

Samples From the Hip Hop Healthy Heart Program for Children™

Module 8: Join the Green Team!

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Module 8 – Join the Green Team! – includes 7 units:

Introduction

Unit 1: Think Green!

Unit 2: Respect and Protect!

Unit 3: Air Aware...

Unit 4: Water Wise...

Unit 5: Power Up!

Unit 6: Green Thumb Gardening

Unit 7: Green Health Care

Each Unit Includes:



- **Teacher Background Information**
- **Three lesson plans, worksheets and answer keys designed for**
 - K – 3rd grade students or
 - 4th – 6th grade students
- **Enrichment activities for group or independent study in**
 - K – 3rd grade
 - 4th-6th grade
- **Appendix with additional worksheets and resources**





In this document:



1. **Module 8 Lesson Plan Summary 4-6th Grade** (pages 2-5)
2. **Samples from Lesson Plan for Unit 1, Lesson 2: K-3rd Grade** (pages 6-16)
3. **Sample Activities from Unit 2, Lesson 1 & Unit 4, Lesson 1: K-3rd Grade** (pages 17-18)
4. **Enrichment Activity from Unit 5: 4th – 6th Grade** (page 19)
5. **Sample Activity from Unit 7, Lesson 3 : 4th-6th Grade** (pages 20-24)
6. **Samples from Unit 3 Appendix** (pages 25-32)
7. **Sample Hip Hop Rhyme from Unit 6** (page 33)

Module 8 Lesson Plan Summary

Unit	Objectives	Activities/Worksheets
<p style="text-align: center;">1 Think Green! (3 Lessons)</p> 	<ul style="list-style-type: none"> • Explain what it means to be part of an effective team • Explain the concept of sustainability • Describe how minerals, air, water, energy, land, and all living organisms depend on each other through time and around the globe • Describe the roles of producers, consumers and decomposers in an eco system • Explain what is meant by the “human footprint” • Describe how human activities affect the environment • Differentiate between conservation, preservation and exploitation • Identify some reasons why organisms become threatened, endangered or extinct • Describe ways in which some historical events and choices we are making today affect the use of natural resources. 	<p><i>Think Green</i> Hip Hop Rhyme Great Teams! Checklist Great Teams! Worksheet and Guide Sustain-Ability Chart and Key Team 21! Worksheet and Guide Key Player – You! Worksheet and Guide Ecosystem Interrupted Guide Ecosystem in Balance Guide It’s a Match! Worksheet and Key My Observations Worksheet Eco-Pal Worksheet Eco-Pal Images for distribution Human Footprint Worksheet and Key Mindful Choices Handout Kids from Team 20 Stories Kids from Team 20 Worksheet Green Team Workouts 1 Think Green! Vocabulary Guide Assessment Letter for Parents Images for display</p>
<p style="text-align: center;">2 Respect and Protect! (3 Lessons)</p> 	<ul style="list-style-type: none"> • Identify ways in which the human community depends on elements and minerals for survival. • Identify geographic origins of natural resources • Describe how waste is generated • Identify some items that can be recycled and some that cannot • Describe how everyday activities affect the environment • Explain how some items are recycled and reused. • Identify some natural resources used to make various products • Identify local natural resources • Demonstrate respect for natural resources 	<p><i>Minerals Rock!</i> Hip Hop Rhyme Atoms Handout Essential Elements Summary Design a Jersey! Elements Mix and Key Essential Minerals Handout Minerals Match! Worksheet & Key Green Team Workouts 2A and 2B Ace Reporter Worksheet Design a Jersey for Me! Worksheet Scratch a Sample! Worksheet Guess How Long! Worksheet & Key My Toss it Record Great Plays for the Green Team Checklist Find Out about Fashion Worksheet Interview Team 20 Guide Vocabulary Guide Assessment Letter for Parents Images for Display</p>

Unit	Overview	Activities/Worksheets
<p data-bbox="199 212 358 306">3 Air Aware... (3 Lessons)</p> 	<ul data-bbox="399 212 881 961" style="list-style-type: none"> • Explain why clean air is important to life • Experience the process of respiration • Explain the process of transpiration • Differentiate among polar, temperate and tropical climates. • Explain how changes in air quality affects organisms in various climates • Describe how air in our environment has changed over time • Identify activities that are affecting air quality in our time • Identify different types of air pollution and their sources. • Identify ways human health can be affected by pollution. • Identify ways to improve indoor and outdoor air quality. • Make choices that demonstrate respect for air quality at home and around the globe. 	<p data-bbox="914 212 1385 877"> <i>Look Up!</i> Hip Hop Rhyme Oxygen’s Journey Worksheet Role of Photosynthesis Handout Our Atmosphere Handout Climates Worksheet Sing Out! Pros and Cons Worksheets & Guides Air Quality Index Handout Greenhouse Effects Worksheet & Guide Wordsearch & Key Interview a Specialist Guide On the Team Checklist Green Team Workouts 3 Plants! Plants! Plants! Worksheet Walk It! Bike It! Worksheet Vocabulary Guide Assessment Letter for Parents Images for Display </p>
<p data-bbox="188 974 370 1068">4 Water Wise... (3Lessons)</p> 	<ul data-bbox="399 974 881 1869" style="list-style-type: none"> • Identify the Earth’s key water resources • Explain the role of water in sustaining life on Earth • Explain the water cycle • Identify plants and animals found in salt water, fresh water and wetlands • Explain the interdependence of plants and animals in a water-related biome. • Explain how various species play different roles in an ecosystem • Describe how natural factors affect life in water-related systems. • Identify sources of water pollution. • Describe the impact of human activity on water resources • Identify ways in which individuals and communities can help sustain water quality • Take responsibility for respecting and protecting water resources • Communicate effectively with community members and decision-makers about issues related to water quality 	<p data-bbox="914 974 1357 1822"> <i>Water Moves!</i> Hip Hop Rhyme Freshwater Presentation Items Freshwater Players Worksheet Saltwater Presentation Items Saltwater Players Worksheet Water Cycle Handout Water PLAY! (Text & Visual) Water Changes! Water Everywhere! Worksheet & Key Biome Species Worksheet Groundwater Handout Bubble Trouble Worksheet We Use It! Worksheet & Key Green Team Workouts 4A Team 20 So Far... Worksheets As We See It Worksheet Communicate! Checklist Draft a Letter Worksheet One Change Worksheet Green Team Workouts 4B Water Wise Vocabulary Guide Assessment Letter for Parents Image for Display </p>

Module 7 Lesson Plan Summary

Unit	Objectives	Activities/Worksheets
<p style="text-align: center;">5 Power Up! (3 Lessons)</p> 	<ul style="list-style-type: none"> • Identify the Earth’s key energy resources • Explain the role of energy in sustaining life on Earth • Explain how coal, fossil fuels, natural gas and nuclear energy are used • Explain the carbon cycle • Describe how natural factors affect life in energy-related systems. • Describe the impact of human activity on energy resources • Describe the impact of relying on non-renewable resources • Identify some plants and animals affected by the overuse of coal, fossil fuels and natural gas • Describe how the use of coal, fossil fuels and natural gas challenge sustainability • Identify renewable energy resources including water, solar power, wind power, biofuels and geothermal energy. • Explain how one or more changes in energy policy are supporting sustainability • Identify one or more changes students can make right now to support sustainability • Examine and compare proposals for reducing energy use • Put at least one new energy saving habit into practice 	<p><i>Power Up!</i> Hip Hop Rhyme Power Players! Worksheet & Guide Lights On! Handout Match It! Worksheet & Key Energy Audit Benefits & Costs Worksheet & Key Buddy T. Morrow Writing Guide Look Back! Worksheet Renewables! Worksheet & Key The \$1.00 Challenge Energy Savers! Worksheet Green Team Workouts 5 Role of Photosynthesis Vocabulary Guide Assessment Letter for Parents Energy Images</p>
<p style="text-align: center;">6 Green Thumb Gardening (3 Lessons)</p> 	<ul style="list-style-type: none"> • Identify crops that provide foods and fibers • Describe how humans rely on the food and fiber system • Identify various plants and animals that humans may call pests. • Describe various food webs including a food web that includes humans • Describe the local/global journey of agricultural commodities from production to consumption 	<p><i>Dig In!</i> Hip Hop Rhyme Getting’ to Me Worksheet Nitrogen Cycle Worksheet & Key Compost Handout Build a Bin! Guide Cut Waste! Worksheet Food Around Our World Worksheet & Guide Green Team Workouts 6A Can’t Wait to Eat It! Worksheet Pest Busters & Guide If I Worked with a CSA Worksheet</p>

	<ul style="list-style-type: none"> • Explain why animal production depends on plant production • Analyze how soil types influence agriculture • Explain how different plants and animals have specific growing requirements related to climate and soil conditions • Identify how technology affects the development of civilizations through agricultural production • Investigate factors influencing plant and animal growth – soil, nutrients, water, light • Investigate the positive and negative effects of technology used in agriculture and its effects of the food and fiber system and the environment over time. • Investigate resources, their relation to land use and their impact on the food and fiber system. 	<p>Gardener’s Checklist Design a Garden Worksheet Green Team Workouts B Tools & Stuff Worksheet Eco-System in Balance Guide Vocabulary Guide Assessment Letter for Parents</p>
<p>7 Hip Hop Health Care! (3 Lessons)</p> 	<ul style="list-style-type: none"> • Describe current challenges to global health • Explain how maintaining clean sources of water, food, and shelter, as well as economic security support disease prevention • Identify groups that respond to healthcare challenges worldwide • Explain the concept of global citizenship • Explain how lifestyle and environmental choices support or hinder global health • Understand how economics helps or hinders global health • See oneself as an active global citizen • Practice deliberative decision-making • Make choices that have a positive impact on global health 	<p><i>Hip Hop Healthy!</i> Hip Hop Rhyme Green Team Playbook Cover Getting Ready! Worksheet Is It a Right? Worksheet? At First I Thought... Worksheet Up a Notch Worksheet Deliberate! Worksheet Collaborate! Worksheet Where Will You Play? Worksheet Bring It! Worksheet Global Workouts Project Planner Worksheet Project Results Worksheet Vocabulary Guide Assessment Letter for Parents</p>

Lesson 2 Highlights

Objectives: Students will

- Know that several ecosystems in which living things depend on each other can exist in the same place.
- Compare the roles of producers, consumers and/or decomposers in an ecosystem.
- Observe an ecosystem
- Compare two living things
- Develop and/or observe a classroom ecosystem

Advance planning:

Select an environment your students can explore (schoolyard or neighborhood). Or plan a field trip to a park. Alternative: send a list of nearby sites kids can visit with adults in their households.

Anticipatory Set:

- Magazines with images of minerals, rivers, lakes, air, soil, plants, animals, insects printed from online sources. Some small images are included in the Appendix, as are EcoPal images which can be printed for use in collages.
- Scissors, glue
- Paper on which each student can make a collage
- Explain that the human community does not own the Earth, but depends on it for our own sustainability. Find information in letters 1A-E.

Print from Appendix

- Images to use in collages or to enlarge for display
- EcoPal Images (enough for each student to select one image)

Lesson Materials:

- Select and copy for each student:
 - *Ecosystem Interrupted Handout*
 - *Ecosystem in Balance Handout*
 - *It's a Match Worksheet*
 - *My Observations Worksheet*
 - *Buddy Pal Worksheet*

Unit 1:

Lesson 2 – Team Challenge #1: Honor the Balance of Life K-3rd Grades

Lesson 2: Team Challenge #1: Honor the Balance of Life

Anticipatory Set Activity

- Working individually or in small groups, instruct students to find and cut out pictures of mountains, rivers, lakes, fields, forests, gardens, plants, animals, insects, birds.** When they have several pictures they like, instruct students to make a collage by gluing pictures on a sheet of paper.
- Explain that the Green Team includes people, but also includes many other things that make up the Earth.** All the member of the Earth's team depend on each other and need to be able to count on each other.
- Ask each student to point out one picture that shows a member of the Green Team.**
- Explain that, for a long time, human beings regarded themselves as the "owners" of the Earth.** Some thought that everything on the planet was there primarily for people to use. They believed the earth would always provide what was needed for people to live and that they could take as many resources as they wanted to.
- Explain that, over time, people started to use the Earth's resources unwisely.** Some of their choices were harming other living things, and were using up the resources that people and other living things in the future would need to survive. We started to realize that we don't "own" the Earth. Instead, we depend on the earth. We needed to learn to work *with* the earth's resources instead of just using them up.
- Add that the images on the collages are all "players" on our Green Team because we all depend on each other.**

Enrichment Activities:

- Introduce basic information and terms related to the science of ecology. Find information in letters 1A-G.
- Explain and give an example of an ecosystem. Find information in letter 1H-I.
- Using the **Ecosystem Interrupted Handout**, demonstrate how an ecosystem is affected by human activity. Find information in letter 1J.
- Using the **Ecosystem in Balance Handout**, explain producer, consumer, & decomposer roles in an ecosystem. Find information in letters 1K-P.
- Using the **It's a Match! Worksheet**, practice using terms related to the science of ecology.
- Observe an ecosystem. Using the **My Observations Worksheet**, practice recording observations.

Curriculum Links:

Art
Language Arts
Science
Social Studies

Education Skills:

- Choose
- Describe
- Draw
- Examine
- Explain
- Research
- Write

Closure Activity:

- Allow each student to choose one EcoPal Image and find out as much as possible about the ecosystem that supports that living thing. Record findings on the **EcoPals! Worksheet**.

Enrichment Activity:

- Develop an ecosystem in your classroom. Create an ecosystem journal and take turns recording observations throughout a semester.

- G. Point to displayed images.** Ask students to name “players” on the Green Team who are not people – air, water, minerals, soil, plants, animals, insects.

Lesson 2: Team Challenge #1: Honor the Balance of Life

1. Let's talk about ecology.

- A. Explain that Earth and everything on it is always changing.** Because what happens on earth is so complex, even scientists have a hard time understanding everything about the earth.
- B. Explain that scientists who study the earth are called ecologists.**
- C. Define ecology: a branch of biology that deals with the relationship between living organisms and their environments.**
- D. Explain that ecologists study different units of life.** For example, they may study how life works in oceans or forests. Within those larger units, they may study smaller units like rivers or rainforests and how living things there depend on all the others in their ecosystem.
- E. Define ecosystem: community of living things that interact with each other and their surroundings.**
- F. Explain that the community within the ecosystem can grow because they live in an environment that supports their life there.**
- G. Define environment; all the conditions that affect the development of an organism or a group of organisms.**
- H. Explain that we use the word *organism* to refer to any living thing.**
- I. Explain that whether the ecosystem is big like a lake or small like a piece of rotting wood, all the organisms living there depend on each other.** Changes in the environment or taking away one life form out of the ecosystem can threaten the existence of all the others. Changing what happens in an ecosystem destroys the balance of life there.
- J. Using the **Ecosystem Interrupted Worksheet**, give this example.** A caterpillar eats on a certain kind of plant. Someone uses a weed killer that kills that plant. The caterpillar goes hungry and dies. But it doesn't stop there. The birds that eat caterpillars go hungry too. They may die or leave the area. In either case, they will not bring new seed to the area and other living things may go hungry because the plants they depended on do not grow.



- K. Explain that an ecosystem includes organisms that act as *producers, consumers, or decomposers*.**
Most living things act in all three roles at different times in their own life cycle. Doing so, they help to sustain the balance of life.
- L. Distribute the *Ecosystem in Balance Handout*.** Refer to the handout as you complete letters M-P.
- M. Define *producers: organisms that create or provide resources for other organisms*.** For example, the caterpillar provides food for the birds.
- N. Define *consumers: organisms that use or destroy resources*.** For example, the birds eat the caterpillars. But they also deposit waste and drop seeds into the soil.
- O. Define *decomposers: organisms that break resources down to help replenish what has been used*.**
For example, bacteria decompose the birds' waste which nourishes the plant seedlings that provide food for caterpillars.
- P. Explain that when one of the three activities – producing, consuming, decomposing – is interrupted or eliminated, living things in the ecosystem can die.** Eventually, they may even become extinct.
- Q. If appropriate for time available, skill level and student interest, instruct students to complete the *It's a Match! Worksheet*.**

2. Let's observe an ecosystem.

- A. Explain that ecosystems are all around us.**
- B. Invite students to talk about some of the ecosystems they have seen in the area.** Depending on your location, students will be familiar with some of the following: lakeshores, riverbanks, deserts, mountains, marshes, forests, lagoons, gardens, aquariums, etc.
- C. Walk around the school yard or neighborhood.** Challenge students to discover one or more ecosystems. As an alternative, schedule a field trip to observe an ecosystem in the area.
- D. Instruct students to observe as many components of the ecosystem as possible.** Using the *My Observations Worksheet*, list the living things they recognize and describe how they work together to sustain life in the ecosystem.

Student Independent Activity

Choose handouts from the menu below that fits the aptitude and abilities of your students. You can use these as a group exercise or assign as individual homework.

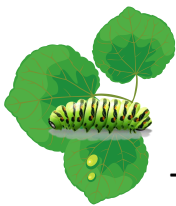
Closure Activity:

- A. Distribute one *EcoPal! Image* to each student.** Or instruct students to select one EcoPal from the available options.
- B. Explain that the EcoPal selected will be the student's team buddy throughout the module.**
- C. Using the *EcoPals! Worksheet*, instruct students to start learning as much as possible about their EcoPal.**
- D. Instruct students to store all worksheets in their Green Team binders.**

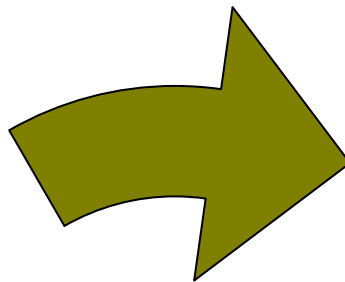
Ecosystem Interrupted



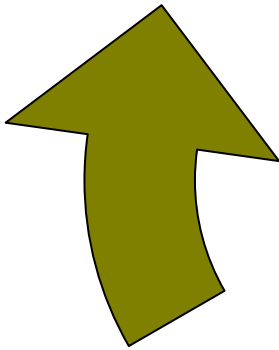
Bird brings seeds to the yard and eats caterpillars to survive.



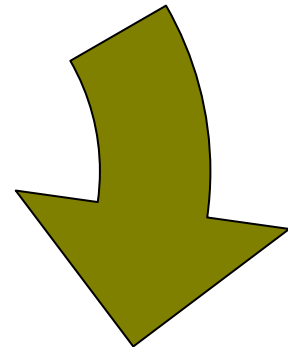
Toxic weed killer kills plant



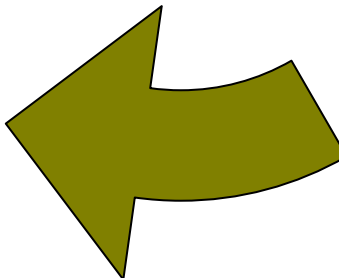
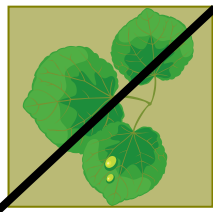
Caterpillar has no plant to eat and dies.



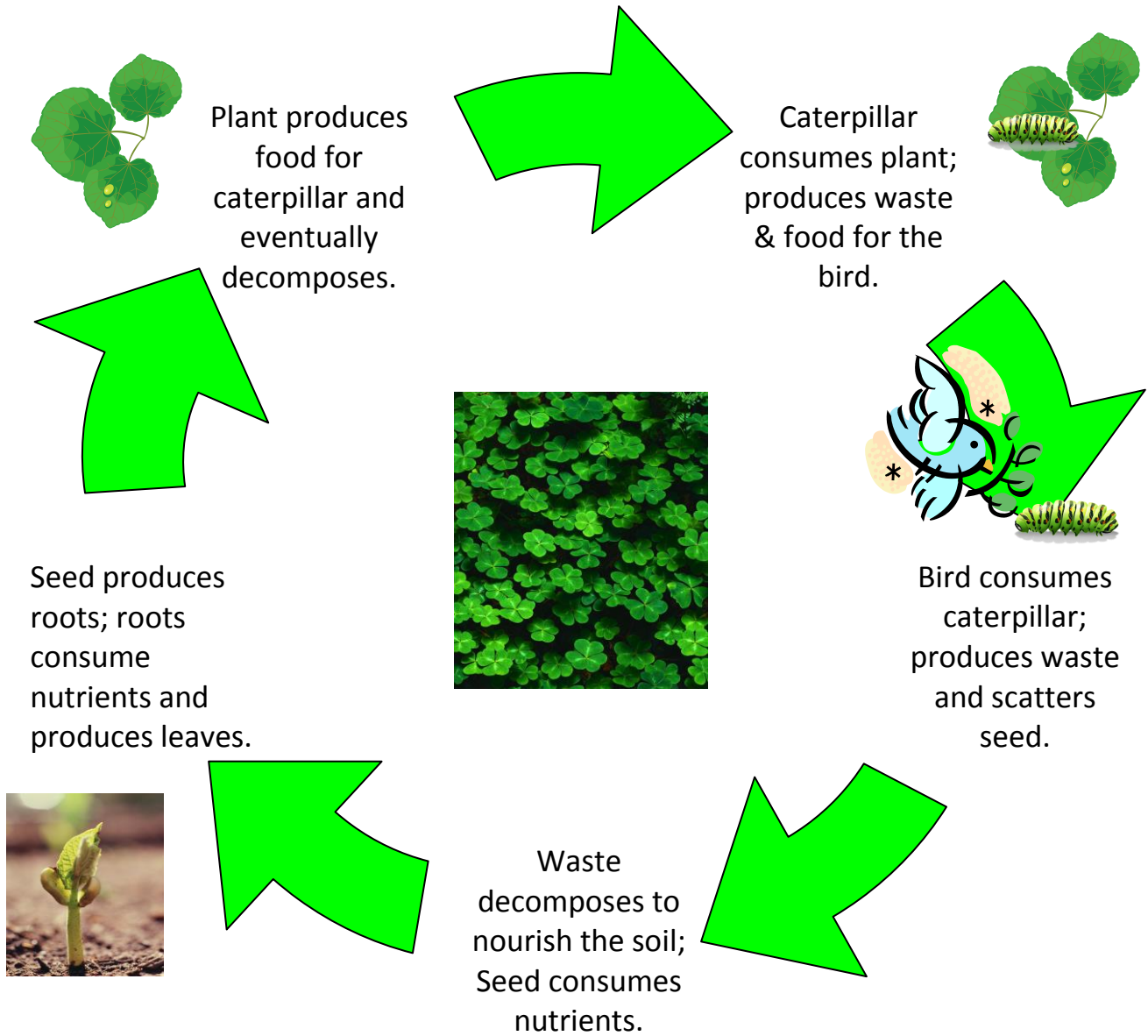
With no bird to drop waste and seed, no new plant can grow.



Bird has no caterpillar to eat and leaves the area.



Ecosystem in Balance



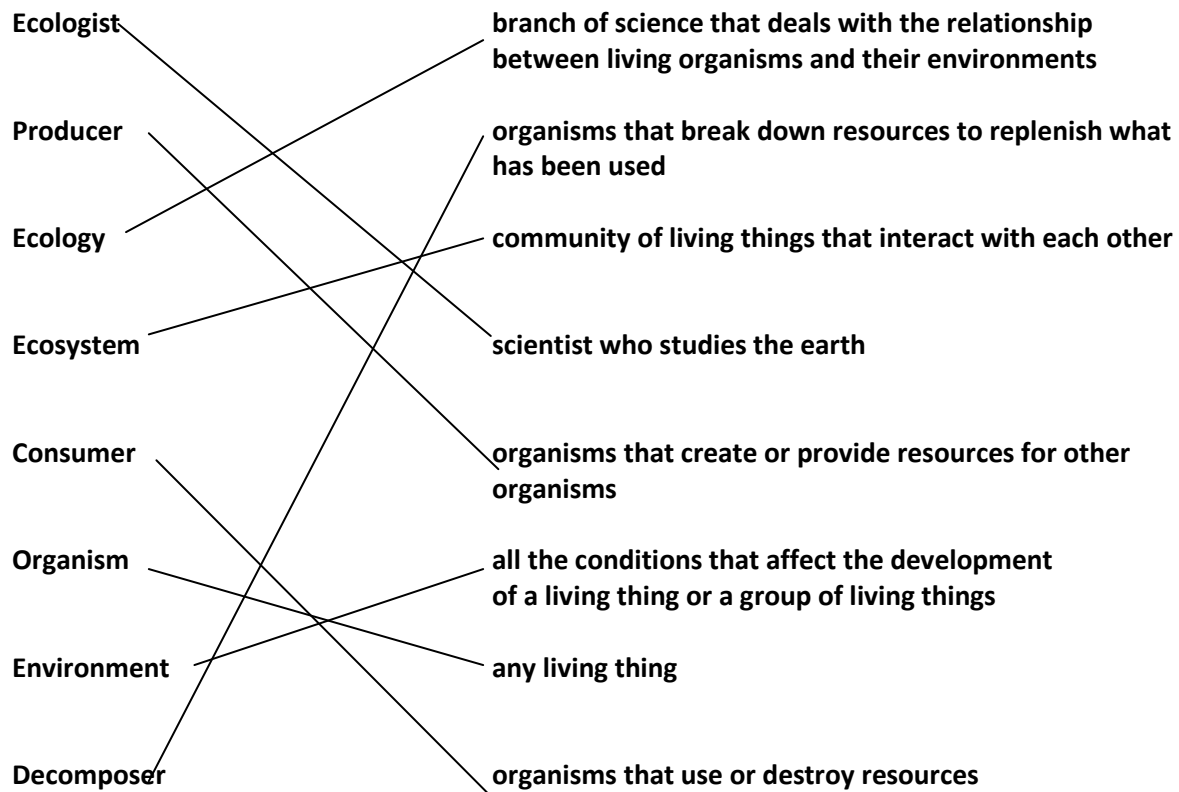
It's a Match!

The Green Team uses lots of words to describe their challenges and activities. It takes time to get comfortable using them all. Here's a way to start: match the word in the column on the left with a definition of that word in the column on the right. The first one is done for you.

Ecologist	branch of science that deals with the relationship between living organisms and their environments
Producer	organisms that break down resources to replenish what has been used
Ecology	community of living things that interact with each other
Ecosystem	scientist who studies the earth
Consumer	organisms that create or provide resources for other organisms
Organism	all the conditions that affect the development of a living thing or a group of living things
Environment	any living thing
Decomposer	organisms that use or destroy resources

It's a Match!

The Green Team uses lots of words to describe their challenges and activities. It takes time to get comfortable using them all. Here's a way to start: match the word in the column on the left with a definition of that word in the column on the right. The first one is done for you.



My Observations

Ecologists observe ecosystems closely and make notes about what they see. While you are studying an ecosystem with your class, draw pictures or write notes about what you see.



What animals do you see? Where do they live in this ecosystem?

What plants do you see?

What does the ground look like?

If there are trees, what do they look like? What does the bark look like? What do the branches and leaves look like?

What insects do you see? Can you see where they might live?

Name some producers, consumers and decomposers in the system?

Do humans live in or visit this ecosystem?

Do you see anything interesting, unusual or unexpected?

On the back of this page, draw a picture or write a paragraph about how living things might be working together within this ecosystem.

EcoPals!

My name: _____

My Eco-Pal is: _____

I live in _____

My Eco-Pal lives in _____

I like to eat _____

My Eco-Pal likes to eat _____

I get my food at _____

My Eco-Pal gets food _____

I like to get exercise by _____

My Eco-Pal likes to get exercise by _____

I get water from _____

My Eco-Pal gets water from _____

Eco-Pal Examples



Starfish



Alligator



Armadillo



Kangaroo



Turtle



Elk

Enrichment Activity:

Activity A: Set up a Classroom Ecosystem

Collect paper bags and other reusable paper to create a forest or rainforest ecosystem. Create tree trunks and branches from paper bags and attach to walls in one or more corners of your classroom. Assign each student to research one or more animals, plants or other organisms that are found in that ecosystem. They should prepare information in writing and create a model of the plant or animal out of paper. You can build the ecosystem over multiple units and let it “grow” throughout the classroom, if you choose to do so. When complete, invite parents or other classes to visit your ecosystem.

Activity B: Set up Individual Ecosystems

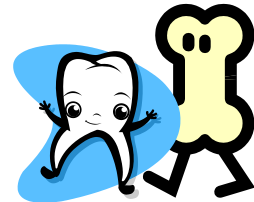
Adapted from a plan found at www.ehow.com. The site offers other options for setting up an ecosystem which may require purchasing materials. For this low-cost alternative:

- Each student will need a shoebox, pictures from magazines or small toys to represent animals, access to scissors and glue.
- Instruct students to research an ecosystem for which they will create a model, learn about the different living organisms found within that eco system. Using drawings, pictures cut from magazines or printed from online, and small toys, set up the ecosystem in the shoebox.

Mineral Match!

Draw a line from my name to a picture of where you might find me at work on the planet Earth.

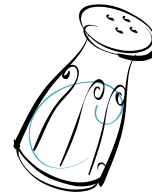
Calcium



Potassium



Sodium



Magnesium



Iron



Zinc



Water Play!



Water activities are fun and can help you stay healthy. In the list below, check all the activities you already enjoy. Then draw a circle around the pictures of activities you want to learn more about.

ACTIVITY

- Building ice sculptures
- Building sand castles
- Snorkeling
- Swimming
- Fishing
- Water skiing
- Snow skiing
- Maintaining an aquarium
- Collecting seashells on the shore
- Writing poems about water
- Other: _____



Pick one of the activities you checked or circled. Write a list of safety rules you need to keep in mind when doing that activity. Share your safety information with your class.

Green Team Workouts 5

Choose one of the activities below to learn more about how to sustain outdoor and indoor air quality for the Earth.

Your project will be due on _____.

Workout A: Look Back!

Windmills have been around since about 200 B.C. Learn about how windmills have been used throughout history. Explain the difference between a wind mill and a turbine. Then describe how wind power is being used to produce energy today. Explain its benefits and costs.

WORKOUT B: Look Around!

Learn about Arizona's solar technology project that uses concentrators. What are concentrators made of? How do they work? What benefits and costs are involved in using concentrators to harness solar energy?

WORKOUT C: LOOK INSIDE!

Learn about how geothermal power is being used around the world. Research the Geysers in the United States that provides power for about one million homes in northern California. Or investigate how geothermal power is being used in Iceland and Greenland.

WORKOUT D: Tap into Water Power!

Research the development of the Hoover Dam. How is it built? Why was it built? How does it help people who live in the area? How did people have to work together in order to develop it? Find a photo of the dam and share your information with your class.

WORKOUT E: Go LARGE!

Learn about the world's largest hydroelectric project – the Itaipu power plant – which provides electrical power for Brazil and Paraguay. When and how was it constructed? How does it serve people who live in the area? How did people from different countries work together to develop it? Find a photo of the power plant and share your information with your class.

WORKOUT F: Move It Around!

Learn about how portable solar panels can change life for people who move from one place to another throughout the year. Xinjian, China is one place where people are now able to power lights, radios, cooking ovens and heaters with portable solar units. Compare your life with the life of a person your age who lives as a nomad in China.

Where will you play?

To achieve sustainability, Team 21 will have to address many challenges. No one can do everything, but everyone can do something. The best part is that, since the Quest for Sustainability will last a lifetime, we each get to try different ways to help that match our skills, interests and time available. What's most important is to get started.

Pick an interest area. Unit banners from each of the units are shown below. Select the interest area that most interests you to work on while completing Unit 7.

Think Greeners!



The **Think Greeners!** focus on everyday activities related to Green Living. They learn about different ecosystems, stay up to date on the latest developments in Green Living, and use their unique skills to let other people know about new options. They might organize information fairs or recycling competitions, make posters or communicate with decision-makers about Green Living in the community, conduct experiments or investigations, or create a Green Careers display in the school library. They might highlight how choices made in the U.S. today can affect people around the globe or people who live in the future. Review Green Team Workouts from Units 1 and 7 for more ideas.

Mineral Rockers!



The **Mineral Rockers!** focus on mineral resources. They learn all they can about the resources being used to make products we buy. They find out where those resources come from and whether they are being used wisely. They might investigate mineral resources available locally and organize field trips to places where minerals can be found. They might learn about the companies who mine, refine and/or ship minerals. They might use their unique skills and interests to start collections, conduct experiments using different kinds of minerals or design building construction or landscapes that make the most of local mineral resources. They might highlight how choices made in the U.S. today can affect people around the globe or people who live in the future. Review Green Team Workouts from Units 2 and 7 for more ideas.

Air Awares!



The **Air Awares!** focus on air quality – both indoors and out. They learn all they can about local and/or global air quality issues and share what they learn with others. They might explore their school or other local buildings to determine how indoor air quality is maintained there. They might investigate how local landfills are operated and organize a field trip to a landfill. They might also find out what has happened to closed landfills in the area. Air Awares might also research what communities are doing to maintain outdoor air quality and how local choices affect others around the globe and in the future. Refer to Green Team Workouts from Units 3 and 7 for more ideas.

Water Wisers!



The **Water Wisers!** focus on water quality. They learn all they can about streams, rivers lakes and oceans that are near to their communities as well as the bodies of water into which their local rivers flow. They learn how water is processed and purified for drinking and how sewage is handled. They might use their skills to write poetry or songs about water or to design an innovative system for conserving water or to organize a water use challenge with another class. They might highlight how choices made in the U.S. today can affect people around the globe or people who live in the future. Review Green Team Workouts from Units 4 and 7 for more ideas.

Power Players!



The **Power Players!** focus on energy production and use. They learn all they can about how energy gets to their homes, schools, and public buildings. They find out if alternative energy resources are being considered for use in their area. They might keep a record about the price of fuel over the course of several weeks and what local or global events had an impact on those prices. They might develop a brochure that includes helpful suggestions for conserving energy. They might highlight how choices made in the U.S. today can affect people around the globe or people who live in the future. Review Green Team Workouts from Units 5 and 7 for more ideas.

Grrrowers!



The **Grrrowers!** focus on sustainable food production and use as well as on how land is used to produce food and textiles. They might create a healthy eating cookbook or host an event that highlights foods around the world. They might join or start a community garden, help out at a farmers market or spend time helping elderly folks with their gardening. They might develop an innovative way to produce food for the school cafeteria, set up a “Let’s Compost!” information event. They might highlight how choices made in the U.S. today affect people around the globe or people who live in the future. Review Green Team Workouts from Units 6 and 7 for more ideas.

The Green Team area I want to be a player on now is _____

because _____

Bring It!

The best thing about being on the Green Team is that you get to do things you already like to do. Check anything you enjoy on the list below. Add other things you enjoy doing. Then think of a way you can use that skill or interest to make your project really interesting and effective!

- I like to draw and paint.
- I like to read stories and books or watch movies about people who make a difference.
- I like to take photographs.
- I like to do crafts.
- I like to build things.
- I like to know about the latest fashions and styles.
- I like playing sports.
- I like talking on the phone.
- I like playing video games.
- I like being in plays or shows.
- I like singing or dancing or playing a musical instrument.
- I like getting my own way.
- I like writing stories.
- I like science fiction.
- I like trying different hairstyles and nail polishes.
- I like taking walks.
- I like going kayaking or paddling a canoe.
- I like going to the zoo.
- Don't tell my mom, but I kind of like keeping my room clean.
- I like going out to eat in a restaurant.
- I like giving parties.
- I like to read magazines and newspapers.
- I like trying to figure out how things work.
- I like _____
- I like _____

Project Planner

Name: _____

Project Focus (Circle one):

Think Greeners!

Mineral Rockers!

Air Awares!

Water Wisers!

Power Players!

Garden Growers!

Am I working on my own? _____ With a group? _____

Project is due on _____

Project goal: (Select from one of the Workouts or create your own idea.)

Why I (we) want to do this: (How does the idea help you advocate for sustainability?)

Personal skills I want to bring to the project: (Choose one or more from the *Bring It! Worksheet*)

What I'll (we'll) do: _____ By when?
(Use the back of this sheet to list who will do what by when.)

Project Results

Can I (we) collaborate with any other project teams to make both more effective?

My (our) project goal was to advocate for:

I (we) deliberated about:

I (we) collaborated with:

Here's what I (we) did:

Here's what worked well:

Here's what I (we) would do differently next time:

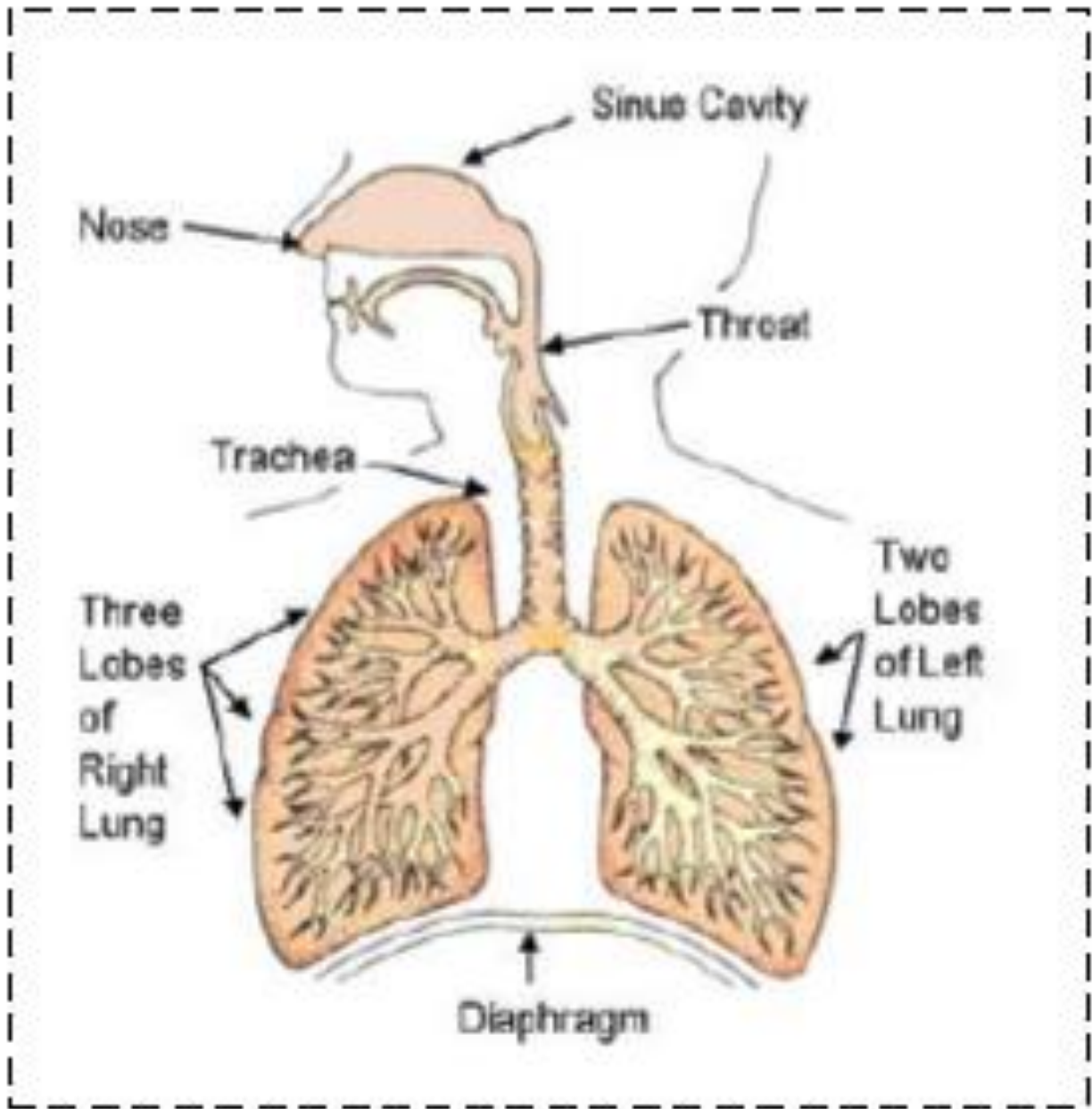
What I enjoyed most about this project is:

Unit 3: Quick Assessment Questions

- 1. What do we call the process by which animals and people take in oxygen and release carbon dioxide into the air?**
(Respiration)
- 2. What do plants release back into the air through transpiration?**
(Oxygen)
- 3. Name three occurrences that can cause natural climate change.**
(volcanoes, earthquakes, significant changes in ocean currents)
- 4. What do we call the climate at the North and South Poles?**
(Polar climate)
- 5. In what climate do most of us live in the United States?**
(Temperate climate)
- 6. What climate do we find in parts of South America?**
(Tropical climate)
- 7. What is pollution?**
(Releasing dirty or poisonous substances into the atmosphere)
- 8. Name a poisonous gas that is emitted by automobiles.**
(Carbon monoxide)
- 9. What gas is usually emitted from landfills?**
(Methane)
- 10. What do we call the situation through which the buildup of carbon dioxide in the air holds heat close to the Earth's surface?**
(Greenhouse effect)
- 11. What do we call it when pollution spreads through the air from one country to another?**
(Transboundary pollution)



Key Player: AIR



Breathing

Air Aware! Vocabulary Words

Dear Parent, This week we are learning about indoor and outdoor air quality. Below are some words we learned in class today. Please review them with your child tonight.

Vocabulary Word	Part of Speech	Definition	Draw a sentence about or draw a picture of the word
1.			
2.			
3.			
4.			
5.			
7.			
8.			
9.			

Unit 3: Air Aware! Vocabulary

Teacher Key

Choose five or more words from the list below and direct your students to write them in the first column of the *Air Aware – Vocabulary Words Handout*.

Vocabulary Word	Part of Speech	Definition	Write a sentence using the word
acid rain	noun	rain that has been made acidic by gases rising into the atmosphere and dissolving in rainwater	Acid rain is damaging the surface of monuments in Washington, D.C.
air	noun	the dynamic, invisible mixture of gases that fill the Earth's atmosphere	When I breathe, my body takes in whatever gases are in the air.
alveoli	noun	Air sacs in the lungs that remove oxygen from the air we breathe in so the oxygen can enter hemoglobin in red blood cells	Alveoli in my lungs have very thin walls so oxygen can seep through.
atmosphere	noun	Mixture of gases that forms the layer of air that spreads from the surface of the earth into the sky	Our atmosphere is made up of nitrogen, oxygen, carbon dioxide and other gases.
biosphere	noun	all the places in which living things can survive	Land, water and air together form the earth's biosphere.
breathe	verb	to take air into the lungs and let it out again.	It feels good to breathe deeply.
carbon	noun	element found in fossil fuels, but is also used in the human body	When I breathe, I release carbon dioxide into the air
chlorophyll	noun	the green matter of plants	In sunlight, plants use chlorophyll to convert carbon dioxide into food
climate	noun	long-term weather pattern in an area of the Earth	I live in a temperate climate.

Vocabulary Word	Part of Speech	Definition	Write a sentence using the word
developing country	noun	country that is working to develop its economy	Developing countries may not have industry regulations to protect people from air pollution.
endangered	adjective	exposed to harm or danger	Organisms living where air quality is poor can be endangered.
evaporate	verb	to change from a liquid to a vapor	Extra water evaporates from plant leaves.
greenhouse effect	noun	warmth produced by gases that keep some of the sun's heat from leaving the earth	The greenhouse effect may be making climate change happen faster.
industrial pollution	noun	poisons emitted through the process of producing goods	Some countries have laws that regulate industrial pollution.
natural climate change	noun	process by which changes to Earth happen naturally	Earthquakes, volcanoes and changes in ocean currents can produce natural climate change.
oxygen	noun	element that people and animals breathe in from the air.	Without oxygen, my body will not be able to survive.
ozone	noun	a form of oxygen in which three oxygen atoms join together to form a molecule	The ozone layer protects the Earth from getting too much heat from the sun.
photosynthesis	noun	Process by which plants convert water and carbon dioxide into carbohydrates	Photosynthesis produces food plants need to grow.
pollute	verb	to put dirt or poison into the air	Cars, planes, and factories can pollute the air.

Vocabulary Word	Part of Speech	Definition	Write a sentence using the word
respiration	noun	process by which living things take in oxygen and release carbon dioxide	People and animals rely on respiration to get the oxygen they need.
smog	noun	a mixture of fog and smoke	In places where industries are not regulated, pollution is likely to produce smog.
toxic	adjective	poisonous	We want to keep toxic gases out of the air.
ventilation	noun	a regular exchange of stale air for fresh air	Opening windows can increase ventilation in a home.
VOC	acronym that stands for a noun	volatile organic chemical	VOCs are highly toxic air pollutants

Dear Parents:

This week we are learning about air quality – its importance to all living things and the value of sustaining good air quality in our communities. We'll talk about how our bodies take in and use oxygen and how we rely on plants to release oxygen into the air.



We'll learn a little about polar, temperate and tropical climates. Then we'll study some of the challenges to air quality, especially those resulting from everyday activities and industrial waste.

Students will look at indoor air quality too, learn about the need for ventilation and about how living plants can improve air quality at home and at school.

Here are some ways you may want to help:

- Your son or daughter may be working on projects that take some time to complete. Help them find the space and tools they need. Share your own experiences with similar projects.
- Encourage your students to spend time outdoors every day.
- Take walks together instead of driving everywhere.
- Help your student decide if he or she can walk or bike to school, to an after-school activity or to a friend's home.
- Open windows when possible to get fresh air circulating indoors.
- Grow a green plant or two.
- If you have a yard, plant a tree with your son or daughter.
- Sing songs together. Laugh together. Both activities reduce stress and make breathing easier.
- Keep using recycling bins for glass, plastic and cans
- Review worksheets, vocabulary lists and project work with your student.

Please let me know if you have any questions or need more information. And if you have a special interest in air quality, plants or forestry, or have lived or traveled in another climate zone, be sure to let me know.

Thank you,

Dig In!

Got a plate of good food and don't mean to be rude
But I'm gonna dig in!
Oh yeah!
Don't know where it came from but I'll tell ya all the same, chum,
I'm gonna dig in!
Oh yeah!

You say someone had to stock it; a trucker had to dock it.
And before that could happen there was more?
You say someone had to buy it from a grower who supplied it
Hiring workers who did chore after chore?

You say this slice of pizza started somewhere in the ground
Where bacteria made the soil dark and loamy?
Where seeds diverse and tiny produced a tall tomato viney,
Wheat for crust, and feed for livestock that made cheese and pepperoni?

I'm hearing ya, Dude, and it's with serious gratitude,
That I'm gonna dig in!
Oh yeah!
Now I know where this food came from and I'll tell you all the same, chum
I'm gonna dig in!
Oh yeah!

And when I'm finished with this meal, I'm gonna make with you a deal
To make the most of every resource we consume.
Let's take care not to waste them, maybe even help replace them
In a garden of our own. We'll find some room!

All we need is a container, a small plot that gets some rain
Or a place to grow things in community.
Grab our shovels and some seeds, think of other people's needs
Make the most of our great land's opportunity.

Let's tell everyone, Dude We don't mean to be rude.
But we're gonna DIG IN!
Oh YEAH!

