

**I. Title of Lesson:**

**Making our School and Homes More Earth Friendly**

**II. Grade Level and Subject Area:**

Kindergarten: This unit integrates language arts, social studies, science as well as other subjects

**Big Idea:** Let's investigate human's impact on the Earth, and figure out reasonable ways in which we can actively reduce our effect to make the Earth happy and healthy.

**III. Standards:**

**NGSS:**

K-ESS3-3 Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.

**CCSS: Mathematics:**

K.CC.B.4.a When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.

K.CC.B.4.b Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.

K.CC.B.4.c Understand that each successive number name refers to a quantity that is one larger.

**CCSS: Writing Standards:**

W.K.2 Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.

**CCSS: Speaking and Listening Standards:**

SL.K.3 Ask and answer questions in order to seek help, get information, or clarify something that is not understood.

SL.K.5 Add drawings or other visual displays to descriptions as desired to provide additional detail.

**CCSS: ELA-Literacy:** L.K.1.F Produce and expand complete sentences in shared language activities.

**IV. Justification Statement:** This lesson unit is supported by the NGSS and Common Core standards. It was created in order to get students thinking about human's impact on the Earth and its natural resources. Within this segment, students will get the opportunity to come up with solutions or alternatives to lower the amount of waste they produce. They will also keep track of their actions that they take to help them see the bigger picture. The big question or idea that guides this unit is: What can I/we do to have less of a negative impact on our neighborhood and Earth?

**Commented [SB1]:** Earth has a temperature? How can we help?  
Earth is drowning in plastic, garbage, etc.  
Try to present the questions in an easy to understand manner for K-2 grade levels.

**Commented [SB2]:** What is the Social Studies standard?

V. **Measurable Objectives:** At the conclusion of this unit, students will be able to state at least three ways that they can help their school and home be more environmentally healthy/friendly.

Commented [SB3]: Great outcome—achievable and important!!

VI. **Total Time:** This unit will take about three/four days with an hour allotted each day.

VII. **Social Skills and or Habits of Mind to Engage/Assess**

Commented [SB4]: ??

**VIII. Level of Voice Appropriate for Activity:**

Students voice level will vary based on the activity. During direct instruction, students should be at a 1 and not be using their voice. During group work students should work at a level 3, speaking loud enough to hear each other but not loud enough to be heard across the room.

VOICE LEVEL CHART	
5	 <b>Yelling Voice</b> Use only outside
4	 <b>Outdoor or Large Group Voice</b> Use outside or when presenting in class
3	 <b>Speaking Voice</b> Use as your normal talking voice
2	 <b>Whisper Voice</b> Use to talk quietly in partners and small groups
1	 <b>No Voice</b> Silence (no talking at all)

Chart found at:

[https://www.google.com/search?q=voice+level+chart&rlz=1C1AWFB\\_enUS841US842&source=lnms&tbn=isch&sa=X&ved=0ahUKEwiQ8eyog8fhAhWSKn0KHWrTC00Q\\_AUIDigB&biw=1422&bih=680#imgrc=xrv9Oc5QQKS0dM:](https://www.google.com/search?q=voice+level+chart&rlz=1C1AWFB_enUS841US842&source=lnms&tbn=isch&sa=X&ved=0ahUKEwiQ8eyog8fhAhWSKn0KHWrTC00Q_AUIDigB&biw=1422&bih=680#imgrc=xrv9Oc5QQKS0dM:)

**IX. 5E Framework:**

**Day 1-**

**Engage:**

-Hook: To grab the student's attention and begin this unit, I will read *The Earth Book*, by Todd Parr. It talks about actions that students and all humans can take in order to help reduce our impact on the Earth and keep it healthier. The book makes reasonable suggestions such as using the back side of paper or taking the bus to help reduce pollution.

Commented [SB5]: OK. Terrific. This likely gives you age-appropriate launch question for your kinders.

-The students will think-pair-share about different things that they can personally do to reduce their impact on the Earth and/or make it healthier based on the book. I will write their ideas on a poster to keep for the entire unit and return to for subsequent lessons.

### **Explore:**

**Formation of Groups:** In order to form the initial groups, I will ask students to return to their tables. They will work with their table groups for this portion of the lesson. There are five tables with five students at each table. I will ask the students to find the student in the group whose birthday will come next. This student will be the timekeeper. The student to the right of the timekeeper will be the materials manager. To the right of them, the recorder and so on.

### **Role Assignments:**

- Checker/Timekeeper: The time keeper will check the timer and warn their group of the remaining time throughout the explore stage.
- Materials Manager: The materials manager will collect the basket of used mystery materials and return them to the back of the classroom at the end of the activity.
- Recorder: The recorder will listen to their group's ideas about where the materials came from and how we can use less of different items and draw quick pictures of where the material is found using labels.
- Encourager: The encourager will cheer on the group members and maintain a positive attitude as well as encourage team work by making sure everyone gets to share ideas.
- Reporter: The reporter will be responsible for sharing the findings of their group with the rest of the class using the drawings and labels the recorder drew.

**Task:** For the explore phase of this lesson, I will give students a bucket filled with different materials such as paper, plastic water bottles, plastic packaging, paper towel tubes, plastic grocery bags and more. I will ask them to figure out what we use them for and where they came from. The goal is to come up with alternatives to plastic and other ways to reuse waste. I will give the students an example.

1. The materials manager will get their groups bucket.
2. On a premade worksheet with picture boxes, the recorder will draw a picture of each item where they would find it in their home or out in the world with the help of group members input. (Example- paper towel in the kitchen or a plastic bag in a grocery store)
3. The next step is to label their pictures.
4. Then, students will come up with alternatives and draw the new item or new way to use it on the right side of the page. The page will look like this, with the original waste in the left column.

Picture of item	New way it can be used or alternative item

**Explain:**

-Students will come to the carpet and the reporter of each group will share out the alternatives to the plastic and paper waste products. Students will hopefully come up with answers such as using reusable cloth bags, refillable water bottles, use less paper towels and napkins, turn materials into art, etc...

-I will record their ideas on the chart we made earlier after reading the book to add to our list of ways to reduce our impact on the Earth.

-We will have a class discussion about why it is important to use less of these materials.

**Extend:**

-We will keep journals of the ways that we can reduce our use of products and reuse others. Students will keep track of actions they take at home, school, or anywhere else in order to reduce our impact on the Earth. The journal page will allow students to draw a picture and label it as well as have lines to write one sentence with the help of their family describing what they did.

Students will be asked to make at least one entry every week for the remainder of the year.

**Commented [SB6]:** I am pleased that you describe the level of engagement children have in explanation.

**Commented [SB7]:** I am excited that you are promoting family engagement—your children are likely to become little earth ambassadors:

Doing this will keep recycling and not wasting at the forefront of the students' minds and highlight the importance of taking action.

**Evaluate:**

**Content Formative Assessment**

- The formative assessment is having the groups share out ways in which they can use less plastic and paper materials.
- Another formative ongoing assessment is to check the student's journals weekly and see if they understand and are taking action to help the Earth and reduce their environmental impact.

**Content Summative Assess**








-I will give individual students pictures of things/actions from the book that are good for the Earth or bad for it. The students will cut out and paste actions such as pollution from cars, turning of lights, and planting trees under a smiling Earth or a frowning Earth in a T chart. It will look similar to the poster below, but be an individual worksheet instead.



Idea found at: <https://www.pinterest.com/pin/47991552265310094/>

**Formative Assessment of Non-Cognitive Factors:**

**Self-Assessment**

	 	 	  
<p><b>Action:</b></p> <p>I shared my ideas</p>			
<p>I listened to others</p>			
<p>I tried my very best</p>			

**Commented [SB8]:** Okay. How will they know what needs to be in their presentation? What criteria will you make explicit at the outset? Will this be a checklist or rubric?

**Commented [SB9]:** Great. What criteria will you provide them so they know what they need to include?

**Commented [SB10]:** Terrific!

**Commented [SB11]:** Try this image instead of emoticons. <http://www.lliu.org/images/2019.png>

--	--	--	--

**Materials List:** The Earth Book, Recording worksheet (25 copies), Poster to record students' ideas, journal to keep track of actions taken to help reduce impact on the Earth, buckets of plastic and paper materials that can be recycled, reused, or replaced by something reusable.

**Commented [SB12]:** checklists and rubrics for groups

## Day 2:

### Engage:

-Hook I will show the students a time lapse video from Google Earth of the Amazon forest and deforestation. I will ask students what they think is happening over time? Why do they think the green is shrinking or the brown is growing? What is the green on the map? We will conclude that a lot of trees are being cut down and all that is left is stumps or dirt.

**Commented [SB13]:** Hmm. Where do we get all of the wood for the paper we use? I like it!

### Explore:

**Formation of Pairs:** First, students will work in pairs. In order to find a partner I will hand out go fish cards, and each student will go and find their matching card.

### Task:

-During the explore stage, students will walk around the classroom with their partner and outside in the quad to make a list of things they can find that are made from trees. Students will take turns writing down what they have found, or drawing a picture if they are unable to write or sound out the word. Students will come up with ideas such as paper, desks, bookshelves, benches, possibly the buildings, etc...

-After making their lists, I will call the students to the carpet to ask them what materials we can use less of based on the lists that the students made from their hunt. Then, we will discuss all the paper that is used in our classroom and try to come up with ideas for reducing our use such as using the backside of papers or making art out of scraps.

**Commented [SB14]:** This is great, Katherine. Student-friendly and comprehensible.

### Role Assignments:

- All students: cut up paper into small pieces.
- Timekeeper/Questioner: The time keeper will check the timer and warn their group of the remaining time throughout the explore stage as well as asks the teacher any questions the group has about the process.
- Materials Manager: The materials manager will collect the materials needed to make the recycled paper.
- Dryer: Uses a sponge to get up the extra water from the paper pulp.

-Roller: The roller will use a pin to roll over the paper and squeeze out water as well as make it flat.

-I will inform the students that we will be working in our table groups today and tomorrow to make new paper from our used paper. The student with the shortest hair will be the timekeeper and each student to the right will be assigned the next role.

Commented [SB15]: I really like this PBL, Katherine.

-I will give students work and papers that I have collected and no longer need. I will have them begin cutting it up into small pieces to put into a bucket at each table. Students will carefully cut and work to fill up their bucket. As groups finish, I will have them bring up their paper and put it in a blender that I will be operating. I will blend the small paper scraps and water together and pour it into a large pan. I will lay a screen across the top and the dryer will use a sponge to get the excess water up. After all groups have completed this step, we will set aside our paper to dry in the sun.

**Explain:**

-As the paper is drying, I will call students back to the carpet to talk about why recycling paper is a simple way to reduce our impact on the Earth. We can use the recycled paper for cards, crafts, and other school projects. The students and I will also talk about how using less paper means that fewer trees will be cut down like we saw in the video. Making paper from used paper is a small step that our class can take to help our Earth, and students can do it at home with their parents too!

**Extend:** The extension of this will continue into further days as students will use the paper to write letters to the principle about ways that our school can be more Earth friendly.

**Evaluate:**




**Content Formative Assessment:** Done throughout the lesson as the students discuss in whole group the changes we can make in regards to our paper use as well as during the explore phase as I provide guided instruction.

**Content Summative Assess:**

There is no summative assessment on this day of the unit.

**Formative Assessment of Non-Cognitive Factors:**

**Team work self-assessment**

Action:			
I participated			

I listened to others			
I tried my very best			

**Materials List:** Trash paper, 5 pans, 5 screens, a blender, group work assessment sheets, buckets to collect paper, Google Earth time lapse video, self-assessment sheets

### Day 3: (Extension)

-Hook: I will ask the students if they are authors. They will say “No.” I will say, “Well, you’re an author today because you are going to make **our** very own book!”

Commented [SB16]: your

**Task:** Each student will be given a piece of the recycled paper that we made previously. They will be given the task of writing one sentence about what they can do to reduce the impact on the Earth. I will direct them back to the list on the poster of things they came up with to reduce the impact of humans on the Earth. Each student will write the sentence starter, “We can help the Earth by...” and finish the sentence. They will then illustrate their idea. I will bind all of the students work into a book and make a cover with the title, “We can help the Earth in many ways” The book will go in our class library.

**Materials List:**

A piece of paper for each student, book-binding machine, markers, pencils, poster with ideas, sentence frame on the **board**.

Commented [SB17]: Wow! This is an ambitious PBL!!

### Day 4:

**Engage:**

-Hook: I will ask students guess how many pieces of trash they think are lying around our school. Students will make predictions and then we will go out with bags to pick up litter. Upon returning, we will talk about how much trash was outside at our school and if it is surprising to see so much **trash**.

Commented [SB18]: How will they tally this? Perhaps each group will have a collector, a recorder and a checker.... I suggest they do this while on the hunt. And then check again for accuracy.

**Explore:** I will have students work in pairs to find 20 pieces of trash and bring it back to the classroom. They will use their math skills to count out the correct number of pieces before returning.



**Task:** The students will be asked to use their trash to make a recycle monster. The only rule for their design is that it must use all of their pieces of trash (20 pieces).

1. In pairs, students will create a trash monster using their pieces of trash, glue, and/ or tape.
2. The students will draw their monster and list some of the materials used to make it.
3. The students will name their monster and record it on the sheet where they drew their monster.

**Explain:**

The students will share their monster with the class and tell the class how they designed and built it as well as state its name.

**Extend:** I will challenge students to pick up trash whenever they see it on the ground in order to make a difference and help the Earth. I will also encourage them to keep track of how much litter they dispose of in their journals that were started on day one of this unit.

**Evaluate:**

**Content Formative Assessment**

-Formative assessment is made throughout the lesson as I circulate and watch as students work together in pairs to build their trash monster.




**Content Summative Assessment**

Criteria	Yes	No
Used all 20 pieces of trash		
Gave the monster a name		
Shared it with the class		

**Commented [SB19]:** Have some fun finding images for each of the first two criteria. (totally optional)

**Formative Assessment of Non-Cognitive Factors**

**Self-assessment**

Action:			
I participated			

I listened to my partner			
I did my best work			

