

TAKING CHARGE OF OUR EARTH AND ITS RESOURCES

Grade Level: Kindergarten

Written by: Bentley Ryberg and Lori Kawasaki, Jefferson Academy, Broomfield, CO

Length of Unit: Seven lessons (approximately 30 - 60 minutes each)

I. ABSTRACT

The major emphasis of this unit will be to promote student awareness and understanding of their environment and some of its natural resources. Students will understand how to conserve some natural resources and why it's important to protect them. They will have a working knowledge of how recycling works and how they can do their part in keeping the earth clean.

II. OVERVIEW

A. Concept Objectives

1. Understand the processes of scientific investigation and design, conduct, communicate about, and evaluate such investigations. (**Colorado State Standard Science 1**)
2. Understand the characteristics and structure of living things, the process of life, and how living things interact with each other and their environment. (**Colorado State Standard Science 3**)
3. Understand interrelationships among science, technology, and human activity and how they can affect the world. (**Colorado State Standard Science 5**)

B. Content from the *Core Knowledge Sequence*

1. **Science:** The Earth and its natural resources (not in *Core Knowledge Sequence*).
2. **Science:** Ecology and the environment (not in *Core Knowledge Sequence*).
3. **Science:** Conservation: Some natural resources are limited; so people must be careful not to use too much of them (p. 20).
4. **Science:** Practical measures for conserving energy and resources (p. 20).
5. **Science:** Some materials can be recycled (p. 20).
6. **Science:** Pollution can be harmful, but if people are careful they can help reduce pollution (p. 20).
7. **Language Arts:** Tell in his or her own words what happened in stories or parts of stories, and predict what will happen next in stories (p. 8).
8. **Language Arts:** Listen to and understand a variety of texts, both fiction and nonfiction (p. 8).
9. **Language Arts:** Use letter-sound knowledge to write simple words and messages, consistently representing initial and final consonant sounds (p. 8).

C. Skill Objectives

1. Students will be able to identify a natural resource.
2. Students will be better able to identify how we are wasting our natural resources.
3. Students will have a better understanding of the environment around them.
4. Students will have a better understanding of how to take care of the air, animals, plants and water around them.
5. Students will be able to identify how pollution is harmful to their environment.
6. Students will have an understanding of what conservation is.
7. Students will know that some natural resources are limited, and they must be careful not to waste them.
8. Students will know how to use practical measures for conserving resources.
9. Students will have a better understanding of where their garbage/trash goes.

10. Students will have a better understanding why it's important to recycle.

III. BACKGROUND KNOWLEDGE

- A. For Teachers
 1. Schwartz, Linda *The Big Book of Questions & Answers Save The Earth*. Illinois: Publications International, Ltd., 1992. 1-56173-468-3.
 2. Hirsch, E.D., Jr. *What Your Kindergartner Needs To Know*. New York: Doubleday, 1996. 0-385-48117-9.
 3. Internet: <http://kidsforsavingearth.org>
- B. For Students
Not applicable

IV. RESOURCES

- A. Ansary, Mir Tamim, *Earth Day*, Illinois, Heinemann Library, 2002. ISBN 1-58810-220-3
- B. Berger, Melvin, *Kids For The Earth*, New York, Newbridge Communications, Inc., 1994. ISBN 1-56784-020-5
- C. Berger, Melvin, *Where Does All The Garbage Go?*, New York, Newbridge Communications, Inc., 1996. ISBN 1-56784-002-7
- D. Gates, Richard, *A New True Book Conservation*, Chicago, Children's Press, 1982. ISBN 0-516-01618-0
- E. Madden, Don, *The Wartville Wizard*, New York, Macmillan, 1986. ISBN 0-0276-2100-6
- F. Peet, Bill, *The Wump World*, Boston, Houghton Mifflin Company, 1970. ISBN 0-395-19841-0
- G. Schaffer, Frank, *Best Buy Bargain Books Science K-1*, California, Frank Schaffer Publications, 1994. ISBN 0-86734-448-2
- H. Van Allsburg, Chris, *Just A Dream*, Boston, Houghton Mifflin, 1990. ISBN 0-395-53308-2

V. LESSONS

Lesson One: Understanding Our Earth and Its Natural Resources

- A. *Daily Objectives*
 1. Concept Objective(s)
 - a. Understand the characteristics and structure of living things, the process of life, and how living things interact with each other and their environment.
 - b. Understand interrelationships among science, technology, and human activity and how they can affect the world.
 2. Lesson Content
 - a. The Earth and its natural resources.
 3. Skill Objective(s)
 - a. Students will be able to identify a natural resource.
 - b. Students will be better able to identify how we are wasting our natural resources.
- B. *Materials*
 1. *Kids For The Earth*, by Melvin Berger
 2. Chalkboard and/or chart paper and appropriate writing utensil
 3. Copy of Appendix A (Our Earth, Natural Resources) for each student
 4. Pencils and crayons for each student
- C. *Key Vocabulary*
 1. Earth – the planet we live on

2. Natural Resources – things on Earth that help support life, i.e. land, water, plants, and animals
- D. *Procedures/Activities*
1. Read and discuss big book: *Kids For The Earth*. Discussion questions are as follows:
 - a. Page 1
 - i. *What do you see in this picture?*
 - ii. *What colors do you see?*
 - iii. *What do you think the green is, the blue is, the white is?*
 - iv. *Who lives here?*
 - v. *Goal: To establish that Earth is their home.*
 - b. Pages 2 and 3
 - i. *How are the children using water in these pictures?*
 - ii. *What are other ways we use water?*
 - iii. *Why is water important to us?*
 - iv. *Goal: To establish that we need water to live and that it's a natural resource.*
 - c. Pages 4 and 5
 - i. *What is the boy doing?*
 - ii. *What are the people sitting under?*
 - iii. *What is another name for a tree (plant)?*
 - iv. *Why are trees and plants important to us?*
 - v. *Goal: To establish that plants enable us to breathe, give us food, and that it's a natural resource.*
 - d. Page 6
 - i. *Describe what you see?*
 - ii. *What are trees used for?*
 - iii. *How many trees do you think are cut down on this page (trainload of over 100 trees)?*
 - iv. *How long do you think it takes for a new tree to grow (25 years)?*
 - v. *Why do you think they cut these trees down, and what are they going to do with these trees?*
 - vi. *Goal: To establish that we use a lot of trees, it takes a long time for a tree to grow big, and that it's a natural resource.*
 - e. Page 7
 - i. *Read page 7 and establish that they are making paper and ask children other uses for trees.*
 - ii. *Goal: To establish that we are using up our natural resources.*
 - f. Pages 8 and 9
 - i. *What do you think is going on in this picture?*
 - ii. Flip back to pages 4 and 5 and discuss the differences between the two pictures. *How does each of these pictures make you feel?*
 - iii. Explain to the children that besides plants and water, the land provides us with many important minerals, such as rocks, iron, gold, silver, and coal.
 - iv. Discuss what is going on in this picture (that we are stripping the land). *Do you think this should be stopped, or what could we do instead?*

- v. *Goal: To establish that in using our natural resources to enhance our everyday living, we are ruining the beauty of the Earth.*
- g. Pages 10 and 11
 - i. *Review with the children what they have learned and what the Earth has given us (water, plants, trees, materials to build with, minerals, etc.) All of these things are important for us to live.*
 - ii. *How can we make the Earth better for us?*
 - iii. *Goal: To establish that we want to take care of the Earth and its natural resources.*
- h. Pages 12 – 16
 - i. *What other ideas do children have for making Earth a better place to live?*
 - ii. *Goal: To establish ways they can take care of their environment.*
- 2. Brainstorm on either a chalkboard or chart paper the following:
 - a. *What are some natural resources?*
 - b. *Good ways natural resources are used.*
 - c. *How natural resources are wasted.*
- E. *Assessment/Evaluation*
 - 1. Use worksheet from Appendix A (Our Earth: Natural Resources) to establish the children’s knowledge of natural resources, and good ways and wasteful ways to use them.

Lesson Two: Ecology - How Pollution Effects Your Environment

A. *Daily Objectives*

- 1. Concept Objective(s)
 - a. Understand the characteristics and structure of living things, the process of life, and how living things interact with each other and their environment.
 - b. Understand interrelationships among science, technology, and human activity and how they can affect the world.
- 2. Lesson Content
 - a. Ecology and the environment.
 - b. Pollution can be harmful, but if people are careful they can help reduce pollution.
- 3. Skill Objective(s)
 - a. Students will have a better understanding of the environment around them.
 - b. Students will have a better understanding of how to take care of the air, animals, plants and water around them.
 - c. Students will be able to identify how pollution is harmful to their environment.

B. *Materials*

- 1. Chalkboard and/or chart paper and appropriate writing utensil
- 2. *Just A Dream*, by Chris Van Allsburg
- 3. Copy of Appendix B (Walter’s Dream Maze) for each student
- 4. Pencils for each student

C. *Key Vocabulary*

- 1. Ecology – is the study of plants, animals, air, water and the way people treat them

2. Environment - is everything around you
3. Pollution – is trash, noise or something harmful to the environment

D. *Procedures/Activities*

1. Brainstorm on either a chalkboard or chart paper the following concepts:
 - a. *What does Ecology mean?* (After children give their responses, teacher needs to give them definition and discuss.)
 - b. *What does Environment mean?* (After children give their responses, teacher needs to give them definition and discuss.)
 - c. *What does Pollution mean?* (After children give their responses, teacher needs to give them a definition and discuss.)
2. Read and discuss *Just a Dream*. Discussion questions are as follows:
 - a. *How did Walter treat his environment at the beginning of the story?* (Didn't think that he had the time to sort his trash for recycling, threw his trash on the ground, didn't feel planting a tree was important, etc.)
 - b. *How were Walter's action different at the end of the story?* (Went and picked up his trash that he had thrown on the ground, sorted the trash, and planted his birthday tree.)
 - c. *What were the things that happened in Walter's dream that changed his actions?*
 - i. He woke up in a huge dump that was now was his neighborhood;
 - ii. He went to a forest where all the trees were being cut down for toothpicks;
 - iii. He landed on a smokestack. There was so much smoke that he couldn't stop coughing and had itchy eyes;
 - iv. He saw an enormous hotel that had been built on top of Mt. Everest;
 - v. He found himself floating on the open sea toward a fishing boat. The fisherman couldn't catch any fish because they were gone;
 - vi. He woke up on a highway that had no end;
 - vii. He went to the Grand Canyon, but couldn't see because it was covered with smog; and
 - viii. He came across a flock of birds that couldn't find their pond where they had always eaten.
 - ix. *Why do you think these things changed his actions?* (What Walter saw in his dreams wasn't exactly what he had envisioned for the future.)
 - x. *In reviewing the story, have the children identify the different types of pollution in Walter's environment* (trash dump, smokestacks and smog, buildings in forest areas, polluted oceans and waterways, and huge highways).
 - d. Introduce Walter's Dream Maze (Appendix B) with the children making sure to reinforce the pictures in the maze with the story that was read earlier. Worksheet could be completed independently or as a group, whichever is most appropriate.

E. *Assessment/Evaluation*

1. Teacher observation
2. Completion of Walter's Dream Maze

Lesson Three: Understanding Conservation

A. *Daily Objectives*

1. Concept Objective(s)

- a. Understand the characteristics and structure of living things, the process of life, and how living things interact with each other and their environment.
 - b. Understand interrelationships among science, technology, and human activity and how they can affect the world.
 2. Lesson Content
 - a. Conservation: Some natural resources are limited; so people must be careful not to use too much of them.
 - b. Practical measures for conserving energy and resources.
 3. Skill Objective(s)
 - a. Students will have an understanding of what conservation is.
 - b. Students will know that some natural resources are limited, and they must be careful not to waste them.
 - c. Students will know how to use practical measures for conserving resources.
- B. *Materials*
1. *A New True Book Conservation*, by Richard Gates
 2. Access to running water
 3. Two or three medium sized buckets
 4. Toothbrush and toothpaste (contact local dentist for donations) for each student
 5. Paper towels for each student
 6. 3 oz. Dixie cup for each student
 7. Clean large trash can
 8. *Optional Activity: Ecology Pages from Best Buy Bargain Books Science K-1*, pages 70-75, by Frank Schaffer Publications. 0-86734-44-8-2
 9. Copy of Appendix C (Ways to Conserve Our Natural Resources) for each student
 10. Crayons and pencils for each student
- C. *Key Vocabulary*
1. Conservation – to “conserve” means to use something carefully; to save and not to waste
- D. *Procedures/Activities*
1. Read and discuss *The New True Book of Conversation*. Goals are as follows:
 - a. Chapter 1
 - i. *Goal: The land was lush and green with a lot of animals and natural resources...it was a land of plenty.*
 - b. Chapter 2
 - i. *Goal: Continue to reinforce how important natural resources are to the environment.*
 - c. Chapters 3, 4 and 5
 - i. *Goal: Explain what happened when people came to the land and began to change its environment.*
 - d. Chapters 6
 - i. *Goal: Begin discussing conservation and how people learned to take care of the natural resources within the environment.*
 - e. Chapter 7
 - i. *Goal: Discuss the different types of conversation workers and what their job are.*
 - f. Chapter 8
 - i. *Goal: Discuss why we have conservation and why it’s important.*
 2. Conserve Water Activity

- a. This activity will help children visualize how much water is wasted while brushing their teeth. From this experience children should be able to relate this to their families.
 - b. Directions are as follows for the Conserving Water Activity:
 - i. Prior to starting activity with children, refer to No. 3 below for optional activity to work on with the remaining children while partners are brushing their teeth.
 - ii. Have each student work with a partner.
 - iii. Have one child brush their teeth while the other child is catching the water in the bucket.
 - iv. When the child is finished brushing their teeth, have them use the Dixie cup to rinse and spit, and dry hands using paper towels.
 - v. Rotate brushing teeth between the partners.
 - vi. When the two students have finished brushing their teeth, have them empty their buckets into the trashcan.
 - vii. When the entire class is finished, have all the children come together as one large group. Have them observe how much water was collected in the trashcan. Possible discussion questions are as follows:
 - a) *Discuss how much water was collected?*
 - b) *Was this a lot or a little amount of water?*
 - c) *Do you think this was being wasteful of our water?*
 - d) *What do you think we could do with all of this extra water in our bucket?*
 - e) Now have the students think about their families. *How many times do you think they brush their teeth in one day?*
 - f) Next, have the children think about all the families in the class and the water they would use brushing their teeth. *Are these families wasting water? How much water do you think they are wasting? Think about all the families in the school, the city, the state, the country, or the world. How much water do you think each of these families are wasting?*
 - b) *What do you think we could do with all of this extra water from the families in the school, the city, the state, the country, or the world?*
 - c) *Now that we have wasted all of this water, what are some of the ways we could conserve our water while brushing our teeth?*
 3. *Optional activity* to do while you're having partners brush their teeth would be to have the students working on the *Frank Schaffer Ecology Packet*. This packet will need to be discussed prior to having children complete. Teacher's discretion should be used to decide whether children will work as a whole group or independently.
- E. *Assessment/Evaluation*
1. This activity will be teacher-directed using the worksheet from Appendix C (Ways to Conserve Our Natural Resources). This activity will establish the children's knowledge of conservation.

Lesson Four: Wump World

- A. *Daily Objectives*
1. Concept Objective(s)
 - a. Understand the characteristics and structure of living things, the process of life, and how living things interact with each other and their environment.
 - b. Understand interrelationships among science, technology, and human activity and how they can affect the world.
 2. Lesson Content
 - a. Conservation: Some natural resources are limited; so people must be careful not to use too much of them.
 - b. Pollution can be harmful, but if people are careful they can help reduce pollution.
 3. Skill Objective(s)
 - a. Students will have a better understanding of the environment around them.
 - b. Students will have a better understanding of how to take care of the air, animals, plants and water around them.
 - c. Students will be able to identify how pollution is harmful to their environment.

B. *Materials*

1. *The Wump World*, by Bill Peet

C. *Key Vocabulary*

Review prior lessons

D. *Procedures/Activities*

1. Goal: Reinforce all the vocabulary and concepts from prior lessons.
2. Read and discuss *The Wump World*.
3. Possible discussion questions after reading *The Wump World* would be as follows:
 - a. *What was Wump World like in the beginning of the story?*
 - b. *What was Wump World like after Pollutians land on Wump World?*
 - c. *What harmful things did the Pollutians do to Wump World, and how did it change the Wumps' lives?*
 - d. *What happened to the Wump World at the end of the story?*
 - e. *How does Wump World compare to our world?* (Geographic location, will determine the direction of this question.)

E. *Assessment/Evaluation*

1. Teacher observation

Lesson Five: Garbage, Garbage, Garbage....Everywhere!

A. *Daily Objectives*

1. Concept Objective(s)
 - a. Understand the processes of scientific investigation and design, conduct, communicate about, and evaluate such investigations.
 - b. Understand the characteristics and structure of living things, the process of life, and how living things interact with each other and their environment
 - c. Understand interrelationships among science, technology, and human activity and how they can affect the world.
2. Lesson Content
 - a. Practical measures for conserving energy and resources.
 - b. Some materials can be recycled.

- c. Pollution can be harmful, but if people are careful they can help reduce pollution.
 - 3. Skill Objective(s)
 - a. Students will have a better understanding of where their garbage/trash goes.
 - b. Students will have a better understanding why it's important to recycle.
- B. *Materials*
 - 1. *Where Does All The Garbage Go*, by Melvin Berger
 - 2. Four containers labeled "Plastic," "Glass," "Aluminum Cans," and "Paper"
 - 3. Copy of Appendix D-1 (Landfill Terrarium Activity) for teacher
 - 4. 10 gallon aquarium
 - 5. Potting soil/dirt (enough to fill 10 gallon aquarium $\frac{3}{4}$ full)
 - 6. Trash for the landfill (plastic, aluminum, paper, Styrofoam, food items, glass, etc.)
 - 7. Small bedding flowers or houseplants
 - 8. Garden gloves and/or plastic gloves
 - 9. Small garden shovel
 - 10. Copy of Appendices D-2 and D-3 (Landfill Terrarium Observation Sheet) for each student
- C. *Key Vocabulary*
 - 1. Garbage/trash – useless stuff that is waste
 - 2. Landfill – is where garbage/trash is disposed of and buried
 - 3. Dump – where we dispose our trash/garbage
 - 4. Barge – long, flat boat that hauls things
 - 5. Recycle – to make new things out of old things instead of dumping them in the landfill
 - 6. Compost – is a mixture of grass clippings, food scrapes and leaves that you would normally throw away that turns into a rich mixture that makes the soil better and feeds the plants
 - 7. Litter – is trash that has not been thrown away properly; it takes away from the beauty of our environment
- D. *Procedures/Activities*
 - 1. Prior to teaching this lesson, you will want to speak with your building engineer and ask them not to empty your classroom trash for 2 –3 days. Make sure that the trash that is being collected has a variety of recyclable items so that students will be able to participate in sorting and placing trash in appropriate bins. (*Goal: To have your trashcan overflowing.*)
 - 2. The day of this lesson you will want to direct the children's attention to the overflowing trash problem occurring in your classroom!
 - 3. Read and discuss the big book, *Where Does All The Garbage Go?* Discussion questions are as follows:
 - a. Cover of Book
 - i. *What do you see in this picture?*
 - ii. *Where do you throw your trash? Are there other places where people might throw their trash?*
 - iii. *Goal: Get the children to realize that there is trash everywhere and that it can affect our lives in many ways.*
 - b. Page 1
 - i. *What is happening in the picture?*
 - ii. *What types of things do you think are in the girl's bag (trash)?*
 - iii. *Why do we take the trash out of our houses?*

- iv. *Who takes the trash out at your house?*
 - v. *Where do they put the trash?*
 - vi. *What eventually happens to the trash?*
 - vii. *Goal: Understanding that trash and garbage are the same terms, and that they both are a nuisance and can be unhealthy if not taken care of properly.*
- c. Page 2
- i. *What do you see happening in the picture?*
 - ii. *What happens to the trash when the trash collector puts it in the truck?*
 - iii. *Where does the trash collector take the trash?*
 - iv. *Goal: Children need to realize there are special people who come and collect our trash.*
- d. Page 3
- i. *What is the difference between a landfill and a dump?*
 - ii. *What do you think a barge is (explain that a long time ago that garbage barges took the garbage and dumped the trash into the seas and oceans. Now there are laws that prohibit this from happening because it caused water pollution)?*
 - iii. *Goal: For students to know where trash is taken and how it is disposed.*
- e. Pages 4 - 5
- i. Refer back to the trashcan in your classroom and compare it to the picture on page 4 of the overflowing dump. *Is there a difference between what you see on page 4 and our classroom trash?*
 - ii. Then discuss on page 5 that there is too much trash and that it will show up everywhere. *Is our classroom trash showing up in places besides our trashcan?*
 - iii. *Is there too much trash in our classroom?*
 - iv. *What happens when there's too much trash?*
 - v. *Goal: For the students to realize that when there's too much trash around that it starts to litter up their environment, i.e. perhaps the children have been kicking the overflowing trash around their classroom and there's no where to put it.*
- f. Pages 6 - 7
- i. *What is happening in this picture?*
 - ii. *What does it mean to recycle?*
 - iii. *What materials are being recycled?*
 - iv. *What is the boy holding in his hand?*
 - v. *Which container should he put it into?*
 - vi. *What are some of the things that we throw away that could be used again?*
 - vii. After you have discussed, pretend you just had a brainstorm and that the classroom should have recycling bins; perhaps as a class we should be recycling. Maybe this can help clean up the overflowing trashcan problem in classroom (Introduce your labeled containers.)
 - viii. *Goal: That there are some things that can be used again. Recycling is important so that our environment doesn't become littered, and our landfills don't become too full.*

- g. Pages 8 – 9 (discuss the following concepts on these pages):
 - i. Let children know that we throw away more paper than any other kind of garbage.
 - ii. Some things that are made from recycled paper are: newspaper, cardboard boxes, and even the writing paper we use in our classroom.
 - iii. Glass is sorted by color, then crushed and melted when being recycled. Most of the bottles we see at the grocery store have been recycled. *Did you know there are even roads that have been built using recycled glass?*
 - h. Pages 10 – 11 (discuss the following concepts on these pages):
 - i. Continue discussing that both plastic containers and aluminum cans are also recyclable. Again, many products that they see at the grocery store are from items being recycled.
 - ii. When plastic containers are recycled, they are shredded (so they take up less room), melted down and shaped into new plastic containers.
 - iii. When aluminum cans are recycled, they are crushed and put into big blocks. The workers will grind them into tiny chips that are melted down and made into thin sheets of aluminum. New cans are made from the sheets of aluminum.
 - i. Page 12 (prior to reading this page, discuss the following question first):
 - i. *Does anybody know what it is called when we put together leaves, grass clippings, and fruit and vegetable scraps (compost)?*
 - ii. *Why is the woman saving leaves, grass clippings, and fruit and vegetable scraps? (To make compost for her garden.)*
 - iii. *Goal: Explain that when making a compost pile, that it will take time for all of these things to breakdown before it will become compost and be ready to use.*
 - j. Page 13
 - i. *Do you think that compost was used in the garden? Why or why not?*
 - ii. *Ask the children if they can see the compost in the garden?*
 - iii. *Goal: That children will understand that by adding compost to their gardens that this will help the plants to grow bigger and stronger.*
 - k. Pages 14 - 15
 - i. *Goal: Children are to understand that sometimes trash can be burned. When this happens, electricity is made which helps us to be able to use our computers, turn on lights, watch television, etc.*
 - l. Page 16
 - i. *Goal: The children should know that the less garbage we make means the cleaner our environment will be. Everyone should recycle because that means we are saving the Earth's natural resources.*
4. Landfill Terrarium Activity: Follow direction for creating a classroom Landfill Terrarium on Appendix D-1 (Landfill Terrarium).
- E. *Assessment/Evaluation*

1. Use worksheets from Appendices D-2 and D-3 (Landfill Terrarium Observation Sheet). Students will draw pictures that relate to what they observe in the terrarium at weekly intervals. Children will also write or teacher will dictate a sentence about what they observe.

Lesson Six: What Litter Does To Our Environment

A. Daily Objectives

1. Concept Objective(s)
 - a. Understand the characteristics and structure of living things, the process of life, and how living things interact with each other and their environment.
 - b. Understand interrelationships among science, technology, and human activity and how they can affect the world.
2. Lesson Content
 - a. Pollution can be harmful, but if people are careful they can help reduce pollution.
3. Skill Objective(s)
 - a. Students will have a better understanding of the environment around them.
 - b. Students will have a better understanding of how to take care of the air, animals, plants and water around them.
 - c. Students will be able to identify how pollution is harmful to their environment.
 - d. Students will have a better understanding of where their garbage/trash goes.
 - e. Students will have a better understanding why it's important to recycle.

B. Materials

1. *Wartville Wizard*, by Don Madden
2. Copy of Appendix E (My Town) for each student
3. Pencil and crayons for each student

C. Key Vocabulary

1. Review prior lesson

D. Procedures/Activities

1. Goal: Reinforce all the vocabulary and concepts from the previous lesson.
2. Read and discuss *Wartville Wizard*.
3. An idea for discussion time would be to have the children retell the story to the teacher while the teacher writes their ideas on a chart paper or sentence stripes. Possible sentences for retelling the story are:
 - a. Wartville was a neat and tidy little town.
 - b. Everyday the old man found more and more trash and garbage in his yard.
 - c. Day after day, month after month, the old man hauled trash up the hill.
 - d. The old man became angrier and angrier.
 - e. The old man called the townspeople "Slobs, slobs, slobs."
 - f. He asked Mother Nature for help with his problem.
 - g. The old man got power over the trash.
 - h. He pointed his finger at the trash and it stuck to the person who had thrown it on the ground.
 - i. The townspeople didn't like wearing their trash so they tried to hide it.
 - j. Everybody went to see the doctor because they had trash stuck to them and they didn't know how to get it off.

- k. The little girl saw that the old man had power over the trash.
 - l. The townspeople went to the old man's house and demanded he remove their trash from them.
 - m. The old man told the townspeople that he was tired of picking up all their trash.
 - n. The townspeople were ashamed of themselves and promised not to litter again.
 - o. Everyone went home and picked up their trash.
 - p. The old man lived happily ever after because he was living in his neat and tidy town.
- 4. Have the children draw a picture of "What Would They Want Their Town To Look Like."
 - 5. After their drawing is complete, have the children write or dictate a sentence about their drawing
- E. *Assessment/Evaluation*
- 1. Teacher observation of the child's drawing and sentence about his or her town.

Lesson Seven: Taking Action: What Can You Do To Make A Difference?

- A. *Daily Objectives*
- 1. Concept Objective(s)
 - a. Understand the processes of scientific investigation and design, conduct, communicate about, and evaluate such investigations.
 - b. Understand the characteristics and structure of living things, the process of life, and how living things interact with each other and their environment.
 - c. Understand interrelationships among science, technology, and human activity and how they can affect the world.
 - 2. Lesson Content
 - a. The Earth and its natural resources.
 - b. Ecology and the environment.
 - c. Conservation: Some natural resources are limited; so people must be careful not to use too much of them.
 - d. Practical measures for conserving energy and resources.
 - e. Some materials can be recycled.
 - f. Pollution can be harmful, but if people are careful they can help reduce pollution.
 - 3. Skill Objective(s)
 - a. Students will be able to identify a natural resource.
 - b. Students will be better able to identify how we are wasting our natural resources.
 - c. Students will have a better understanding of the environment around them.
 - d. Students will have a better understanding of how to take care of the air, animals, plants and water around them.
 - e. Students will be able to identify how pollution is harmful to their environment.
 - f. Students will have an understanding of what conservation is.
 - g. Students will know that some natural resources are limited, and they must be careful not to waste them.
 - h. Students will know how to use practical measures for conserving resources.

- i. Students will have a better understanding of where their garbage/trash goes.
 - j. Students will have a better understanding why it's important to recycle.
- B. *Materials*
 - 1. *Earth Day*, Mir Tamin Ansary
 - 2. One pair of disposal plastic gloves for each student
 - 3. Brown paper bag or plastic grocery bag for each student
 - 4. 12" x 18" piece of white construction paper for each student
 - 5. Glue, scissors, crayons, makers, pencil for each student
- C. *Key Vocabulary*
Review prior lessons
- D. *Procedures/Activities*
 - 1. Goal: Today is the culminating lesson for this unit. Teacher will need to reinforce all prior concepts and vocabulary.
 - 2. Read *Earth Day*. This book will help to tie together all the vocabulary and concepts that have been introduced to the children throughout this unit.
 - 3. Trash Activity
 - a. Teacher will take children on a nature walk around the schoolyard to clean up their environment and collect trash/garbage/litter.
 - b. Students should be given a bag and a pair of plastic gloves.
 - c. Once the students have returned, they will choose pieces from the trash they collected to create a recycled piece of art.
 - d. These art pieces can be displayed.
- E. *Assessment/Evaluation*
 - 1. Teacher should circulate around the classroom while children are working on their art work, and ask them questions to assess their knowledge and comprehension of the concepts and vocabulary that have been taught throughout this unit.

VI. CULMINATING ACTIVITY

- A. Final Assessment (Appendix F)
- B. Field trip to Recycling Center/Public Service. (optional)
- C. Watch video, *It Zwibble: Earth Day Birthday*, by Family Home Entertainment. (optional)

VII. HANDOUTS/WORKSHEETS

- A. Appendix A: Our Earth, Natural Resources
- B. Appendix B: Walter's Dream Maze
- C. Appendix C: Ways To Conserve Our Natural Resources
- D. Appendix D-1: Landfill Terrarium Activity
- E. Appendix D-2: Landfill Terrarium Observation Sheet
- F. Appendix D-3: Landfill Terrarium Observation Sheet
- G. Appendix E: My Town
- H. Appendix F: Final Assessment

VIII. BIBLIOGRAPHY

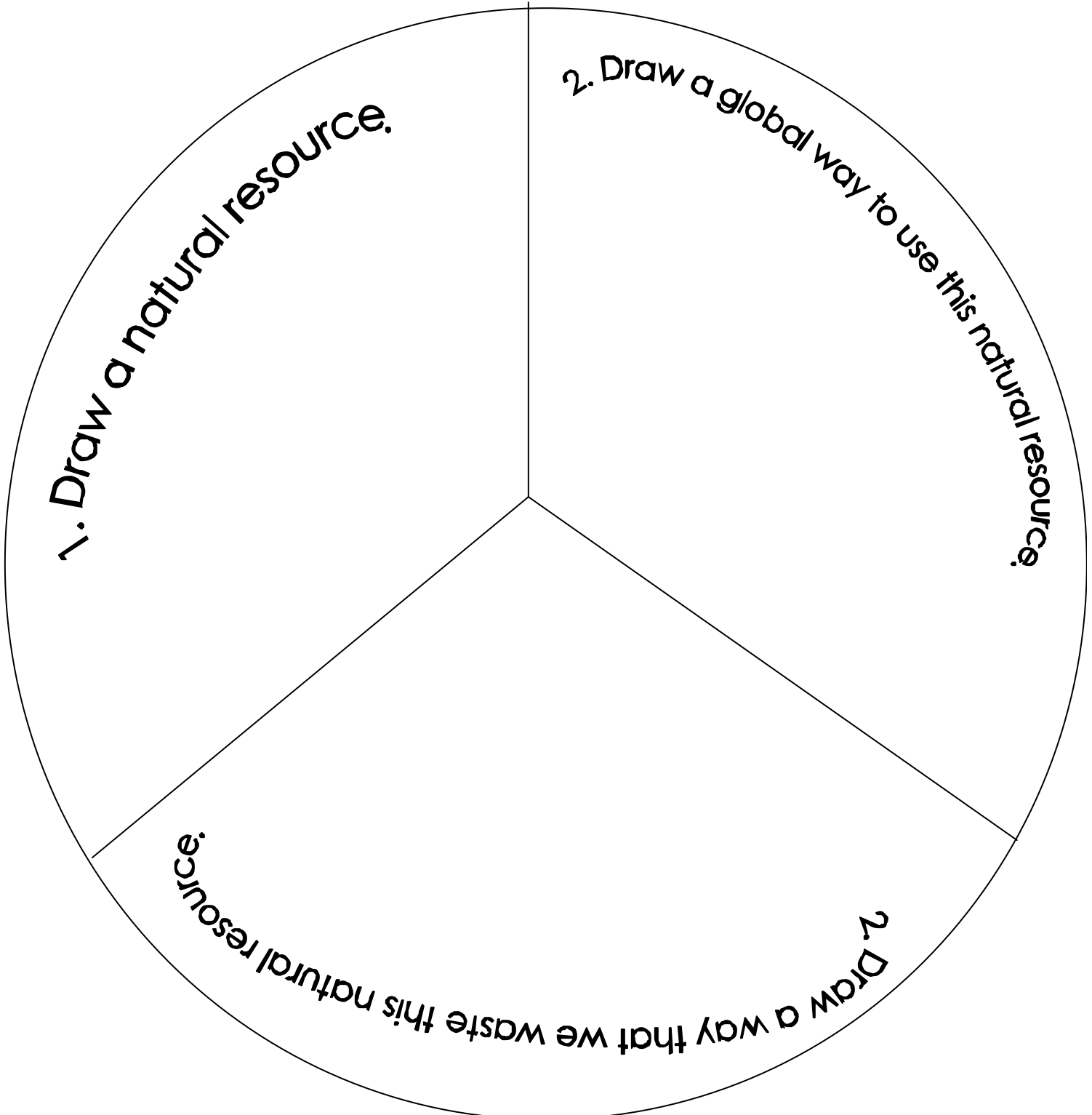
- A. Albert, Toni, *Hands on Recycling*, North Carolina, Carson-Dellosa Publishing Company, 1991. CD-7302
- B. Ansary, Mir Tamim, *Earth Day*, Illinois, Heinemann Library, 2002. ISBN 1-58810-220-3
- C. Asch, Frank, *The Earth and I*, New York, Scholastic 1997. ISBN 0-590-89752-7

- D. Berger, Melvin, *Kids For The Earth*, New York, Newbridge Communications, Inc., 1994. ISBN 1-56784-020-5
- E. Berger, Melvin, *Where Does All The Garbage Go?*, New York, Newbridge Communications, Inc., 1996. ISBN 1-56784-002-7
- F. Bieniek, Denise, *Environmental Studies*, Troll Associates, 1994.
- G. Bourgeois, Paulette, *In My Neighborhood Garbage Collectors*, Toronto, Kids Can Press, 1991. ISBN 1-55074-440-2
- H. Costain, Meredith, *Garbage Detectives Little Green Readers*, Massachusetts, Sundance Publishing, 2000. ISBN 0-7608-4161-6
- I. Claycomb, Patty, *Bear Hugs for Saving the Earth*, Washington, Totline Books, 1995. ISBN 1-57029-035-0
- J. Donald, Rhonda Lucas, *A True Book Recycling*, New York, Children's Press, 2001. ISBN 0-516-22193-0
- K. The Earth Works Group, *Fifty Simple Things Kids Can Do To Save The Earth*, Kansas City, A Universal Print Syndicate Company, 1990. ISBN 0-8362-2301-2
- L. Forte, Imogene, *Creative Science Experiences for the Young Child*, Tennessee, Incentive Publications, 1973. ISBN 0-86530-056-9
- M. Gates, Richard, *A New True Book Conservation*, Chicago, Children's Press, 1982. ISBN 0-516-01618-0
- N. Green, Andrew, *Recycling Little Reader Twin Texts*, Massachusetts, Sundance Publishing, 2002. ISBN 0-7608-5663-X
- O. Hirsch, E.D., *What Your Kindergatener Needs To Know*, New York, Doubleday, 1996. ISBN 0-385-48117-9
- P. Jeffers, Susan, *Brother Eagle, Sister Sky A Message From Chief Seattle*, New York, Dial Books, 1991. ISBN 0-8037-0969-2
- Q. Mass, Robert, *Garbage*, New York, Henry Holt and Company, 2000. ISBN 0-8050-5951-2
- R. Madden, Don, *The Wartville Wizard*, New York, Macmillan, 1986. ISBN 0-0276-2100-6
- S. Peet, Bill, *The Wump World*, Boston, Houghton Mifflin Company, 1970. ISBN 0-395-19841-0
- T. Rayburn, Cherie, *Project Recycle Activities to Help Kids Conserve the Earth's Resources*, Colorado, Current, Inc., 1991. 18284-9
- U. Schaffer, Frank, *Best Buy Bargain Books Science K-1*, California, Frank Schaffer Publications, 1994. ISBN 0-86734-448-2
- V. Schue, Lori Vankirk, *Art Works for kids Recyclables*, California, Evan-Moor Educational Publishers, 1995. ISBN 1-55799-366-1
- W. Schwartz, Linda, *The Big Book of Questions and Answers Save the Earth*, Illinois, Publications International, LTD., 1992. ISBN 1-56173-468-3
- X. Sterling, Mary Ellen, *Our Environment Thematic Unit*, California, Teacher Created Materials, Inc., 1991. ISBN 1-55734-272-5
- Y. Van Allsburg, Chris, *Just A Dream*, Boston, Houghton Mifflin, 1990. ISBN 0-395-53308-2
- Z. White, Nancy, *Environment*, New York, Newbridge Communications, Inc, 1991.
- AA. White, Nancy, *Fifty-two Science Centers You Can Make for Practically Nothing*, New York, Newbridge Communications, Inc., 1991.
- BB. Video: Family Home Entertainment Presents *It Zwibble: Earth Day Birthday*, Italtoons Corp/Michael Sporn Animation, 1990.
- CC. Internet: <http://epa.gov/children>
- DD. Internet: <http://kidsforsavingearth.org>

Name: _____

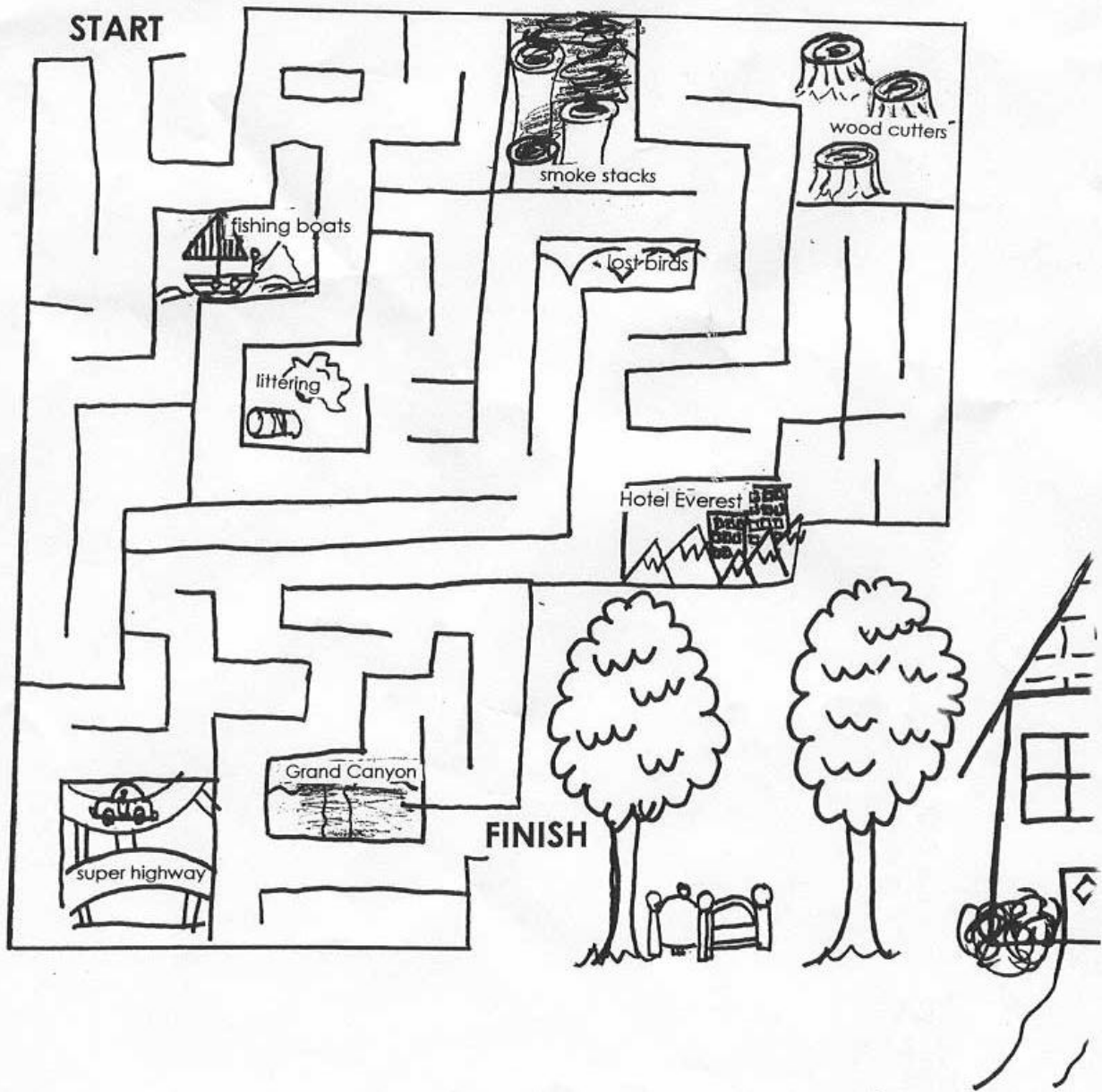
Our Earth

Natural Resources



Name: _____

Walter's Dream Maze



Name: _____

Ways To Conserve Our Natural Resources

Color the pictures of the things that you will do to help save the Earth.

	<p>Leave the water running while you brush your teeth or wash your hands.</p>
	<p>Use both sides of your writing paper. Have a box in your classroom for scrap paper. When it is full, recycle it.</p>
	<p>In the winter, keep the heat down low and put on a sweatshirt if you feel chilly.</p>
	<p>Throw all of your garbage in trash cans.</p>
	<p>Leave all of your lights on at night while you are sleeping and when you are not at home.</p>
	<p>Take a shower, it uses less water than a bath.</p>

Landfill Terrarium Activity

Materials

- 10-gallon aquarium
- Potting soil/dirt (enough to fill 10-gallon aquarium 3/4 full)
- Trash for the landfill (plastic, aluminum, paper, Styrofoam, food items, glass, etc.)
- Small bedding flowers or houseplants
- Garden gloves and/or plastic gloves
- Small garden shovel
- Water
- Copy of Appendices D-2 and D-3 (Landfill Terrarium Observation Sheet) for each student

Directions for Landfill

1. Teacher should assist the children in filling the bottom of the aquarium with about 4" of potting soil.
2. Then students will place various pieces of trash on top of the dirt in the aquarium.
3. Put another layer of dirt on top of the trash, making sure that trash can be seen from all four sides.
4. Repeat trash layer and cover thoroughly with dirt, again making sure that trash can be seen from all four sides.
5. Plant your bedding flowers or houseplants on top of the landfill.
6. Students will need to water the plants accordingly. The water will aid in the process of breaking down the trash.

Directions for Landfill Terrarium Observation Sheet

1. After students have finished making the landfill, have them observe and draw a picture of what they see.
2. Then the students will write or dictate a simple sentence about their observation.
3. You will need to repeat this process at the end of Week 1, Week 2, Week 3 and Week 4.
4. Each time student's draw and write about their observations, teacher will lead the class in a discussion about their findings.

Name: _____

Landfill Terrarium Observation Sheet

Day 1

End of week 1

Name: _____

My Town

Appendix F
FINAL ASSESSMENT

Name: _____

1. Is recycling bad for our environment?



2. Is water a natural resource?



3. Do we dump our garbage into the ocean?



4. Is it important that we learn about plants, animals, air, water and the way people treat these things?



5. Are plants a natural resource?



6. Is pollution harmful to our environment?



7. Is food a natural resource?



8. Should we waste water?



9. Is planting trees important to our environment?



10. What types of things should be recycled?



DOG



NEWSPAPER



GLASS JAR



ALUMIN CAN



SHOE