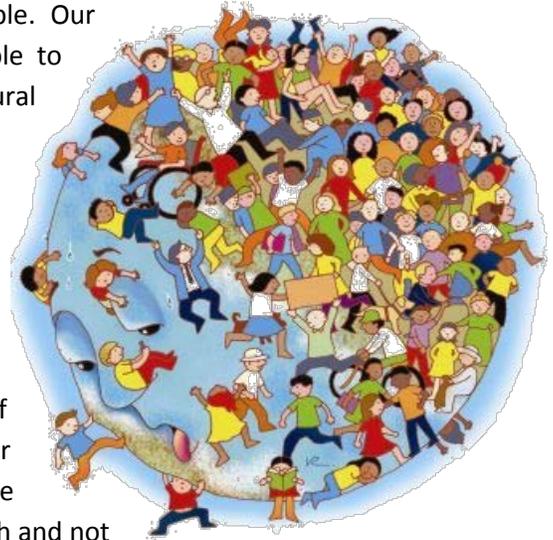
When more people have a consumeristic lifestyle (in other words, they use more than they need), our Earth will suffer more exploitation. Unfortunately, Earth does not always have time to properly regenerate. Consequently, there will be more trash and fewer natural resources.

Introduction

Earth supplies us with natural resources, which we turn into goods for our daily lives. Earth has the capacity to regenerate these natural resources. For rivers, this corresponds to the time it takes a river to clean up its contamination. For forests, this corresponds to the time needed for the trees to grow back. However, human population is growing over time, and our societies' lifestyles are continuing to consume more products.

This situation cannot continue, as it is already unsustainable. Our consumeristic lifestyles need to be moderate and responsible to avoid producing the quantity of items that prevent Earth's natural systems from regenerating its resources.

One hundred years ago, there were only 1.5 billion people living on Earth. Today there are over 6 billion. Can you imagine what it would be like to have four families living in your house? This is what the Earth is thinking! Each of us needs food, clothes, a house, a place to play, and many other things. We only have one Earth to provide all this for each person. If the population grows more and more, it will be very difficult for the planet to fulfill everyone's needs. Earth would become tired, debilitated and sick. We would have more and more trash and not enough space to put it.



Activity 1 - What do I consume?

Think about the things you use in your daily activities.

- Name three of these items: _____, _____ and _____
- Which ones are manmade and which ones come directly from nature? _____
- For those items which are manmade, identify two natural resources that were used to make it.

- What should your attitude be about using these items? _____

Activity 2 - Learning with the Earth Charter

The Earth Charter states, "The dominant patterns of production and consumption are causing environmental devastation, the depletion of resources, and a massive extinction of species. Communities are being undermined. The benefits of development are not shared equitably and the gap between rich and poor is widening. Injustice, poverty, ignorance, and violent conflict are widespread and the cause of great suffering. An unprecedented rise in human population has overburdened ecological and social systems."

What do you think about this excerpt? Why?

Do you agree that environmental destruction and species extinctions are caused by overproduction and overconsumption?

Which values do you think are needed to change this situation?

Activity 3 - What is my ecological footprint?

Earth gives us more than we need. Let's look at our lifestyles and think about everything we have thanks to natural resources, but let's remember they are limited...

All of us leave traces wherever we go. Let's imagine that everyone leaves an ecological footprint during their time on Earth: some are large, others are small; some are ugly, and others are beautiful. Our ecological footprints depend on our lifestyles. In other words, they depend on how much water and energy we use and whether or not we acquire large quantities of unnecessary things.

For example, if we consume a lot of styrofoam and plastic things, we leave a larger footprint than someone who consumes things made of paper or cloth.

This is because making things out of plastic and styrofoam requires a lot more energy, and they have a much slower decomposition rate. What type of footprint do you want to leave?

Look at the following drawings, and identify the differences between them



Research the following:

- How much time do you spend showering and watching television each day?

- How many plastic games do you have?
- Do you have any wild animals in captivity? How many?
- Compare answers with your classmates. The lower your number, the smaller ecological footprint you have. Congratulations!

If you want to know more about this topic, go to <http://www.myfootprint.org/> and answer the fifteen questions.

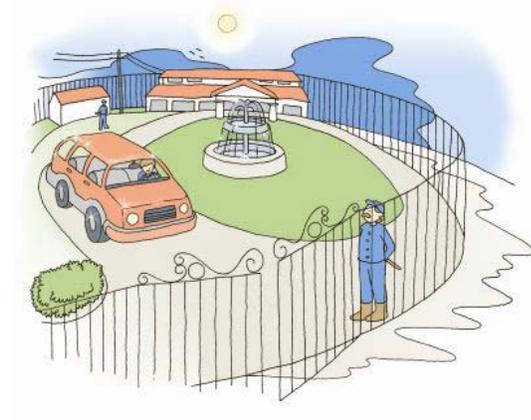
Quality of Life

Two Different Lives

Once there were two brothers: James and Gerald. The older brother, James, lived and worked in San Jose. He lived in a beautiful house with six bedrooms and security guards. James worked as a manager of a bank and attended many meetings (from morning till evening). Since he was constantly concerned with work, he never could go home for lunch, and he spent very little time with his family. He had a good salary. He had a big new car, which he drove each day 45 minutes to get to work. On weekends, he went to many parties with his wife, and his kids stayed home with a babysitter.

The younger brother, Gerald, lived in *Guanacaste* in the countryside. His house was not very big, but it sufficiently accommodated his family of four. He did not need security guards, since he lived in a much safer place. Gerald was a farmer, and when the sun went down, his work was finished. He did not make or save as much money as his brother James, but he had enough to send to his children to school and cover the basic needs.

Twice a week he went fishing or camping. He did not have a car, but his house was on the same farm where he worked. When he needed to run errands, he used his bicycle. He spent his weekends with his family and with his parents, who lived nearby. About once a month, he went to a party with his family.



James



Gerald

- Which family is probably happier? Why? _____

- What does a family need to be happy?

- Do you think Gerald would like to have a life like his brother's?

- What does *quality of life* mean?

Introduction

In order to be happy, we need to enjoy a good quality of life. However, we must first understand what this means. To have a good quality of life means to have the basic food necessities, a house, clothes, education, doctors and time to rest and play.

This means that when our basic needs are met, our quality of life does not improve with more money or things. Many people do not understand this, and they think having a quality of life means possessing many luxury items.

Often, we encounter situations which do not contribute to our quality of life, such as:

- Deforestation
- Insecurity¹
- Excessive trash
- No access to healthcare
- Not having time to rest
- Water contamination
- Air contamination

Activity 1 - Reflecting on a story

Let's have another look at James and Gerald:

What things are not good about James's quality of life?

What things are good about Gerald's quality of life?

¹ *Insecurity* in this case is referring to urban violence and unsafe living conditions.

Who do you think has cleaner air and is surrounded by more nature?

Who do you think has a better quality of life and why?

Activity 2 - Learning with the Earth Charter

The following excerpt is from the Earth Charter:

“We must realize that when basic needs have been met, human development is primarily about being more, not having more. We have the knowledge and technology to provide for all and to reduce our impacts on the environment.”

Do you agree with this excerpt? _____

What are our basic needs? _____

What does “being” more mean compared to “having” more? _____

Activity 3 - Written expression

Write something in your notebook about the following question:

How would you like to live when you are an adult?

Participation

Introduction

Participation is very important when selecting the president of a country, an association or a classroom leadership board. However, it is also an important way for you to help improve the things around you. If you participate in selecting politicians, you can help our country have good leaders.

Participation is both a right and a duty for all of us.



Countries where leaders are chosen by the people are called democracies; Costa Rica is one of these. Participation also means coming together through dialogue and meetings to influence the decisions that are being made.

However, many citizens do not participate in the electoral process or in student and community projects which try to improve the surroundings.



What does this picture demonstrate?
Is everyone participating?

The Earth Charter tells us the following:

Build democratic societies that are just, participatory, sustainable, and peaceful.
Promote the meaningful participation of all interested individuals and organizations in decision making.

Activity 1 - Participating in student elections

Many student groups have one or two “student representatives” who make decisions on behalf of their classmates. With your teacher’s help, organize the election of one or two “class representatives”.

Activity 2 - Group activity: Expand the classroom rules

Every group needs some rules on participation, cooperation, cleaning, etc. You probably already have some rules in your classroom, but this is your perfect chance to participate in making rules.

Together with other classmates, participate in the expansion or revision of the rules in your classroom.

Activity 3 - Acting as an agent of change

Sometimes we do not agree with certain things, but we do nothing to change them. Take advantage of this opportunity, and change a situation that you think could be better!

- Think about something that you would like to change. Perhaps you want a cleaner and more orderly classroom, or you may want the trash to be picked up for recycling. Maybe there is something missing in the classroom or school, or you may wish to help more people in need or with disabilities.

- Talk to your classmates and teachers about your idea, and motivate them to put on a campaign for this important subject. This campaign can be realized in your school. Make a plan, and put it into practice.

Cultural and Ethnic Diversity

A *Cabecar*² Story: “Mr. Sun and the Hurricane Children”

Cabecar children get up very early in the morning. When Mr. Sun is just beginning to appear, they have hopes of spotting the three small Hurricane Children, the *Sërikë*, who are very naughty.

Every night Mr. Sun goes to bed very tired after a hard day’s work. It is difficult for Mr. Sun to wake up in the morning, but he gets up while covering himself all the way up with clouds. Still, the *Sërikë* manage to find him. Nothing gets by these playful children, and certainly not Mr. Sun.

The smallest one, *Yabá Batástku*, always finds him first. Then the *Sërikë* grab his whiskers, each one on a different side, and they begin pulling on them to get Mr. Sun ready to start his work day. Each one pulls a handful of whiskers on each side and continues pulling them more and more. The more they pull his whiskers, the warmer and brighter it gets. When the sun is completely out, this means they have stretched out all his whiskers.

If you want to see the *Sërikë* tomorrow, you must get up very early, like the *Cabecar* children, and watch how they pull on his whiskers.



Introduction

Indigenous people have lived in Costa Rica for over 12,000 years. Later the Spanish colonists and various immigrants, like Africans, Chinese and Italians, arrived. Each one of these groups had their own culture, customs, beliefs, religion, food, clothes, legends, language and music. Through sharing one land, these cultures all began to mix together and resulted in the Costa Rican culture we have today.



² *Cabecar*: an indigenous group from Costa Rica.

Which cultural and ethnic groups can you identify in your school and in your neighborhood? _____

Activity 1 - Word contributions

If you complete the following words, you will find which words each of these cultures brought to our country.

INDIGENOUS
CH_C__A__
C__N
T_MA_O

AFRICAN
M_R_M_A
Q_IJO_G_
(music instruments)

SPANISH
B_E_D
G__TA_
H_R_E

Activity 2 - A diverse market

In this market, there are fruits, vegetables and animals. Color in those that could be found in Costa Rica before the arrival of the Spanish in 1502.

Activity 3 - Learning with the Earth Charter

The Earth Charter tells us that “...we must recognize that in the midst of a magnificent diversity of cultures and life forms we are one human family and one Earth community with a common destiny. We must join together to bring forth a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace.”

Do you feel that we are part of *one human family*? Why?



What does *with a common destiny* mean? _____

How can we unite to form a *global society founded in respect towards nature*? _____

Our country has benefited from the contributions of other cultures; for this reason, we must respectfully receive all those good things which are offered to us by others.



Cultural and National Identity

The Clay-colored Thrush (*Yigüirro*, Costa Rica's national bird)

Author Unknown

A little bird, the color of earth,
Digs in the soil of the garden beds.

It finds a worm; and flaps its wings
And returns to the branches of an
avocado tree.

Between the leaves, well protected,
Its little baby birds lie in their nest.

The babies open their little beaks
And each one of them gets a nibble.

The bird happily sings in the morning
And I watch it through the window.

It is a *yigüirro*, a happy bird,
Which loves the forests of my country.



Introduction

There are distinct cultural groups living in our country. In the north of the country you will find different types of food, clothes and customs than in the Caribbean or the Central Valley.

Even though there are various groups in Costa Rica, we live in the same land, and we share many things that we are proud of. Although we are different, most of our inhabitants work and strive to make this a better country. In order to do this, it is important for you to know your history as well as important facts.

Activity 1 - Describing the place where I live

Write down a custom, legend or type of food or of music typical to where you live.

Activity 2 - I am proud to be Costa Rican

What are some things about Costa Rica that you are proud of? Make a drawing depicting them.

Activity 3 - Differences we find in people from different countries

Do you realize how different every country is? There are big ones and small ones; some are islands, and others from parts of the continents. Some have a lot of rain, and others have snow or deserts. The food is very different. Different languages are spoken, and even though many countries speak Spanish, there are many different words and accents.

Do you know any children from another country? If so, what different customs have you noticed? Write about these. If you do not know anyone who lives in another country, write something you know about foreign customs.



Imagine how boring it would be if we were all the same, did the same things, and thought the same way.

Activity 4 - Writing my own couplet

Couplets are verses which are simple and easy to memorize. In *Guanacaste*, they are called *bombas*. Develop a small *bomba* in your notebook to share with your classmates.

Activity 5 - What can I learn from this story?

THE TREE WITH EARS³

Yara Navarrete

I am going to tell you a story about something that happened in the forest a long time ago.

There was once a tree that grew in the forest with bright green leaves shaped like the teeth of a fine comb. This tree was big. Even though there were many trees in the forest, this one felt very alone, because it was the only tree with ears.

When the other trees lost their leaves, this tree was very proud of its green leaves like the teeth of a fine comb. However in the summer, when the other trees had their leaves, so pretty and large, this tree thought it would be better to have bigger and more beautiful leaves than the others.

“I would like to have big and beautiful leaves, more beautiful than any other tree,” it thought. “If I could have what I wanted, I would like to have bright leaves of gold.”

The tree slept all night, and when it woke up in the morning, it had bright leaves of gold!

“How beautiful I am! How my leaves shine in the sun! Now I will be happy.”

In the afternoon, a man passing through the forest saw the golden leaves. He cut them all down and put them in a bag, and he brought them to his house. The tree was left without any leaves.



“What will I do? I do not want to have gold leaves anymore. If I could have what I wanted, I would like to have crystal leaves.”

The tree slept all night, and when it woke up in the morning, it had clear leaves of crystal.

“How beautiful I am! My leaves are made of crystal, and they sing when the wind sways them.”

All morning the tree was happy. However, in the afternoon the sky became very dark, and it began to rain. The wind blew with such force that, by the time the storm was over, all the

³ Adapted by María Eugenia Zúñiga from the original “El pinito” de Yara Navarrete Gutiérrez, student of the Pt3-Pt4 Program, UNED, 1997.

* The national tree “*El Guanacaste*” is popularly called the Tree with Ears, because its seeds are shaped like ears.

crystal leaves were broken. The poor tree did not have any leaves.

“What will I do?” said the tree, crying. “A man took away my golden leaves, and the storm broke my crystal leaves. If I could have what I wanted, this time I would like diamond leaves, which will shine for me like the moon.”

Once again the tree slept all night long, and when it woke up in the morning, it had leaves of bright, hard diamonds.

“Now I am handsome and powerful. I am the most important.”

The tree was happy this time. However, some men from the city contracted out a mining company which came with saws, and they cut down all its diamond leaves and took them away.

The tree cried out in pain and sorrow! “What a life!” it exclaimed. “A man took away my leaves of gold; the storm broke my leaves of crystal; and the miners took away my bright, shiny leaves. If I could have what I wanted, I would like to have my big green leaves back, shaped like a fine tooth comb, and with my ears hanging down.”

When the night fell, the tree went to bed and slept all through the night. When it woke up in the morning, it had big, green leaves like a fine tooth comb, and its ears were hanging down. Once the birds and butterflies saw its leaves and fruit again, they began to fly happily around it.

“Leaves of gold, leaves of crystal and leaves of diamond are good, but there is nothing better for me than my big green leaves like a fine tooth comb and my ears.”

Questions about the story:

- 1) What was the tree’s attitude at the beginning of the story? _____

- 2) What did the tree learn because of its experiences? _____

- 3) Like the tree, have you experienced a situation where you did not feel good about what you had, or how you were, and you wanted to be someone else? _____ Describe this. _____

Theme 2 - Respecting all Forms of Life

The Relationship between Humans Beings and Other Living Beings

Introduction

The fifteenth principle of the Earth Charter calls on us to “treat all living beings with respect and consideration.” However, often times we exploit animals, and we destroy the habitats of different living beings. Facing this situation, we as human beings need to assume a better attitude toward our

surroundings. We must understand that we are part of nature, and we must respect and be considerate toward the flora and fauna of the planet.



There is interdependence between all living things. For example, many plants need bees which are important agents in the pollination process. Many species need other species, whether for food or for protection. How do you think plants should treat bees? With a lot of respect and care, right? Every living species, more or less, has its own value.

How interesting!
The interdependence between trees, human beings and animals is extremely important: human beings need oxygen and produce CO₂; plants need CO₂ and produce oxygen.

However, in many cases humans have arrogant attitudes, and we disrespect and do not care about other living beings. One example of this is how we place many animals, considered to be wild, in captivity. Remember these are not domestic animals.

Activity 1 - Defining meanings

- a) Define in your own words the meaning of respect and disrespect. Give an example of an action of each of these.



- b) Write down two actions which show respect and two which show disrespect towards:

- Plants and animals _____
- Friends and family _____

- c) When do you feel respected? _____

- d) When have you felt disrespected? _____

Activity 2 - Reflecting on the current situation

According to studies published by the *Universidad Nacional*, there are about 250,000 wild animals in captivity in Costa Rica.

What does this mean? _____

Do you think this is right? _____

Why? _____

What do you believe are the causes of this current situation? _____

Activity 3 - Learning with the Earth Charter

The Earth Charter calls on us to “recognize that all beings are interdependent and every form of life has value regardless of its worth to human beings.”

What do you understand from this phrase? _____

Do you agree with it? Why? _____

Theme 3 - Environmental Conservation, Protection and Restoration

Biodiversity

The Living Tree⁴

Dorothy Pinto

In the tree lives *Pedro* the nightingale,
In his nest he sings so well.

In the tree lives *Manuela* the ant,
Always working, never tiring.

Did you know that Costa Rica is one of the richest countries in the world in terms of species variety, like birds, butterflies, orchids and others?



⁴ Taken from Pinto, Dorothy. 1993. *Negruta Canela, Negruto Carbón*. *Mapachín* series from UNED's Environmental Education Center. EUNED, San Jose, Costa Rica. Published in *Biocenosis* 16(1-2): 72 2002.

In the tree lives *Petrita* the squirrel,
Right now she is playing with a nut.

In the tree lives the little cricket *Glutton*,
He eats the leaves and is very... very gluttonous.

In the tree lives the spider *Canela*,
Weaving its immaculate web between the branches.

And there also lives the caterpillar, resting all wrapped up,
Who will very soon become a butterfly.

Each tree provides homes and offers life and warmth!
For this, we must offer them our love!

Introduction

Biological diversity, or biodiversity, refers to distinct living organisms which live in the same place; for example, in a garden, lagoon, ecosystem or country. It also includes the diversity found within each species, between various species, and between ecosystems.

The role of biodiversity in natural ecosystems:

- Maintaining climate
- Purifying air and water
- Conserving and maintaining soil fertility
- Storing essential nutrients for life (carbon, oxygen, nitrogen)
- Maintaining ecosystem functions (evolutionary processes)
- Absorbing and dissolving contaminants (organic waste, pesticides, heavy metals)



Activity 1 - Studying biodiversity

Characteristics	Size	Shape	Color
-----------------	------	-------	-------

Materials

- Paper bags for keeping the leaves and flowers
- Glass bottles for collecting insects
- Color pencils

What do I do?

1. With your teacher's help, form working groups with your classmates. Each group should get organized and collect various types of plants, leaves and insects) in the green areas of school (if your school does not have a green area, you can bring them in as homework from your house).
2. Once back in the classroom, each group should study what they have collected and create a list using the following chart:

You must understand Biodiversity in order to value it.



Flowers			
Leaves			
Insects			
Trees			

3. Each group should talk about the differences they find within each species and between the species. Also talk about the relationship between: plants, plants and flowers, plants and insects, insects and flowers; as well as the importance of biodiversity.

4. Choose a specific tree and learn more about this species. Find out whether or not it is native to Costa Rica, how long it takes to grow, and which other species depend on it.

Activity 2 - Benefits of biodiversity

Biodiversity has been very important in the evolution of human beings. Write some sentences about the importance of biodiversity and mention some of its uses and benefits to humans.

Write here:



Coral Reef



Tropical Rainforest



Páramo⁵



Cloud Forest



Mangroves



Tropical Dry Forest

⁵ Páramo: an ecosystem specific to neotropical highlands. In Costa Rica, the highlands of the Talamanca Range are characterized by this type of ecosystem.

Activity 3 - Learning by conducting research

Do some research on the biodiversity in our country (write your findings in your notebook):

- a) Why does Costa Rica have such great biodiversity?
- b) How many species of mammals and birds are there in this country?
- c) How many species of bats do you believe there are in our country?
- d) Why are bats important for biodiversity in Costa Rica?
- e) What is an ecosystem?
- f) Which of the different ecosystems drawn here are you familiar with?

Activity 4 - Learning with the Earth Charter

In the Earth Charter, we find the following principle about this theme:

“Protect and restore the integrity of Earth's ecological systems, with special concern for biological diversity and the natural processes that sustain life.” (Principle 5)

Do you agree with this principle? Why?

What does *the integrity of Earth's ecological systems* mean?

Which natural processes sustain life?

Protected Wilderness Areas

The Tree's Agony

Katia Villalobos Mora

Tell me, tree,
Why are you still and quiet?
Why do you seem sad and tired?
Is it because you no longer feel happy?
Or is it just life passing by?

Tell me, tree,
Why can we no longer see time playing inside you?
Nor the birds hovering in your branches?
Why has your greenness faded?

Yes, this is true.

I must confess that the life inside me no longer wants to go on,
I have watched with fright and fear,
What you have shamelessly been doing.

Next to me you planted a thousand brothers,
Together we all shook hands.
Pretty birds lived here with pleasure,
And they played without fear.

Beautiful flowers grew at our feet,
And the colorful butterflies made us beautiful.
But, today, for the progress you desire,
Everything along your path you come to kill.

You tell me, why?

Introduction

Costa Rica is distinguished worldwide for having a large percentage of protected territory (25%). Our protected areas are national parks, reserves, refuges and monuments. These areas conserve an important part of the biodiversity found in our country, and 5% of the planet's biodiversity. They provide refuge and food for plants and animals. They protect historic and archaeological sites. They are frequently visited by tourists, for their beauty and their natural and cultural richness.

Activity 1 - Our wilderness areas

Materials

Books, pamphlets and newspaper or magazine articles about national parks and a map of Costa Rica's conservation areas.

What to do?

1. Look through the newspaper articles, pamphlets and books for information on Costa Rica's national parks.
2. Choose an article and find out: the area's name, location, importance, problems, benefits and examples of the flora and fauna it contains.
3. Prepare a summary of the article to present to your classmates.
4. With the help of your teacher, and using the map, locate the parks you studied in their respective conservation area.

Activity 2 - Protected wilderness areas in my province

Do some research on the protected wilderness areas that exist in the province where you live.

1. How many are there? _____
2. Name(s) _____
3. Location _____
4. Size _____
5. Types of flora and fauna

6. Are endangered species protected?

7. Problems they face _____
8. Primary tourist attraction _____
9. Benefits it offers to the neighboring communities _____

The Earth Charter tells us: Promote the recovery of endangered species and ecosystems.



Once you have gathered this information, write a commentary on the importance of the protected area(s) in your region. Draw some conclusions or make some suggestions about how to avoid problems.

What am I doing about this?



Biological Corridors

Misingo finds a path to see his family

Mirian Viela

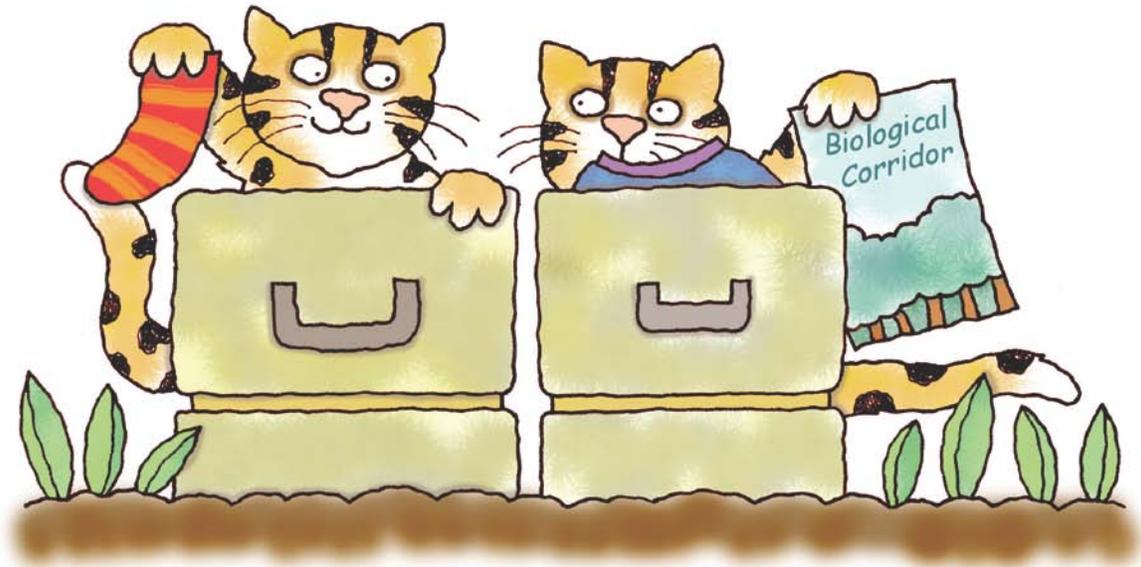
Misingo was a big and strong ocelot who lived with his parents and siblings in the north of the country. They lived in a beautiful forest with plenty of food and water. When *Misingo* found his mate, he left to live in the south of the country. His siblings and parents stayed in the north where they felt happier. For the first years after his departure, *Misingo* traveled frequently to visit his family. He made trips to celebrate birthdays, Christmas or simply to spend a few days with his loved ones.

Misingo enjoyed his visits very much, since he knew he could find water, food and places to rest for his family along the way.

As time went by, the path they traveled on changed significantly. There was less and less water, food and forest, until finally he could no longer cross from north to south. The path *Misingo* had used to visit his family was destroyed by the construction of highways and cities.

The children of his family were small and the trip became very difficult. Eventually, the trip north to visit the family was no longer possible. So, the cousins in the south were prevented from seeing their cousins in the north while they were growing up.

Many years went by, until humans began to allow the old paths to be reestablished in the forest and between forests. These paths are called “biological corridors”. Overjoyed with the chance to travel again, *Misingo* got the suitcases ready to go visit his relatives in the north. *Misingo* and his family happily and anxiously left to see how their cousins in the north had grown.



What are biological corridors?

Biological corridors are extensions of territory that link ecosystems and habitats together, whether natural or manmade. They make the migration and distribution of wild flora and fauna species possible. Their purpose is to ensure biodiversity conservation.

Activity 1 - Interpreting text

Why did Misingo and his family stop visiting their relatives in the north? _____

What made it possible for them to start visiting their relatives in the north again? _____

If you were in Misingo's place, living in one part of the country and your family in another, without being able to see each other, how would you feel? _____

What is a biological corridor? _____

Activity 2 - Understanding the meaning of a biological corridor

- In your own words, identify the purpose of creating biological corridors.

- Research the difference between a biological corridor, a National Park, and a Wilderness Life Refuge. Write your findings in your notebook.

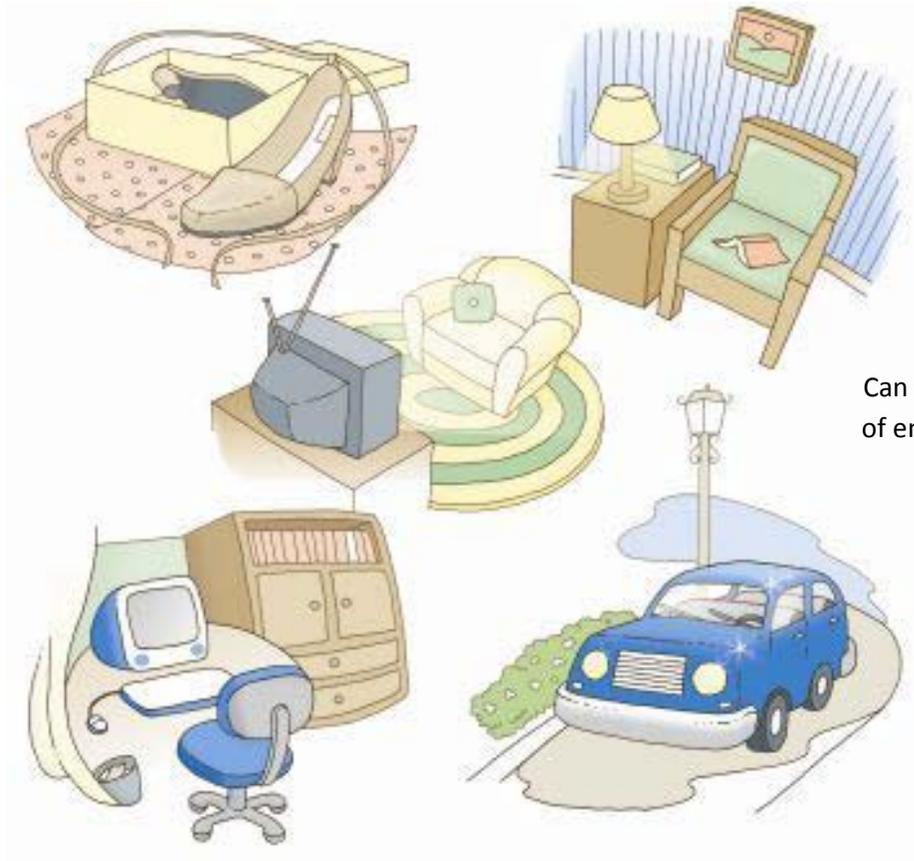
Theme 4 - Preventing and Mitigating the Impacts of Human Activity

Energy Conservation

Introduction

Human beings need a large amount of energy to live. For example, at home we use energy to cook, iron, watch television, listen to music, keep food fresh in the refrigerator, heat up the shower, and light up our rooms.

Everything we buy and use is related to energy, because energy is always needed in some form or another during fabrication. It is important to realize that a large portion of our global energy consumption goes toward the production of cars, clothes, home artifacts, and buildings. These products also require energy to be transported from one country to another. Realize that many of our products come from other countries.



Can you imagine the amount of energy needed to produce all of these items?

There are different kinds of energy that benefit humanity, like:

Solar Energy

Every day the sun casts vast amounts of energy on the Earth, which travels through the universe as light and heat. For this reason, the sun is considered our planet's most important energy source, and we make good use it during numerous activities.

Without the sun, our planet would be immersed in profound darkness. Forests and their vast plant and animal diversity would not exist, and neither would human beings.



Do you know what? The sun is the most important energy source on our planet. This energy does not even cost one penny, rather it is a gift to us.

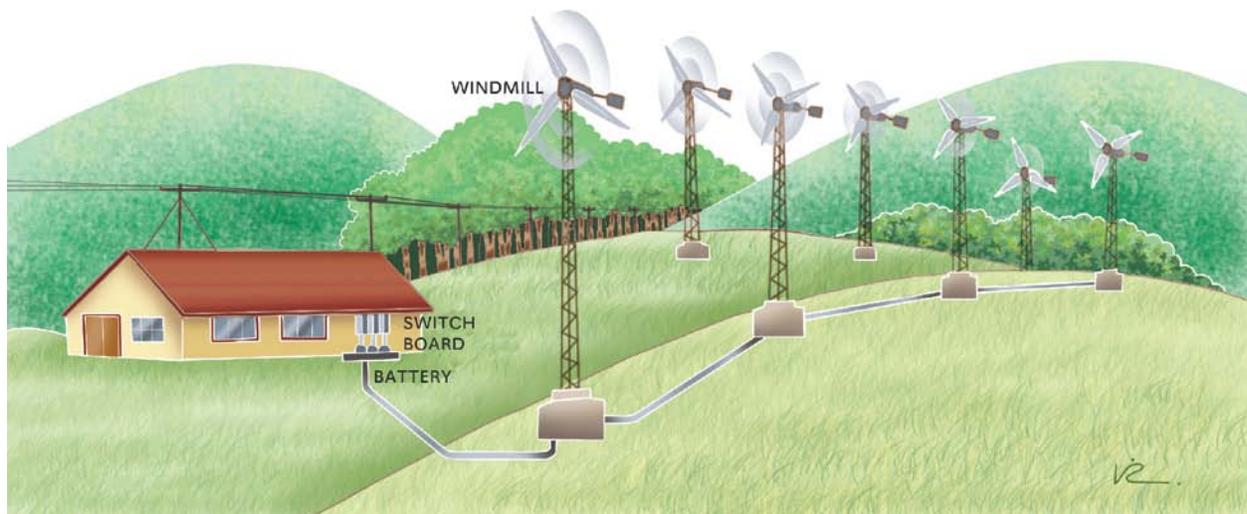
Wind Energy

Wind energy is produced by the force of the wind, and it does not cause contamination. Its disadvantage is that the wind does not always blow at the same speed in every place.

Wind energy is used to move sailboats, grind grain, turn windmills to extract water from underground wells, and also to move hot air balloons. The wind and the clever human being were the foundation for one of the most important inventions, air navigation.

Currently, wind energy is used to move “windmills” which produce electricity.

Basic Wind Farm



Let's learn to use energy wisely!

Excessive electricity use has caused severe damage to the planet. For example, to produce hydroelectricity, dams must be built, and this causes deforestation and the relocation of people.

For these reasons, we must save energy. How?

1. Always remember to turn off the lights when leaving the room. Convince your parents to use 25 or 50 watt bulbs, which use less energy.
2. Irons*⁶ use a lot of energy. For this reason, it is important not to frequently connect and disconnect the iron.
3. When you are not listening to the radio or sound system, or watching the television, you should turn these items off.
4. Open the refrigerator* only when necessary, since frequently opening and closing it wastes more energy and also does not keep food fresh as long.
5. Hot water showerheads* waste a lot of energy. For this reason, you should turn off the shower while soaping up. This way you can save water and energy.
6. Look with your parents to see if you have any electric wiring in poor condition, which not only wastes energy, but can also cause fires.
7. Use your hair dryer* as little as possible.

Activity 1 - Solar cooker

Here we explain how to make one:

Tools and Materials

- 2 cardboard boxes (one 38 cm on each side and the other a little bigger)
- 1 piece of cardboard to make the top
- 1 small roll of aluminum foil
- Glue (at least 8 ounces)
- A piece of glass the size of the large box

Do you and your classmates want to make a solar cooker so you can save electricity?



⁶ Items with a (*) use more energy, because they function through “resistance”. Resistance is a slow heating system which requires more time to heat up, implying greater energy consumption. For this reason, each time one of these items is disconnected, the resistance needs a lot of energy to heat up again.

- Wire rods (2mm thick and 30cm long)
- Wide adhesive tape
- Pages of newspaper or strips of cardboard
- Large scissors
- A small ruler
- A strip of cloth
- Pliers
- A meter stick
- A brush
- A pencil
- Black paint
- Motivation

How is it made?

Let's begin with the foundation:

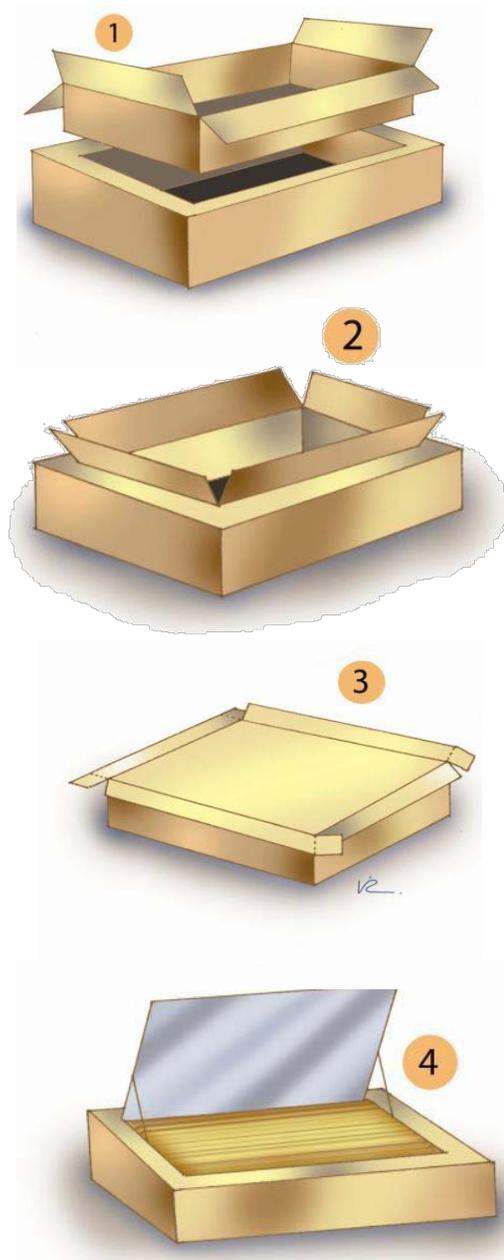
- Take the larger box and turn it upside down. Place the smaller box on top. Outline the small box and cut this out.
- Cover the small box with aluminum foil on the inside and out. Also cover the inside of the big box. Now put glue on the flaps of the small box and put it inside the bigger box (there should be a little bit of looseness, leaving a space of 2.5 cm between them).
- Once the glue has dried, turn the boxes upside down and fill up the space between them with balls of newspaper or cardboard sheets.
- Close up the big box with the tape.

Making the top:

- To make the top, cut the piece of cardboard so that there is an 8 cm overlap on three sides of the large box, leaving the fourth side to lift up the top. Cover the inside of the top with aluminum foil.
- Bend the wire as shown in the drawing and use it to keep the top in place.
- Next glue on the glass with silicone.
- Paint the outside with black paint.

You have made your solar cooker! Now put it somewhere where with a lot of sunlight and no wind.

How do I use this solar cooker?



Solar cookers use energy that does not contaminate the environment. The food you cook will not burn or stick, and you do not need to stir it. It is better to use black pots and tops. In the cooker, you can bake bread; prepare dishes, desserts and jam; cook meat, vegetables and eggs; toast dry fruit; and thaw out food. It is not recommended to fry things, because the oil does not heat up quickly. You should have patience, because food will take longer to cook than in a conventional oven. The best time to use the oven/solar cooker is when there is the most sun. Caution must be taken when taking the pots off, because they reach very high temperatures.

Activity 2 - Windmill

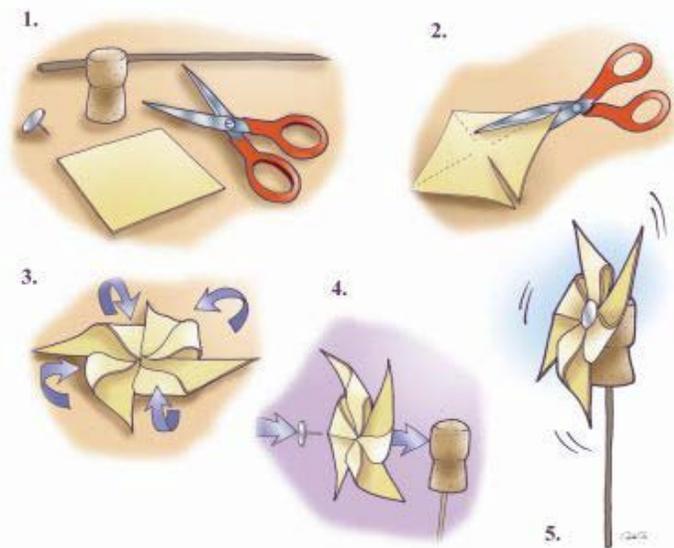
Let's get to work!

Materials

- A piece of paper shaped in a square
- A cork stopper
- Scissors
- Thumbtack
- A wooden stick

How is it made?

- a) Take the piece of paper and use the scissors to cut from each of the four corners toward the center, leaving a space in the middle.
- b) Bend each corner toward the middle.
- c) Make a hole in the cork and place the wooden stick in it.
- d) Fasten the center of the paper to the cork with the thumbtack.



Now tell a friend to blow and both of you can see what happens. Large windmills are constructed on this same principle (of course with different materials).

Activity 3 - Calculating electricity consumption

The first thing you need to do is find out the power of each of your appliances, in other words how many watts it uses. To do this, look at the following chart which tells you the power (in watts) used by each

Do you want to learn how to calculate the electricity consumption in your house?

appliance and the equivalent number of lightbulbs turned on for one hour.

Appliance	Power	Equivalency in Lightbulbs
Television	100W	1 lightbulb
Mixer	200W	2 lightbulbs
Refrigerator	200W	2 lightbulbs
Computer	200W	2 lightbulbs
Blender	300W	3 lightbulbs
Water heater	400W	4 lightbulbs
Washing machine	500W	5 lightbulbs
Coffee maker	800W	8 lightbulbs
Vacuum	1000W	10 lightbulbs
Iron	1000W	10 lightbulbs
Microwave	1000W	10 lightbulbs
Rice cooker	1200W	12 lightbulbs
Hair dryer	1500W	15 lightbulbs
Hot water showerhead	4000W	40 lightbulbs
Stovetop with four cookers	7000W	70 lightbulbs

What do I do?

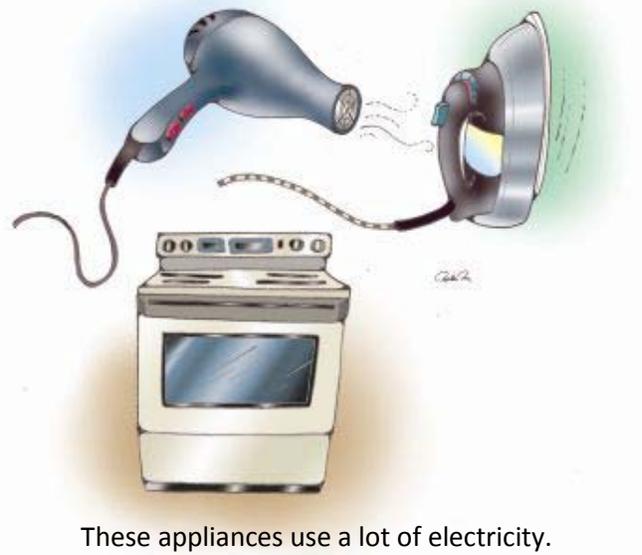
Each time you turn on an appliance in your house, write down in your notebook the equivalent number of lightbulbs you are using. Then add up the results. For example, if you use the hot water showerhead (40 lightbulbs), the stove (70 lightbulbs), the coffee maker (8 lightbulbs) and the microwave (10 lightbulbs), this will add up to 128 lightbulbs lit for one hour.

Next look at your power bill:

How many watts did you use in the last six months?

During which month did you use the most energy?

Why?



With the help of your family, come up with a plan to lower your electricity consumption.

Did you know that...

- Making paper destroys thousands of trees, and it uses thousands of liters of water and thousands of kW of energy?
- Aluminum is produced from bauxite which is a mineral often found in the forest?
- Making aluminum from recycled material uses 90% less energy than making it from bauxite?

Activity 4 - Daily energy consumption in my home

Make a list of the activities you do at home each day that use electricity.

Write down the amount of time (minutes/hours) you do each of these. You can use the following table:

Activity	Appliance	Time
Cooking	Stove	30 minutes
Watching TV	Television	60 minutes

Which activity uses the most electricity?

In which activities can you save electricity?

Activity 5 - The Earth Charter and energy use

In the Earth Charter, we find the following principles about this theme:

“Act with restraint and efficiency when using energy, and rely increasingly on renewable energy sources such as solar and wind.” (Principle 7b)

“Manage the extraction and use of non-renewable resources such as minerals and fossil fuels in ways that minimize depletion and cause no serious environmental damage.” (Principle 5f)

What do you understand from these principles? _____

Do you agree? Why? _____

Why must we *act with restraint when using energy*? _____

Find out what energy is renewable and what energy is not. Write down some examples of each.

Interesting Fact:

For about 3,500 years, human beings have been making glass from materials like sand. These materials are warmed to very high temperatures, until they melt and become transparent. To reach these high temperatures a lot of energy is needed. However, the energy saved by recycling one glass bottle could light a lightbulb for four hours.

Don't you think it is very exciting to participate and help our world not suffer so much? Let's decide to start saving energy today!



Water Resource Conservation

PETITION⁷

Manuel Aguilar Vargas⁸

The breeze comes and comes,
The breeze comes and goes,
Like waves, it has
Room to play.

The water is a girl
Who likes to play,
To run through the countryside
Until she reaches the sea.

The birds in the sky,
The fish in the water,
The fearless sail
Carries the canoe.

The creatures are begging,
From wherever they may be:
We want pure water



⁷ Published in the magazine *Biocenosis* 14(1-2): 32-33 2000.

⁸ A self-taught and retired man from Heredia.

And also pure air!

Introduction

Earth is a planet located in a very special position from the sun. If it were closer to the sun, the glaciers would melt and the oceans, lakes and rivers would warm up significantly and convert into steam. On the other hand, if it were further from the sun, these same bodies of water would freeze, and every kind of life would disappear from our beautiful planet.

For thousands of years, the Earth has had the same amount of water, and it is found in continuous movement; from the atmosphere to the Earth's surface and then returning to the atmosphere. This movement is known as the Water Cycle, and it is made possible by the sun and gravity, which drive the water and move it around.

The importance of saving water

Three-quarters of Earth's water is found in the oceans and seas: this is *saltwater*. The water in rivers, lakes, gullies and springs is called *freshwater*, and this is the scarcest type of water. Water can be purified through various types of treatment, and this is called *potable water*. This water is used for various activities, and once it is discarded it is called *wastewater*.

Today many countries are found in deserts and have a severe scarcity of freshwater. Is this not hard to believe when we have so much water around us? Now you can understand why it is so important to save water. The amount of water we have on this planet is very small considering the billions of humans that use it for all their activities, and especially considering humans that use it for drinking, cleaning up, preparing food, agriculture, recreation and more.

SOME FACTS AND STATISTICS ABOUT CLEAN WATER

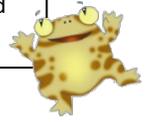
1. Of the six billion or more inhabitants of the world, at least 1,200 do not have access to clean water.
2. Dirty water is lethal. More than 2.2 billion people, primarily from developing countries, die each year from diseases related to contaminated water and poor sanitary conditions.
3. Over 200 tons of human-made trash is dumped into the rivers of our world each day.
4. Although 70% of the Earth's surface is covered in water, 97.5% of this is saltwater.
5. Even though the remaining water is freshwater, three-quarters of this is locked up in polar icecaps.
6. Currently, 70% of available freshwater is used for agriculture, and 60% of this water is wasted due to inefficient watering systems.

Source: AGUA POTABLE, "EL ORO CRISTALINO" DEL SIGLO XXI., Fr. J. Jesus Guzman, O.S.A.

You can save water on our planet if:

- You turn off the water while soaping up in the shower.
- You turn off the faucet while brushing your teeth.
- You only use the amount of water you actually need to wash your hands.
- When cleaning the dishes, you soap them up and rinse them at the same time.
- When cleaning off fruits and vegetables, you place them in a large container of water and about five drops of chlorine, instead of washing them one at a time.
- When cooking vegetables, you only use a little bit of water.
- When washing the car, you use a bucket of water instead of the hose, as the hose wastes a lot of water.

Rainwater and wastewater are also freshwater... but we must have clean freshwater for bathing, drinking and cooking.



Activity 1 - Reflecting on water use

List five activities where human beings use water and three examples of how this damages our water resources.

ACTIVITY

CONSEQUENCE

Activity 2 - Learning with the Earth Charter

In the Earth Charter, we find the following principle:

“Guarantee the right to potable water, clean air, food security, uncontaminated soil, shelter, and safe sanitation, allocating the national and international resources required.” (Principle 9a)

What does this excerpt tell you?

Do you agree that we all have the right to potable water? Why?

What can you do about this?



In order to save water, you can do the following:

Make signs to remind people about the need to save water, and put them in places where your family uses water.

How great you feel when you shut off the faucet while brushing your teeth!

Activity 3 - Learning with the Earth Charter

We find the following in the Earth Charter: “The resilience of the community of life and the well-being of humanity depend upon preserving a healthy biosphere with all its ecological systems, a rich variety of plants and animals, fertile soils, pure waters, and clean air.” (Preamble)

- What makes up the biosphere? _____

- Do you agree that *the well-being of humanity depends on a healthy biosphere*? Why? _____

Solid Waste

Trash is simply used nature that has lost its dignity.

Mario Pezzotti

Introduction

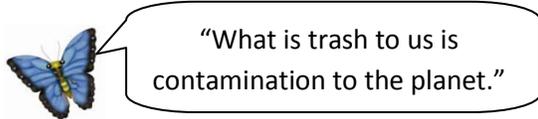
Trash is a mixture of all the products we throw away after using them in our various activities. However, if we separate these products we can reuse them, and our problem of trash can be turned into a source of work and money for many people.



Fruit peels:
2-3 weeks

The waste from plants and animals is organic, because it is decomposed by microorganisms. This is why it is called biodegradable. On the other hand, plastic, aluminum, batteries, glass, among other materials, remain on the planet for many years. These materials are inorganic, or not biodegradable.

Look at the drawing and see how long it takes for certain types of solid waste to decompose:



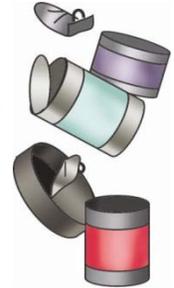
Glass:
indefinitely



Plastics:
400 years



Tires: 500
years or



Aluminum
containers: 100



Twine: 3-14
months

Cellophane:
1-2 years

Trash is one of our countries' biggest problems. Much of it comes from buying products we do not need, or from excessive packaging (bags, boxes, etc.) that generate unnecessary trash that does not easily decompose. This is why it is very important to reduce the amount of trash you make in school and at home, using the four R's.



What does
this mean?



Refuse

This means not accepting products, because of the material they are made of, their packaging, or the



Recycle

When solid waste is sorted, its value increases. Therefore, if we separate our trash and send it to a collection center, it can then be sold to businesses

contamination they create when thrown away (like batteries, disposable dishware or plastic packaging).

that recycle cans, plastic, paper and glass.



Reduce

Only buy things which we absolutely need. We should also reduce the amount of energy and water we use.

Reuse

Use packaging which is returnable or reusable. Donate clothes, games and kitchenware you no longer use, as well as books and magazines.

Have you noticed that many of our things are made of aluminum and plastic?

Did you know that...?

- Aluminum is made from bauxite, which is a mineral extracted from the ground. Often bauxite is found in tropical forests, which are destroyed in order to extract it.
- Plastic is made from petroleum. There are softer plastics, such as bags, and harder plastics, such as toy parts.



What can be reused or recycled?

Newspapers, phonebooks, magazines, printing cartridges, carpet, manuals, books, aluminum cans, glass bottles and plastic.

When we use the four R's:

- We cut down on contamination.
- We save water and electricity.
- We protect forests (recycling paper).
- More oxygen will be produced, because there will be more trees.
- Recycling becomes a source of employment, which benefits families.

Activity 1 - The 4 R's

Now that you are familiar with these, you can help protect our remaining natural resources. Choose one of the following activities:

- Write a paragraph describing an activity for each of the four R's;
- Draw actions which depict the meaning of each of the four R's; or
- Write a short story about this theme.
(You can do this in your notebook.)

Activity 2 - Making my own school folder



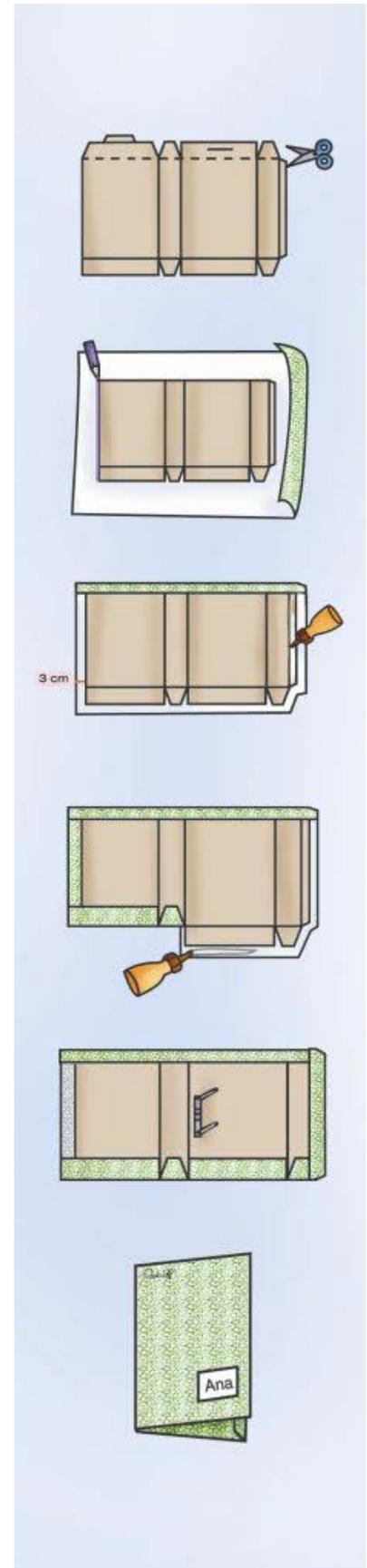
With a cereal box you can create your own school folder. Do you want to try it?

Tools and Materials

- A medium sized cereal box
- Gift wrapping paper or something similar (which has been used)
- Glue
- Scissors

How do I do it?

1. Open up the cereal box on the narrowest side.
2. Cut off the flaps on the top of the box.
3. Lay out the box on top of the upside-down paper.
4. Using a pencil, draw the outline of the box on the paper.
5. Cut the paper 3 cm further out from the lines you drew in step 4.
6. Dab the edges of the box and the paper with glue, and completely cover the box.
7. Flip up the bottom flaps of the cereal box and glue the outside edges only.
8. Take the narrow side of the box and turn it inward.
9. Ask for a hole puncher or drill and make holes where you will put the clip.
10. Decorate the front with your name and your school's name.
Show your classmates how you have learned to reuse cereal boxes.



Activity 3 - Recycling at school

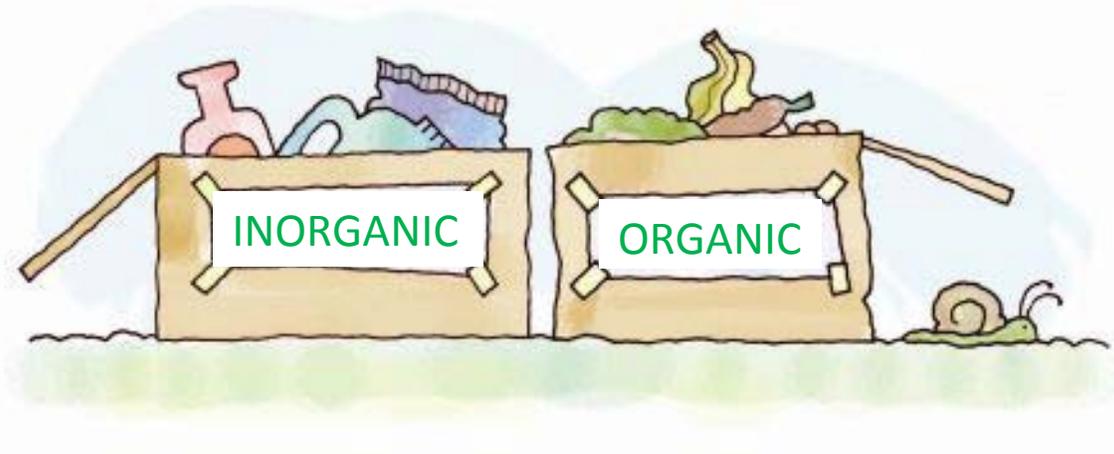
With support and guidance from your teacher and some of your classmates, get a working group together.

What do you think about starting a recycling project at your school?



To start a recycling project at your school, use the following work plan:

1. With support from the School Administration, inform your entire school community about the project, and try to motivate them to place trash in the proper containers.
2. Find a way to install trashcans, clearly indicating: organic, glass, aluminum and plastic. Identify strategic places in your school to place these containers.
3. Identify places where paper is thrown out (like offices, industry, businesses, etc).
4. Find out if there are groups or businesses in your community that collect paper, and talk to them about your recycling project.
5. Organize the following:
 - How it will be collected
 - Where it will be collected
 - When it will be collected
 - Who will be responsible
6. Coordinate with the group or business the delivery of paper or aluminum and the form of payment for these materials.



Activity 4 - Learning with the Earth Charter

The Earth Charter says:

“Adopt patterns of production, consumption, and reproduction that safeguard Earth's regenerative capacities, human rights, and community well-being.”

(Principle 7)

What does *Earth's regenerative capacities* mean?

Why do we have to adopt *patterns of production, consumption, and reproduction that safeguard Earth's regenerative capacities*? _____

Organic Agriculture

Introduction

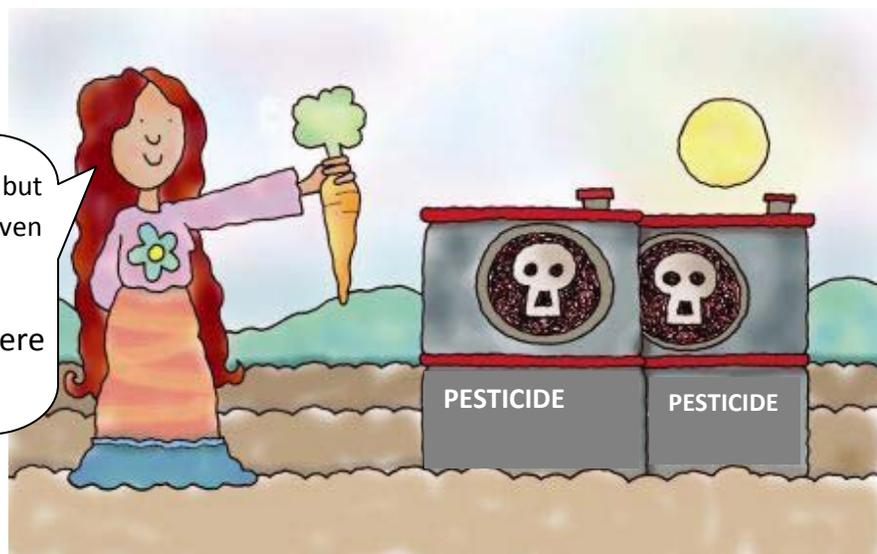
One of the most beautiful places in our grandparents' homes was their gardens. These gardens had a variety of flowers, butterflies, bees, squirrels and birds, because they fertilized the soil with fruit and vegetable peels. Also, as vegetation was very abundant, the leaves that fell from the trees acted as sponges to better absorb rainwater.

Earthworms were amongst the organisms that fertilized the soil, and they lived inside the ground. They moved around in the tunnels they made, and these tunnels helped circulate air and water, allowing roots to grow and obtain nutrients.

One way you can help care for the planet is by making organic fertilizer with your organic waste. This will help the soil recuperate its fertility.

Pesticides help control pests, but they can also poison us and even cause death.

Stay away from areas where there are pesticides!



Activity 1 - Making organic fertilizer

1. Look for a trashcan or some container to put your organic waste. Make a sign and place it on the container, inviting everyone to help separate their domestic waste.
2. Get an adult to help you make a 1 meter long by 1 meter deep hole, somewhere not too far from the kitchen of your house.
3. Cover the bottom of the hole with dry branches and leaves, grass, and tree bark so there will be good drainage for the vegetable juices. Place the organic waste on top, creating a layer of organic waste, and cover it with the same soil that you took out when you made the hole.
4. Sprinkle a little bit of ash and lime (calcium carbonate) on top.
5. Each time you add more organic waste, you should cover it again with soil. This way you will avoid bad odors and not attract flies and other animals.
6. Cover the hole with wood or with a thick piece of plastic.
7. Stir the different layers every five days, so they will decompose more quickly.

Here is the key to making organic fertilizer.



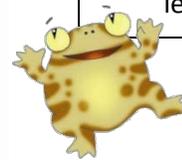
After two or three months you will have organic fertilizer, with which you will be able to fertilize school gardens or market garden crops. Remember to only place it around plants and not to use it as dirt. This will also help the soil conserve moisture better.

Activity 2 - Making a compost bin

Materials

- A 50 cm wide and 25 cm tall wooden box with legs and several very small holes on the bottom
- Stones, grass, decomposing vegetable waste, mud and manure
- Earthworms
- A thin piece of cloth
- Disposable gloves
- Motivation

Another way to get organic fertilizer is by making a compost bin. Do you want to learn how?



What do I do?

1. Using the disposable gloves, place the grass and stones at the bottom of the box.
2. Place soil mixed with mud, manure and the vegetables on top. Next, paying close attention, place the earthworms in one at a time.
3. Wet the cloth and use it to cover the box. Place it in the shade.
4. Sprinkle the cloth with water every day to keep it moist and make sure the soil also stays moist.
5. Each week, feed the earthworms cornmeal and decomposing lettuce.

Three months later, the soil will be fertilized and ready to be used as organic fertilizer (compost). Remember that your school's garden needs this fabulous fertilizer. Some farmers may also be interested in buying it.

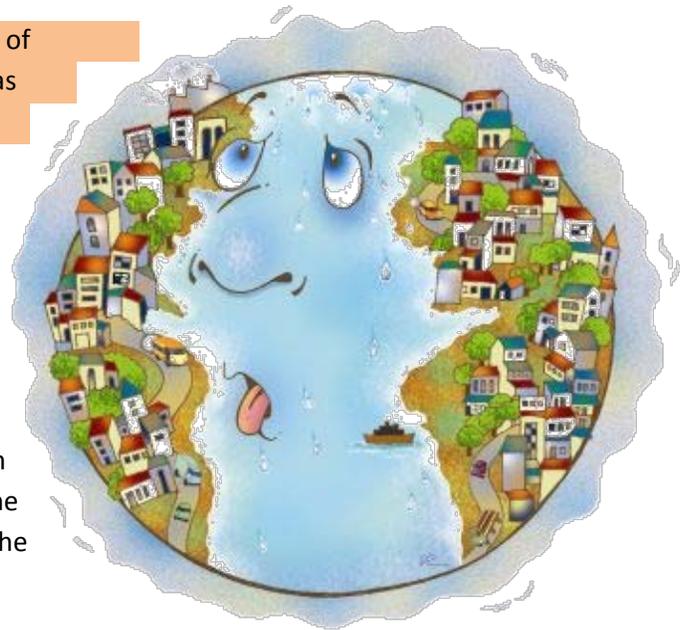
Climate Change

EARTH IS GETTING WARMER!

Our atmosphere is suffering changes at the hands of environmental contamination, and this is known as CLIMATE CHANGE.

Introduction

Our atmosphere, which makes life on Earth possible, is made up of gases such as oxygen and ozone. Ozone acts as a shield, filtering damaging radiation from the sun so it does not reach Earth. The part of our atmosphere which contains large amounts of this gas is known as the ozone layer. In addition, the atmosphere warms the Earth and regulates the planet's temperature.



Atmospheric contamination and deforestation, both produced by human activities, are warming the Earth's climate by increasing the concentration of gases like carbon dioxide, methane and nitrous oxide in the atmosphere.

The increase in air contamination from, among other things, burning fossil fuels to run cars and factories, creates what is called the greenhouse effect.

Additionally, contamination causes the depletion of ozone in the atmosphere. Sometimes we hear news about the hole in the ozone layer getting bigger. This means that more damaging radiation can reach the

Earth's surface, increasing diseases such as skin cancer. This effect is caused by using substances known as chlorofluorocarbons, or CFCs.

Contaminant gases:

- i. Chlorofluorocarbons, or CFCs, used in refrigerants, aerosols, synthetic foam components, detergents and other items.
- ii. Methane from swampy areas and released from animal excrement and solid waste.
- iii. Nitrous oxide produced by vehicle motor combustion and chemical fertilizers.

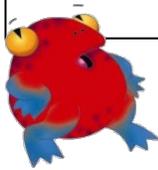
Climate change impacts

Scientists predict that the temperature of the planet will rise 2-3 degrees Celsius in the following years, which will have significant impacts, such as:

- a. Deserts will become hotter, and water scarcity will increase.
- b. Agricultural land will become arid.
- c. Glaciers and a significant portion of the polar icecaps will melt, causing flooding in coastal areas, islands and cities. This will cause beach, estuary and marsh erosion. Coastal swamps and aquifers will experience saltwater contamination.
- d. Infectious diseases like cholera, malaria, dengue fever and yellow fever will increase.

These impacts will not only cause great damage to the environment, but they will also damage the economy and have negative impacts on the health of individuals, families and populations.

How can we prevent global climate change?



How can we prevent climate change?

To overcome this problem, all of us and every country on Earth must take part in actions like:

- Not burning vegetation.
- Using less petroleum. In other words, using less combustibles and lowering consumption, since most of the items we buy today come from petroleum.
- Preventing deforestation.
- Using vehicles less frequently, since they produce contaminant gases that cause air contamination, the greenhouse effect, and acid rain.

Next time you need to go somewhere nearby, walk or bike there. This way you can help reduce the warming of our planet.

Activity 1 - Learning with the Earth Charter

In the Earth Charter, we find the following:

“Take action to avoid the possibility of serious or irreversible environmental harm even when scientific knowledge is incomplete or inconclusive.” (Principle 6a)

- What is *serious or irreversible environmental harm*? _____

- What action could we plan and carry out to avoid serious environmental harm? _____

Activity 2 - Learning by conducting research

Research:

- What does the ozone layer do? _____

- Why is the ozone layer depleting? _____

- What are CFCs, and which items could you have in your home that use CFCs? _____

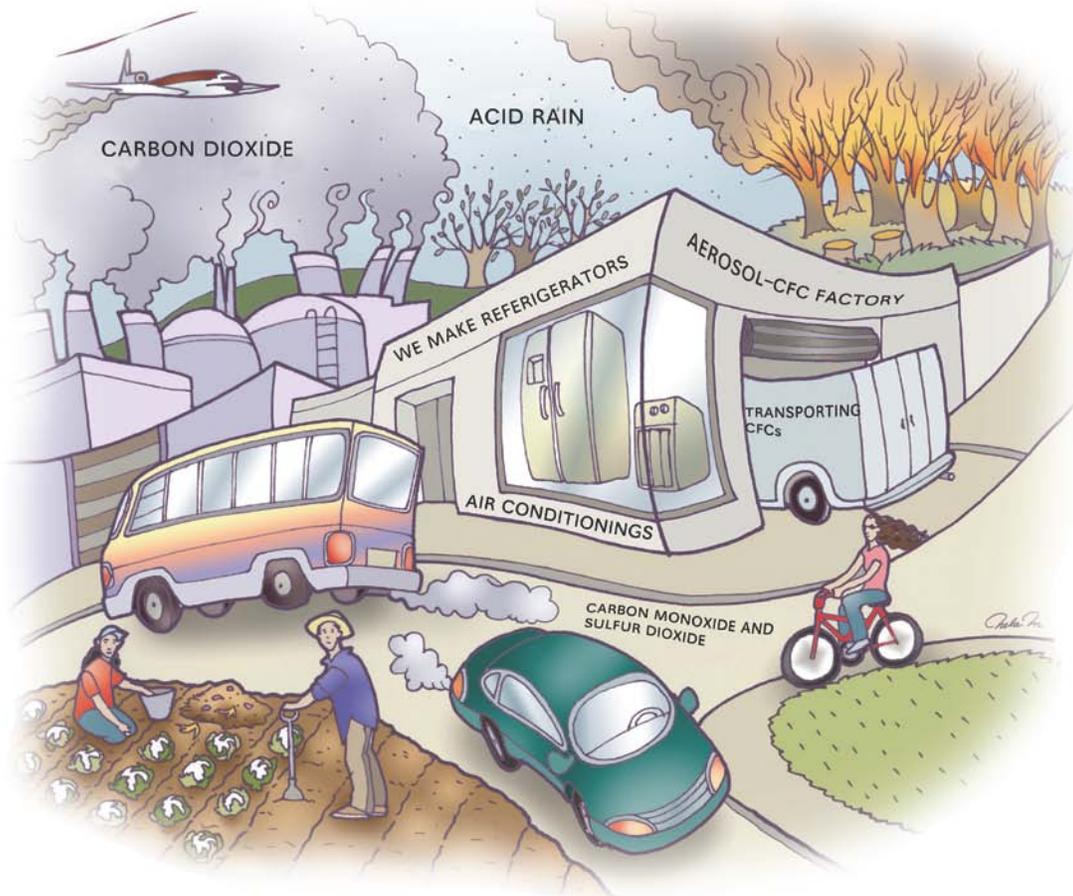
- What is the greenhouse effect? _____

Activity 3 - Identifying how I contribute to climate change

Look at the clothes, shoes and glasses you wear and the paper, pencils, bags and other things you use. Choose three items and identify the primary material needed to make them.

Which of these required petroleum to be made? _____

In the following drawing you will find activities which contribute to climate change. Color them in red.



Activity 4 - We are making commitments!

We can all help!

Write down actions you will do over the year to prevent climate change.

I, _____, will commit to the following:

1. _____
2. _____
3. _____
4. _____
5. _____

Signature: _____ Date: _____

Glossary

Windmill: A wind motor used to produce electricity. An apparatus that transforms wind energy into electricity through rotors and blades.

Bauxite: Hydrated aluminum oxide containing a relatively specific amount of iron oxide and tending to be of a whitish, grey or reddish color. A reddish sedimentary rock formed by aluminum hydrates, iron oxides, and aluminum silicates. It is the primary source for obtaining aluminum.

Chlorofluorocarbons or CFCs: Chlorofluorocarbons, known as CFCs, are compounds that contain carbon, chlorine, bromine, fluorine, and sometimes hydrogen. CFCs began being produced in the 1930s for refrigeration. Afterward, they were used as propellants in spray cans and as components of synthetic foams and detergents, amongst other uses.

Community of life: A synonym for all forms of life.

Conservation: Care and maintenance of all living species in a natural area, in a way that causes no damage or alteration.

Couplet: A type of poetic folklore. It typically consists of one stanza with four verses. It is popular poetry that is simple, expressive and easily memorized. Its origins come from Spanish songs and refrains, but the couplet was modified in the Americas, where new creations and reinterpretations were made. In *Guanacaste*, couplets are called *bombas*.

Watershed: A region with the capacity to collect rainwater, which is then directed back toward the river.

Ecosystem: A set of living beings and environmental conditions (climate, soil, topography, water, etc) that exist in a specific location and that are interrelated.

Endemic species: An animal or plant species local to a particular region.

Species: A set of similar individual beings that is capable of reproducing with each other.

Extinction: The total disappearance of a species due to natural disasters or human activity.

Fauna: A collection of all the animal species in a country or region.

Flora: A collection of all the plant species in a country or region.

Habitat: Physical medium or environment, in which a living being or a community exists and develops.

Identity: A set of symbolic and communal elements that produces feelings of cohesion in a human group, shaped by social relations and interactions.

Management: Use and maximization of natural resources in a manner that guarantees their protection and restoration.

Multiethnic: The coexistence of distinct ethnic groups. These ethnic groups define themselves as closed groups, believing they have common ancestors and are from the same lineage.

Ocelot: A carnivorous American mammal with soft, bright fur designed in various shades.

Middle East: A region in Asia comprised of countries such as: Afghanistan, Iran, Iraq, Kuwait, Pakistan and Turkey, amongst others.

Cultural heritage: Goods that are an expression or testimony to human creation or natural evolution, and which have a particular relevance to archaeology, history, literature, education, art, science and culture in general.

Respect: Showing consideration towards others. Accepting others and their ways of thinking, even though they may not be the same as ours; understanding personal and cultural differences.

Resource: Any natural element whose direct or indirect use benefits humanity, such as air, soil, minerals, animals and vegetation.

Wilderness: That which grows naturally in the forest, jungle or countryside, without being cultivated.

Answer Key

Activity 1, Cultural and Ethnic Diversity Theme, Page 24

SPANISH:

BREAD

GUITAR

HORSE

INDIGINOUS:

CHOCOLATE

CORN

TOMATO

AFRICAN:

MARIMBA

QUIJONGO

Activity 2, Cultural and Ethnic Diversity Theme, Page 25

Corn, squash (*chayote*), turkey (*chompipe*), sapodilla (*zapote*), peach palm (*pejibaye*), annatto (*achiote*), potato, squash (*ayote*), pumpkin/gourd (*zapallo*), tomato, pineapple, papaya, avocado, yucca, custard apples (*anona*) and chilies.

Activity 3 - Climate Change Theme, Page 62

1. Factory exhaust
2. Automobile and bus exhaust
3. Refrigerant and aerosol factory producing CFCs
4. Commercial airplane
5. Acid rain
6. Forest fire

Learn more about the Earth Charter!
This can guide your decisions in life.

The Earth Charter

Preamble

We stand at a critical moment in Earth's history, a time when humanity must choose its future. As the world becomes increasingly interdependent and fragile, the future at once holds great peril and great promise. To move forward we must recognize that in the midst of a magnificent diversity of cultures and life forms we are one human family and one Earth community with a common destiny. We must join together to bring forth a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace. Towards this end, it is imperative that we, the peoples of Earth, declare our responsibility to one another, to the greater community of life, and to future generations.

Earth, Our Home

Humanity is part of a vast evolving universe. Earth, our home, is alive with a unique community of life. The forces of nature make existence a demanding and uncertain adventure, but Earth has provided the conditions essential to life's evolution. The resilience of the community of life and the well-being of humanity depend upon preserving a healthy biosphere with all its ecological systems, a rich variety of plants and animals, fertile soils, pure waters, and clean air. The global environment with its finite resources is a common concern of all peoples. The protection of Earth's vitality, diversity, and beauty is a sacred trust.

The Global Situation

The dominant patterns of production and consumption are causing environmental devastation, the depletion of resources, and a massive extinction of species. Communities are being undermined. The benefits of development are not shared equitably and the gap between rich and poor is widening. Injustice, poverty, ignorance, and violent conflict are widespread and the cause of great suffering. An unprecedented rise in human population has overburdened ecological and social systems. The foundations of global security are threatened. These trends are perilous—but not inevitable.

The Challenges Ahead

The choice is ours: form a global partnership to care for Earth and one another or risk the destruction of ourselves and the diversity of life. Fundamental changes are needed in our values, institutions, and ways of living. We must realize that when basic needs have been met, human development is primarily about being more, not having more. We have the knowledge and technology to provide for all and to reduce our impacts on the environment. The emergence of a global civil society is creating new opportunities to build a democratic and humane world. Our environmental, economic, political, social, and spiritual challenges are interconnected, and together we can forge inclusive solutions.

Universal Responsibility

To realize these aspirations, we must decide to live with a sense of universal responsibility, identifying ourselves with the whole Earth community as well as our local communities. We are at once citizens of different nations and of one world in which the local and global are linked. Everyone shares responsibility for the present and future well-being of the human family and the larger living world. The spirit of human solidarity and kinship with all life is strengthened when we live with reverence for the mystery of being, gratitude for the gift of life, and humility regarding the human place in nature.

We urgently need a shared vision of basic values to provide an ethical foundation for the emerging world community. Therefore, together in hope we affirm the following interdependent principles for a sustainable way of life as a common standard by which the conduct of all individuals, organizations, businesses, governments, and transnational institutions is to be guided and assessed.

<p style="text-align: center;">I. RESPECT AND CARE FOR THE COMMUNITY OF LIFE</p> <ol style="list-style-type: none"> 1. Respect Earth and life in all its diversity. 2. Care for the community of life with understanding, compassion, and love. 3. Build democratic societies that are just, participatory, sustainable, and peaceful. 4. Secure Earth's bounty and beauty for present and future generations. 	<p style="text-align: center;">II. ECOLOGICAL INTEGRITY</p> <ol style="list-style-type: none"> 5. Protect and restore the integrity of Earth's ecological systems, with special concern for biological diversity and the natural processes that sustain life. 6. Prevent harm as the best method of environmental protection and, when knowledge is limited, apply a precautionary approach. 7. Adopt patterns of production, consumption, and reproduction that safeguard Earth's regenerative capacities, human rights, and community well-being. 8. Advance the study of ecological sustainability and promote the open exchange and wide application of the knowledge acquired.
<p style="text-align: center;">III. SOCIAL AND ECONOMIC JUSTICE</p> <ol style="list-style-type: none"> 9. Eradicate poverty as an ethical, social, and environmental imperative. 10. Ensure that economic activities and institutions at all levels promote human development in an equitable and sustainable manner. 11. Affirm gender equality and equity as prerequisites to sustainable development and ensure universal access to education, health care, and economic opportunity. 12. Uphold the right of all, without discrimination, to a natural and social environment supportive of human dignity, bodily health, and spiritual well-being, with special attention to the rights of indigenous peoples and minorities. 	<p style="text-align: center;">IV. DEMOCRACY, NONVIOLENCE, AND PEACE</p> <ol style="list-style-type: none"> 13. Strengthen democratic institutions at all levels, and provide transparency and accountability in governance, inclusive participation in decision making, and access to justice. 14. Integrate into formal education and life-long learning the knowledge, values, and skills needed for a sustainable way of life. 15. Treat all living beings with respect and consideration. 16. Promote a culture of tolerance, nonviolence, and peace.

Let ours be a time remembered for the awakening of a new reverence for life, the firm resolve to achieve sustainability, the quickening of the struggle for justice and peace, and the joyful celebration of life.

Note: The full text of the Earth Charter is available at www.earthcharterinaction.org

The printing of this book
was completed in March 2005
at the graphic design studios of

EDITORAMA, S.A.

Tel: (506) 255-0202

San Jose, Costa Rica

Nº 16,619