



# How Scientific

Earth and Space Science  
Second Grade



**Essential Question:** How does using the Three R's (Reduce, Reuse, Recycle) help us save the Earth?

**Science: Core Standard 4:**

*Earth Structures*

Identify ways in which humans depend on their natural and constructed environments. Describe how humans have found ways to make some limited resources last longer or have replaced them with other resources. Classify human-caused changes to environments as either harmful or helpful, depending on the circumstances.

**Science Indicators 2.1.7** Recognize and describe ways that some materials — such as recycled paper, cans, and plastic jugs can be used over again.

**Language Arts Core Standard 1**

Use features of words (e.g., common word parts, sound/symbol relationships, spelling patterns) to decode unknown words. Identify common synonyms, antonyms and compound words.

Indicators:

2.1.1 Demonstrate an awareness of the sounds that are made by different letters by:

- distinguishing beginning, middle, and ending sounds in words.
- rhyming words.
- clearly pronouncing blends and vowel sounds.

2.1.11 Know and use common word families *when reading* unfamiliar words.

2.1.7 Understand and explain common synonyms and antonyms.

2.1.9 Know the meaning of simple prefixes and suffixes.

2.1.10 Identify simple multiple-meaning words (*change, duck*).

**Language Arts Core Standard 5**

**Writing: Literary Text:** Create a list of ideas for writing. Write brief narratives, poems and descriptions that follow a recognizable sequence and contain descriptive details.

Revise writing to improve sequence, to add descriptive detail, and to make language clearer.

Indicators:

2.5.2 Write a brief description of a familiar object, person, place, or event that:

- develops a main idea.
  - uses details to support the main idea.
- 2.5.3 Write a friendly letter complete with the date, salutation (greeting, such as *Dear Mr. Smith*), *body*, closing, and signature.
- 2.5.4 Write rhymes and simple poems.
- 2.5.5 Use descriptive words when writing.
- 2.5.6 Write for different purposes and to a specific audience or person.
- Language Arts Standard Core 7
- 2.7.13 Recite poems, rhymes, songs, and stories.

**Content:** Recycle, Reuse, Reduce

**Skills:** friendly letter, rhyming phonemes, prefixes and suffixes, multiple meaning words, synonyms and antonyms

**Location:** Classroom, School Recycling Center or Trash Bin

**Concept:** Conservation, Responsibility

**Vehicles:** Study Trip to School Trash and Recycling Area, Resource Person - Custodian, Songs, *Three R's* CD, Book - Where Does the Garbage Go?

**Extra Resources:**

Teddy Bears Coloring Book

<http://www.csd.ca.gov/documents/Resources%20tab/Publications%20and%20Reports/For%20Kids/Energy%20Bears%20Coloring%20and%20Activity%20Book.pdf>

Jay County Waste Management Materials - Contact Person -Kay Hays 729-5071

Pages from Fun With Recycling, Marion Elliot

**Timeline:** at least one week

**Assessment:** "How Scientific" journal entries, anecdotal records, small group

**Lifeline of the Week:** Responsibility, Respect

## DAY ONE --- SECOND GRADE



**Note to Teacher:** Don't forget to talk to the custodian about talking to the children. Any other resource person with knowledge on recycling would be good as well. You will be doing a Study Trip today with the custodian speaking to the children about how recycling and trash pickup is done at your school.

Make a copy of page 17 of the book, Where Does the Garbage Go? You could make an overhead of it or run it off for the children.

Essential Question: How does using the Three R's (Reduce, Reuse, Recycle) help us save the Earth?

### Hallway Greeting



Which of these do you throw away the most? Put your tally mark on your guess.

- Plastic
- Paper
- Metal
- Glass
- Food

**Where does it go?**

Put this question on a dry erase board and place it outside the door. Students can make a tally with a dry erase pen as they enter the room or later on in the morning. Bring the board in when you are ready to discuss the results.

### Hallway Greeting # 2

Plastic can be chopped up and turned into \_\_\_\_\_. What do you think?  
(flowerpots, park benches, chairs, etc.)

### Hallway Greeting # 3

What has wheels and flies?  
(answer: a garbage truck)



### Welcome Message

**Good Morning Class,**

Did you throw anything in the trash today? What happens to the things that you throw away? Where do all those things go? Each of us throws away more than four pounds of trash every day. It all ends up in the landfill. Do you know what a landfill is? What can we do to keep all of our trash from going into the landfill? What do you think we can do to help save our earth? Can you name the Three R's?

**Task: Make a list of all the words that you can think of for the word trash. Write these in your "How Scientific" Journal.**

Read the Welcome Message with the children. Give them some time to write their words if they have not started. Then start the Literacy Links.

Literacy Links - Students will take their "How Scientific" journal to the place where you will be sharing the Welcome Message. Have them write some of the Literacy Links answers in their journal.



- Predict- Can you predict what the Three R's are going to be? Do you already know? Introduce Reduce, Reuse, Recycle for the first time.
- Phonics/Proper English - We will be working with prefixes (LA 2.1.9) this week. When we look at reduce, reuse, and recycle we can see they all begin with what two letters. Let's look at the word reuse. Write on board. What does that prefix re- mean? Can you think of any more words that begin with re-? Spend some time with their words. If they come up with a word that is not a prefix like 'real' take the word apart and explore if it has a re- added to a base word.
- Comprehension - What are all the words that you thought of for the word trash? (synonyms) (LA 2.1.7) (garbage, junk, waste, litter, rubbish, scrap, refuse, *debris*). What would be a word that would mean the opposite of trash? (antonyms) (LA 2.1.7) Use a Thesaurus to check on more words. (LA 2.4.4)(2.2.11)
- Put in Order - Pick three of the previous words and put them in ABC order.
- Connections - What kind of trash did you throw away today? Share with a partner. *Tally all choices. What do we throw in the trash every day? Spell some of the words with the students as you write them on the board. Try to get some of the words for things we recycle like paper, glass, plastic, etc. Make a copy of page 17 of **Where does the Garbage Grow**. Have the students find the things that were on the Hallway Greeting and decide what we throw away most.) Were they right?*
- Fluency - Read the Welcome Message together as a whole group. Then read it in partners.
- Fun- Pass around a ream of paper which weighs five pounds. What if this whole class put this amount of trash into the landfill every single day? Tell them that we do. We each throw away four to five pounds of trash every day. Move to the agenda and go over it with the students and do the matching Literacy Links.

#### Agenda - Landfill Monday - Ideas for Agenda



- Where Does the Garbage Go?
- **We are going to read a funny poem about trash. "Sarah Sylvia Cynthia Stout" from Shel Silverstein. See 2 page copy of poem.**
- **Let's take a little walk. (Trash bin storage site at the school.)**
- **What is a landfill?**
- **We're going to sing a song called "The Three R's." (Teacher Packet page 3)**

Community Circle Procedure (Use your own procedure for Community Circle, but remind them of it if necessary)



**Be a good friend and listen.**

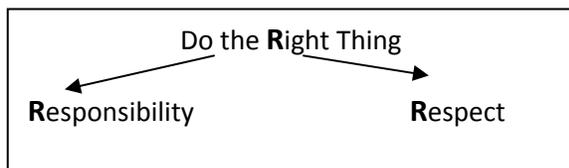
**Wait patiently for your turn.**

**Make eye contact to show you care.**



Community Circle:

Tell the children that they are going to be learning about the 3 R's of being a good citizen as well as the 3 R's of taking care of the earth. They could guess some ideas for this if you have time. Write on the board Do the Right Thing and from the word Right take an arrow and put Responsibility and Respect



Have the children respond to this statement:

**I am responsible when I \_\_\_\_\_.**

This could be put on a sentence strip that can be passed around the circle.



SAY IT: Vehicle # 1: Study Trip to Trash Bin Storage or Recycling Center at the School. Any area of the school that the custodian would like to share with the children connected to this topic.

1. Begin this part of the lesson with a reading of *Sarah Cynthia Sylvia Stout*. Ask the children if she was responsible. Ask them who is responsible to take out the trash at their house. The teacher could do a little tally here if desired. Read parts of the poem together. (LA 2.7.13). Don't worry about the rhyming connection at this time. That will come later. Just read and laugh with the poem.
2. Then ask them if they know who takes the trash out at the school. Ask them if they know if the school recycles.
3. Tell them you are going on a little study trip. **Study Trip Procedure:** Since this is a new experience for the children it might be a good idea to make a behavior procedure for this activity. Decide if taking their "How Scientific" journal would be a good idea for your situation. They will be writing in it as soon as they get back to the classroom.
4. Ask the custodian to be ready for you and have him talk about the procedure for collecting trash and storing. Then have him tell you how it gets picked up and where it goes. If there is a recycling plan for the school, the custodian could also relay that to the children.
5. Return to the classroom and let the children have some time to reflect about their visit in their "How Scientific" journals (LA 2.7.7). Instruct the students to write about their

experiences in order of events. Then do a follow up with the whole class using Shared Writing.

6. Finish by introducing landfills. Use the All about Landfills (Teacher Packet page 3) information sheet in the "How Scientific" student resource packet. (LA 2.2.3) Another resource might be in the science book, Unit 5, Lesson 5, Page 82.
7. Vehicle # 2: Book Where Does the Garbage Go? - Show and read the pages 1-15. In particular focus on the landfill pages.
8. Help the students understand that a landfill is where all their trash goes. Ask them to relay their experiences with a landfill. Have the students underline landfills, somewhere, trashcan, bulldozer, and topsoil. What kind of words are these? Review the word compound word. (LA 2.1.8)
9. Decide how you would like to group the students to read the article about landfills or read it together in class. If you have the time you could write an easier version for differentiated reading.

PLAY IT: - The Landfill Song



1. Give the students a copy of On Top of the Landfill (Teacher Packet p. 5) and sing the song together.(LA 2.7.13)
2. Make an overhead of it and circle the rhyming words with them.

On Top of the Landfill, by Bonnie Style's 3<sup>rd</sup> Grade Class

On top of the landfill  
All covered with trash,  
I stacked all my bottles.  
They fell with a crash.  
If I had recycled  
Or even reused.  
This world that we live in  
Would not be abused.  
I picked up my bottles,  
I picked up my cans,  
I looked all around me  
And came up with a plan.  
Now when I go shopping  
For something to drink,  
I'll check the containers.  
Now what do you think?  
And when I need cookies

Or popcorn for treats,  
I'll look for less wrapping;  
Now isn't that neat!  
So now I'll recycle,  
Reduce and reuse;  
My world will be brighter,  
Since wisely I choose.

3. Find the rhyming words together. Underline or circle them. Look for words that need to be understood like *abused*, *containers*, but mostly sing the song and work with the easier rhyming words. Draw attention to the words that have the same ending phoneme (*trash*, *crash*) and words that have a different spelling but still rhyme (*reuse*, *choose*). (LA 2.3.4)
4. **Think of Three:** Put the children into groups of three. Have one of the children be the recorder, one the reporter, and one the eraser. If the students are not able to be put into threes include a few twos and the reporter is the eraser.
5. Using the word trash, direct the children to come up with three words that rhyme with trash and write them on their dry erase board. Assign roles for this activity. One child will be the *recorder* who writes the words. Let another child be the *reporter* who reads the words. One child will be the *eraser* who will be erasing words stated by other children. (LA 2.1.11). The latter two roles will not be performed until after the brainstorming session.
6. After a brief amount of time, gather the children together and begin to make a combined list of all the -ash words. Ask a child from each group to tell one word they have as you write them on a piece of chart paper. Then each learning club *eraser* erases that word from his or her own dry erase board. Keep going around the room until the children run out of words. Then spend some time talking about what the -ash words mean.
7. **MOVE AND MATCH Rhyming Cards:** Pass out the cards to the children making sure there is a rhyming word for each child and that there are matching pairs. Have the children walk around the room without talking and find their partner. When they are sure they are a rhyming match, the two partners sit on the floor until you check to see if they are a match. Then together they make a list of words that rhyme with the two words they have. Then if time the students can write a short poem out of the two words together. Match students by ability. (LA 2.5.4)
8. **Decide if you need to create a procedure for this activity with the children. If not you may want to use the one on the back of the green collaboration structure card.**



**RELAY IT:** Poetry Cards: Read the poem *Sarah Sylvia Cynthia Stout* to the children again and have them listen for the rhyming words. One good way to do this is read the first part of some of the rhymes and leave off the second rhyming word as you read, and letting them recite what they think it is.

Then divide the students into four groups with one strong reader in each group. Give each group one section of the poem to read together. Walk around and help them with the tough words. Have them underline the rhyming words in their section. Then divide the groups into two and have them choose one set of rhyming words. Let them take turns adding to the list of rhyming words on a dry erase or

on a notebook. Share all the rhyming words that they have found in small groups. The important thing to emphasize with this relay it activity is that rhyming words may have the same phoneme, but sometimes they do not. See if any of the children have found any rhyming words that did not have the same phoneme.

### WEIGH IT:



1. If you feel the children are ready to write a poem free style with their list of rhyming words, use that as a Weigh It to determine if they can write a short poem. It might be something you have the higher ability students do anyway.
2. The Rhyme Time sheets are the second choice for assessing the students' ability to write a poem. They are also differentiated by difficulty. Have students write their answers into one of the differentiated *It's Rhyme Time* (teacher packet 9-11) sheets. Use these poems to determine how the children are understanding rhyming and poetry. Choose the page that is best for the level of the students. See the pages entitled It's Rhyme Time

Examples:

Look what I found inside the bag.

\_\_\_\_\_.

One thing on the earth that is good for me

\_\_\_\_\_.

Choice Activities: Share some of the poems as the children finish the Rhyme Time paper.

- Students could share their poems with a partner who is finished while the others continue working.
- Have them read each other's poems out loud.
- Let them choose the one they like best to turn into a finished product if there is time.

### Information Center:



- Title of Information Center: Saving Our Earth or The Three R's (Reduce, Reuse, Recycle)
- Vocabulary: trash, garbage, waste, compost, reuse, recycle, reduce, litter, landfill, paper, glass, plastic
- Pictures of landfill activity.
- Make a list of things that go into the landfill and put them on a picture of a landfill.
- If your Information Center has room for a skills section, put something up about poetry and add some of the children's poems.



### Teacher Reflection - What went well? What problems did you experience?

The emphasis for today is the need to keep things out of a landfill and what a landfill is. The target skill is phonemes as rhyming words in creating poems.



**Parent Connection:** Send home a rhyming word with each child so that parents can help them add to their list of words that rhyme with it.

Ask parents to ask their children as they are driving or eating? "What words rhyme with peas?" or whatever they might be eating or seeing as they drive?

## DAY TWO --- SECOND GRADE

**Essential Question:** How does using the Three R's (Reduce, Reuse, Recycle) help us save the Earth?

*Teacher Tip: Materials needed: For community circle, you will be demonstrating how to use a paper plate to make a game. All you need is a paper clip; a brad; and a paper plate. Section off the paper plate into four sections and write something that could be shared in each section. You could actually do this in community circle if you like) Ideas might be favorites (book, CD, game, candy bar), things I throw away (glass, paper, plastic, metal). Prepare ahead or make in front of the children whichever makes you most comfortable.*



### Hallway Greeting

One man's junk is another man's treasure. What does this quote mean? Write in your How Scientific journal about it.

### Hallway Greeting # 2

What is junk mail? Write in your How Scientific journal about it.

### Hallway Greeting # 3

Have you ever made anything out of trash? Write about it in your How Scientific journal.

### Welcome Message



*Put the date here.*

Dear Delightful Class,

It's going to be a joyful day in our classroom. We will be respectful as we learn more about the three R's. Have you ever been unhappy that you had to throw something away? What is your favorite piece of useless junk? Have you ever tried to reuse something that you almost threw away? Today we are going to look at how to reuse something. Then we can save it from going into the landfill. What does the word reuse mean?

Your thankful teacher,

M\_\_\_\_\_

**Task:** Finish writing in your "How Scientific" journal the answer to the question in the hallway greeting. Describe how you used that useless thing that you might have thrown away.

## Literacy Links

- Phonics/Proper English - What kind of word is the word classroom and the word landfill? Notice the word useless. What does less mean at the end? Review compound word. How many words can you create that rhyme with junk? Make a list and talk about their meanings. (*bunk, chunk, dunk, drunk, funk, flunk, gunk, hunk, monk, punk, sunk, stunk, slunk, skunk, trunk, spunk*).



**Relay it: Turn to your neighbor:** Have the children try to come up with a rhyme with a -unk word.

I found some junk  
Inside a trunk.

- Predict- Predict what kinds of objects were written about in everyone's "How Scientific" journals. Share some of those.
- Put in Order - What kind (genre) of writing is the Welcome Message? (letter) The first part of the letter is called the heading. Circle the heading. What is it really? Have the children talk about why the commas are where they are in the date. Touch your head and have the children say the following: The first part of a letter is the heading. It is the date. Then have them touch their head and repeat the sentence to their side by side neighbor. (LA 2.5.3, 2.6.5) This sentence could be written on the board if needed for the children to read while they are doing the choral reading of the sentence.
- Connections - What do you do when you first see people you know? Children should respond with something like "say Hi". Circle the greeting of the letter. This is the Greeting. What is my greeting to you in the Welcome Message letter?
- Fun - Let's give each other a high five greeting and tell each other to have a 'Good Day!'. Review the other parts of the letter and finish this off by reminding them or teaching them the body parts to associate with a letter. Tap head for heading. Touch mouth for greeting. Point to upper part of body for body. Push knees together for closing or stamp feet. Swirl fingers through the air for signature. Have the children review this with a partner.
- Comprehension - What is a suffix? A suffix is a group of letters that you add to the end of a word to change the meaning. Let's look at a few words in our Welcome Message that have suffixes. Find all the words that end in ful or less. What do those two suffixes mean? What does joyful mean? What if we add letters to the front of a word? Find the word unhappy. What does it mean when we add un to the front of a word? What are some other words that you know that start with un-? Spend some time talking about these kinds of words. Find all the words in the Welcome Message. (LA 2.1.9)
- Fluency - Read the letter with a partner and have them tell the letter part as they read it.

## Agenda - Reuse it Tuesday - Ideas for the Agenda



- My favorite piece of junk is \_\_\_\_\_ .
- The Three R's Song is a helpful song.
- Will we learn to reuse?
- Prefixes and suffixes help us make new words.



### Community Circle:

Ask the children to think of something that could have been thrown away, but they saved it because they wanted to use it to play with or to make something out of it.

NOTE: Bring in a paper plate, add a spinner and make a game with it in front of the kids or prepare it ahead of time. Show this as an example. Use an idea of your own here if you like. Other ideas are a large cardboard box from a refrigerator or TV purchase that is sometimes used to make a little clubhouse.

Have the students finish the sentence below. Give them some think time. Start with a volunteer. Let the children pass if they want to and they might think of something as they hear the other students share.

**My favorite piece of junk was \_\_\_\_\_ and I used it to \_\_\_\_\_.**

### SAY IT:



1. Play the CD and have the students listen for the Three R's. Then pass out the copy of the song to them to read together. Then practice singing the song a few times. Tell them that we are going to learn to play the song, and so we can make some instruments to play with it on Friday. But today we need to do some thinking.
2. Have the students get out their How Scientific journal. Have them write the word **Reuse** at the top of a page. Talk about what re- means and what reuse means. Then have the students list on that page anything that they have at home that they are thinking of getting rid of that someone else might want. Maybe they could work out a trade with someone rather than throw it away.
3. Sing *The Three R's* song again. Then find the words reduce, reuse, and recycle again. Remind them again about prefixes and suffixes. Lead into the game.



PLAY IT: The Prefix and Suffix game can be played in two ways. The second game will be played on Day 4. Starting with the Move and Match will be the easiest way to start. The cards are leveled by color. The yellow words are the easiest to find prefixes and suffixes. The green are the hardest. Give the cards to the appropriate children. See the section of the handout that includes the Shuffle and Share (Relay Activity # 2 on Day Four) directions to play this game if you prefer.

### Move and Match Procedure:

1. All the cards will not be used. One fourth of the class will receive the re-, un-, -less, -ful cards. The other children will receive a base word card.
2. Use side by side partners first, and then let the children hunt for a new partner.
3. When the partners decide what word they can make or if they can make a word, they write it on their own dry erase board or in a notebook.
4. This exchange of words with partners will go until each child has at least one word.

5. A Behavior Procedure may be needed.



### RELAY IT:

NOTE TO TEACHER: Today's Relay It will be a choice depending on the ability level of the children. You could even divide the children into those who might struggle with understanding prefixes and suffixes and those who might be able to be self directed. You could do Choice # 1 with a small group while the other children write their words on charts. It would help if you had an aide or helper to monitor those children as they went from chart to chart.

1. **Choice #1: TEACHER DIRECTED ACTIVITY:** List all the words the children have made into four charts using the prefix re- and un- and the suffix -ful and -less as a chart heading. Together decide if the children's words are real words. Have them use it in a sentence or explain the meaning. Sometimes you may need to have them check a word in the dictionary (LA 2.4.4)
2. **Choice # 2: CHART CHATS:** Put four charts on the wall in four parts of the room so the children have some room to work and to avoid confusion and opportunities to socialize with the other groups. Write RE, UN, FUL, and LESS on the charts as headings. Divide the children into four groups. Have them start at one of the prefix or suffix charts. They will take turns saying and writing a word for that chart until time is called or they run out of words. Do not give them too much time on the first or second round, or the other children will not be able to have any words left to write on the chart. As they move around to the third or fourth chart they will need a little more time, because they need some time to see what is already there before they can add words.
3. **Celebrate** all the words they created.
4. **You can spend some time going around the room reading the charts later in the week. Be sure to notice those words that are not correct and spend some time with those words.**



### WEIGH IT:

Observe the children while they are making words to see if they understand the concept of putting the prefixes and suffixes together with the base words to make new words. Take anecdotal notes as you observe the children.



### Information Center:

Add the words Junk Mail to the vocabulary list.

If you have a LA section of the Information Center, add some things about prefixes and suffixes.



**Teacher Reflection - What went well? What problems did you experience?** The emphasis for today is reusing things. The target skills are phoneme -unk, letter parts, and prefixes and suffixes.



**Parent Connection:** Send a list of words with prefixes and suffixes on them and have the parents try to use them with their kids during the day. **Use words that are often spoken at home.** (unopen, undress, unload, helpful, mouthful, handful, helpless, etc.)

Send home this site for the children to practice prefixes and suffixes or use it at school as well especially for higher ability students.

[http://www.harcourtschool.com/activity/book\\_buddy/skill/3\\_prefix.html](http://www.harcourtschool.com/activity/book_buddy/skill/3_prefix.html)

## DAY THREE --- SECOND GRADE

**Essential Question:** How does using the Three R's (Reduce, Reuse, Recycle) help us save the Earth?



**Teacher Note:** Please find a small box (file folder box works well) that can be used for students to put paper in that has only been used on one side. You may already do something like this. They can choose paper from this box to do drafts, draw, or anything else that will not be turned in for an assignment. This will become their Paper Saver Box or give it your own name. See Welcome Message.



### Hallway Greeting

Think about how many pieces of paper you use in one day. Write your estimate in your How Scientific Journal.

### Hallway Greeting # 2

12,000 trees a day are used to make newspapers. How many trees is that in a week? Share your answer with a partner.

### Hallway Greeting # 3

What things are made out of a tree that can give you information? Make a list in your How Scientific journal.  
(newspaper, textbook, any book, etc.)



### Welcome Message:

**Good Morning Earth Protectors,**

We are respectful to our earth by taking care of it. Today we are going to look at different ways of reusing and reducing the number of things that go into the landfill. Do you think you use a lot of paper every day? We are beginning by using both sides of our paper. If one ton of paper is recycled:

- Seventeen trees are saved.
- 460 gallons of oil are conserved.
- Eight feet of landfill space are saved.

Do you want to save trees? Yes! We can start right now by creating a box where we can put our paper if we have only used one side of it. Then when you want to draw or write on

something you can take a piece from the *Paper Saver Box*. Do you like to draw? This would be a good place to find a piece of paper to use for drawing.

**Task:** Make a list of all the -ing words that you can from the *Welcome Message*.

## Literacy Links



- Phonics/Proper English - List the **-ing words** on an overhead (taking, going, reusing, reducing, beginning, creating, drawing). Distinguish between something and morning and -ing endings. Review the compound words: something, landfill. Write beside each word the base word. Add some -ed words (saved, conserved, recycled) LA 2.1.2
- Predict- How many pieces of paper do you use every day? Write down and keep track. This could be a great math generating activity.
- Put in Order - Put the -ing words in alphabetical order.
- Comprehension - What word in the *Welcome Message* means saved? (conserved). Talk about its meaning. Have them write the word conserve in their *How Scientific Journal* with a definition. Make a list of things that need to be conserved. In their journal have them write under the definition for conserve the title: *Things That Need to be Conserved*. Have them draw one of the things on their list.
- Connections - What other things do you like to draw?
- Fluency - Read the last paragraph as a whole class. Show them the box or ask them how they could make one for their classroom if you do not already have one. If one already exists, then remind them where it is and to use it regularly.
- Fun - Let's enjoy a Popsicle break! After the children eat the popsicles, let a few throw the sticks and paper away. Then remind them that today we are learning about reusing and reducing the stuff we throw away. What could we save from the popsicles? Get out the Popsicle sticks and tell them they are going to be reusing them later. Have them get out their *How Scientific journals* and make a list of ways they could reuse their Popsicle sticks. Collect the sticks and rinse them off for later.

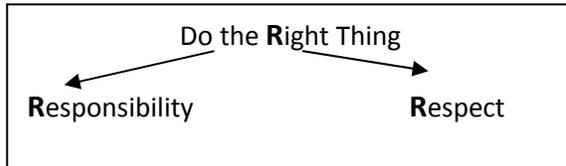
## Agenda - Reduce it Wednesday - Ideas for the Agenda



- **-ing words are challenging to write.**
- **Popsicle break!**
- **How much paper do we use?**
- **How is paper made?**

## Community Circle

Remind students of the 3 R's of Good Citizenship. Show the chart again.



Talk to the students about the second important Lifeline for a good citizen. Talk about what respect means. Share with them someone that you respect and why. Keep this to one sentence. See below. Then ask them to respond to the following question: Who is a person that you respect and why? To facilitate the circle pass the following sentence strip with the statement:

**I respect \_\_\_\_\_ because \_\_\_\_\_**



**SAY IT:** How is paper made? Make a copy of the non-fiction text about How Paper is Made (Teacher Packer page 6) for the children or write it on chart paper. Look at the sequence words of next, then, finally. (LA 2.2.10)

1. Trees are cut down.
2. Next the wood is shredded into very small pieces.
3. Then the small pieces are mixed with water.
4. The pulp is pressed flat until it is as thin as... paper!

Find the word that has a prefix. What does replant mean? Draw attention to the -ed words. Share what the base word is for these words. Finally have the students read the sequence for making paper with their side by side partner.



**PLAY IT:** Sequence Cards: Cut the sentences apart and use them for I'm on the Line. This can be done in front of the room with one person from each Learning Club or each Learning Club can have a set and they can all put themselves in the proper order and then reveal to the rest of the class. See the green collaboration cards.

Finally people come in behind them and replant new trees. This is the law.
Then the small pieces are mixed with water.
Trees are cut down.
The pulp is pressed flat until it is as thin as... paper!
Next the wood is shredded into very small pieces.



**RELAY IT:** Flip Book - Give the students three pieces of paper. Show them how to make a simple flip book. See the blue structure cards. The flip book can be created by taking three pieces of paper in a layering fashion with one inch overlap. Then fold in the middle and staple in the middle part. Then you have a little booklet. Have the students create a flip book showing the order for how trees are made into paper. On the outside part is a place for the title. Then one section for each step for creating a book let about the sequence for making paper. Add pictures on each page and put a title on the outside. Add pictures or illustrations for each step.



**WEIGH IT:** Check to see if the sequence is in the correct order and that they understand how to make this flip book. You may want to use this way for children to create other sequence-related products.

Finish the day by taking their throw-away Popsicle sticks and making a bookmark. Give them some markers and let them decorate their sticks. Put the sticks into one of their library books as a bookmark. Congratulate them for being great Re-users.



**Information Center:** Add the information about paper and trees. Have the children make some signs that say something like Save Trees, Use Paper Wisely. Make a quick sign if you do not have any time for children to make them. Put some of their flip books on the table as well. If you have time let the children choose one from each table or just put them all on the table in a small box so the children can read each others.



**Teacher Reflection** - What went well? What problems did you experience? **Today's emphasis was reusing and paper making. The skills were -ing and -ed endings.**



**Parent Connection:** Ask the parents to review their use of paper and possibly follow through with a Paper Saver Box of their own.

**Note to Teacher:** In the relay section of today's lesson, there will be some preparation. Either a fairly clean bag of trash will need to be provided, or the recycling cards will need to be prepared. These can just be run on paper if you only plan to use them once.

## DAY FOUR --- SECOND GRADE

**Essential Question:** How does using the Three R's (Reduce, Reuse, Recycle) help us save the Earth?



### Hallway Greeting

**Does your family recycle? Yes No ? Make a tally mark.**

Put this question on a dry erase board and placed outside the door and kids can make their tally mark with a dry erase pen.

### Hallway Greeting # 2

**What does the word cycle mean?**

### Hallway Greeting # 3

**Name three words that begin with re- .**



### Welcome Message

**Good Morning Class,**

**Let's learn another recycling song!**

Let's Recycle. Let's Recycle.  
Paper, cans and glass  
Paper, cans and glass.  
We won't fill the landfills.  
We wont' fill the landfills  
With our trash,  
With our trash.

**Task:** In your "How Scientific" journal make a list of things that you think can be recycled.

### Literacy Links



- Fluency - Sing the Let's Recycle song together. Sing the Three R's song as well. Ask them which one they like best. Why?

- Phonics/Proper English - What are the two contractions? What words make up those contractions? Spend some extra time with won't.
- Predict- What are the things that can be recycled and used again? Find their names in the song. Did you get most of those in your "How Scientific" journal?
- Put in Order - Put those three words in alphabetical order.
- Fun- What is the answer to this riddle?  
 I smell really bad and move quite slow.  
 I eat what you detest, but you barely know.  
 When I'm working everybody stares.  
 They don't want to be me, nobody cares.  
 I take away so much of what you don't need.  
 I don't have any color. I don't have any speed.    Garbage Truck
- Comprehension - To keep things out of the garbage truck to go to the landfill. What do we do? What does the word recycle really mean? Write the definition on the board: Recycling is when waste material is changed so that it can be used again. Circle the word again and the prefix *re-* in the definition. Review the prefix meaning of *re-*. Talk about the word cycle and connect it to going around again, or changing something so it can be reused.
- Connections - What do you like to drink that comes in a container? Can it be recycled?

#### Agenda - Recycle it Thursday - Ideas for the Agenda



- Where Does the Garbage Go?
- We've Been Working on Recycling
- The Shuffle and Share recycling game.
- What Could You Do?



#### Community Circle:

One thing I like to drink is \_\_\_\_\_. The container can or can not be recycled.



SAY IT: Sing a new song to review more information about recycling. Sing to the tune of We've been Working on the Railroad.

We've been working on recycling  
 All the trash we can  
 We've been working on recycling  
 It's a very simple plan  
 Separate your glass and paper  
 Plastic and also tin  
 Take the trash you will recycle  
 To the recycling bin!!!

Resource: [Where Does the Garbage Go?](#) Go back to the book, and read pages 6 and 9 again. Make a list of all the trash items that the people threw away on page 6 that could have been kept out of the landfill. Do the same with page 9. Write these on the overhead, dry erase or board. Which ones could be used again? Talk a little bit about composting. Ask the students if anyone in their family does composting. Which items could be composted? Go back to the book and read pages 20 - 29. Explain that today we are going to look mostly at things that can be recycled.



**PLAY IT:**

COMPOST	PLASTIC
METALS	SECOND-HAND SHOP
PAPER	GLASS

**Choice # 1:** Pretend you are workers at a recycling center. Bring in a bag of trash. Set up boxes labeled as in these pictures. You may use more or less boxes depending on the trash that you want. It is a hands-on activity which will be more effective but it is certainly okay to move to choice # 2. If you have enough trash you could even have a relay. However the most important thing to do is to help the children see how to recycle. I would be careful about having children bring in trash because that could also be quite messy. Children can take turns putting things into the correct box explaining why things go where they go. You might use some of the things from the school.

**Choice # 2: Shuffle and Share:** You will find the cards in the Teacher Resource Packet Pages 13-17. Find the role cards and the recycling cards for this activity. Use the recycling cards to help students begin to know which things can be recycled or composted. Place the six boxes in the middle of the table. Take turns drawing out the items and deciding in which box each item would go. Use the role cards so students know what they are supposed to do. Follow the Shuffle and Share procedure in the green collaboration cards. Reflect on how well the children did on knowing what to recycle. Then go into the writing activity to show how they are going to save something from the landfill by trading it to someone else.

**RELAY IT: Writing:**



1. The students will think of a plan to help the environment. They will think of what they could do at home and what they will do at school.
2. Then the students will organize their ideas on a graphic organizer. See below. Teacher Packet

My Name	
I plan to help the environment by	The first thing I will do is
The next thing I will do is	How it will help is

3. Allow students time to transfer their graphic organizer to a piece of paper.
4. Suggestion: Students could write this information in the form of a letter due to the focus given during this lesson on letter writing.
5. Allow students to choose some books from the Resource Center if they finish early.

**WEIGH IT:** Use a graphic organizer for letter or rubric to evaluate their paragraph or letter. Another option for those who finish early would be to cut apart the How Long Thing Last in a Landfill and let the children work together to try to match up the times. This is not for evaluation but for thinking skills and for fun.

### RELAY IT ACTIVITY # 2: Skills - Prefixes and Suffixes



If prefix and suffix practice needs to be addressed, this activity uses the same role cards from the previous Move and Match game. Remind the students of the prefix of re- in recycling. Ask them if they are ready to play the prefix game a different way. Since they have played the Shuffle and Share game already today, this time they are going to use the prefix and suffix cards with the same role cards from the recycling game.

#### Shuffle and Share Procedure:

1. Use the shuffle and share role cards provided. Each student has a role.
2. Each learning club will receive the four prefix and suffix cards which will be turned up in the middle of the table.
3. The other cards will be in the hands of the shuffler.
4. Shuffler offers a card to the reader who reads the word.
5. The answerer can decide which of the prefix or suffix ex goes with their word.

6. This word will be written on a small dry erase board.
7. The checker will see if it is a word by mutual agreement or using the dictionary.
8. The checker can also add another prefix or suffix to the word as well.
9. The goal is to get ten words on the dry erase board. If that happens the person who is the encourager at the end takes the list to the teacher who puts their total score on the board.
10. Then they go back and create more words.
11. Total the words for the whole class and try to beat this score the next day if desired. It can also be done for the next couple of weeks to practice prefixes and suffixes.



**WEIGH IT:** Use the evaluation sheet *Do you know Your Prefixes and Suffixes?* (Teacher Packet page 8) provided to see how the children are doing with prefixes and suffixes. Use this tool to determine if more time needs to be spent on them.

Do you know your prefixes and suffixes?

Name \_\_\_\_\_

Write a sentence in each box using a word with prefix or suffix you see.

re	un
less	ful
What is a prefix?	



**Information Center:** Put the Recycling Definition (Recycling is when waste material is changed so that it can be used again) on the bulletin board. Choose some of the following to put on a poster and place in the information center.

- Plastic soda bottles ..... **forever**,
- Glass bottles ..... 1 million years,
- Batteries ..... 100 years,
- Aluminum + tin cans .....50 to 100 years,
- Plastic bags ..... 10 to 20 years,
- Orange peel ..... 6 months,

- Paper ..... 2 to 5 months,
- Banana Peel.....3-5 Weeks ,
- Wool Cap ..... 1 Year ,
- Disposable Diaper .....10-20 Years,
- Hard Plastic Container .....20-30 Years,
- Plastic 6-pack Holder ..... 450 Years



**Teacher Reflection - What went well? What problems did you experience?**

The prefix and suffix games can be switched depending on what the teacher wants to do. If you do not want to play Shuffle and Share twice on the same day, you can switch them around.



**Parent Connection: Send home the page about how long things last in the landfill for parents to read either in a parent connection letter or as a matching activity for them for fun.**



**NOTE TO TEACHER:** Today you will need some pebbles or small rocks, seeds or something to put into the containers for shakers to make music instruments. You will also need some rubber bands.

The second item that needs preplanning is to ask some of the other classrooms if you could perform their Trash Band song. One student could be chosen to tell the class that they learned how to reduce, reuse, and recycle in science. The other student could explain how they made their instruments out of trash so it wouldn't go into the landfill.

## DAY FIVE --- SECOND GRADE

**Essential Question:** How does using the Three R's (Reduce, Reuse, Recycle) help us save the Earth?



### Hallway Greeting

**How long will a plastic bottle stay in a landfill before it disappears? (forever)** Put this question on a dry erase board and place it outside the door.

### Hallway Greeting # 2

**Reduce, Reuse, Recycle. We can do it!**

### Hallway Greeting # 3

**What's a good name for a rock band that uses trash for its instruments? (Follow through with this when you make the instruments.)**



### Welcome Message

(Teacher Packet page 7)

### WHAT YOU CAN DO TO REDUCE, REUSE, AND RECYCLE

1. Use all of your paper on both sides.
2. Pack your lunch in reusable containers.
3. Give things that you no longer use to people who can use them.
4. Borrow things that you don't use very often, instead of buying them.
5. Save paper, glass, aluminum, and other recyclables and take them to a recycling center.
6. Use scrap paper when doing art.
7. Set up a reuse box in the classroom for used pencils, pens, folders and other items that are still usable.
8. Make something fun out of trash.

**TASK:** Reread the list again. It might help you with your paragraph or letter about what you will do to help the environment. Then finish working on your *paragraph or letter*.

### Literacy Links



- Phonics/Proper English - Why are there commas in sentence # 5 and #7? LA 2.6.5
- Predict- How long will plastic last in a landfill? *Forever*.
- Put in Order - What is the third thing in the list for things we can do to help save our earth?
- Comprehension - What happens to a word when we add a prefix to it? What happens to the word use when we put re in front? Un and happy? Congratulate the class for doing so well with prefixes.
- Connections - What do you like to do in art? Do you think you could do better at saving some of your paper in art?
- Fun - Riddle: Why did the foolish gardener plant a light bulb? He wanted to grow a power plant.
- Fluency - Read the list of things to do together. Girls read the first line. Boys read the second. Take turns reading every other one.

### Agenda - Finish it up Friday or White Elephant Friday or Trash Band Friday - Ideas for the Agenda



- What you can do to reduce, reuse, and recycle.
- My Favorite Music instrument
- Making Music Instruments with Trash
- The Trashy Band Concert

### Community Circle:

My favorite musical instrument is a \_\_\_\_\_ . OR

My favorite band is \_\_\_\_\_



**SAY IT:** CD: Song - Sing the song again. Talk about all that we have learned this week. Sing each section and asked what how that connects to what we learned in class. Go to the Information Center and look at the words and the ideas. Ask the students if it would be fun or make the song better if we had instruments.

Go back to the Welcome Message. Read this item: *Making Music Instruments with trash*. Ask them to tell you if that would be an example of reduce, reuse, or recycle. Of course, the answer may be both reduce and reuse. Tell them they are going to make something out of trash. Have them look at the agenda and guess. Then ask them if they would like to make a trash band to play along with the Three R's Song. Explain to them that they will be working in small groups to make instruments.



**PLAY IT:** This is the part of the lesson that involves making instruments out of trash. Students could copy a list of the instructions for their instrument into their How Scientific Journal. Sometimes writing can take awhile for second graders, so the teacher can make this decision.

Decisions about making the instruments will also be made by the teacher. Trash materials and instrument building instructions will be provided, but whether each group makes the same instrument or if one child on each team makes a different instrument is up to the teacher. Use the instruction pages provided to help with directions for making the instruments. Since the students will be reading how to make their instruments, you may want to put the students into leveled reading groups. The teacher could divide up the members of each learning club into five separate groups. All the struggling readers could make the easiest instrument with the easiest reading instructions. Students will read their directions together as a learning club. Then they will make their instruments. Again this section is a culminating activity to emphasize the point of the lesson, and does not lead into a serious assessment. Therefore the teachers can do this activity in whatever way is easiest for them. The point to be made is that the students have tried to do something to reduce, reuse or recycle materials that may have going into the landfill.



**RELAY IT:** Students will play their instruments and sing the 3 R's song. They will practice a few times. Then they could plan to perform for some of the other classes. LA 2.7.13

Following their performances in the classroom or in other rooms, the children will finish this activity by writing what they have learned in their How Scientific Journal.



**WEIGH IT:** How did the students work as a group? Use the Group Evaluation form to assess how each student worked. Each child could also do a self-evaluation of his or her own performance in the Learning Club.

Another observation is to check to see how many instruments they finished together as a team and observe how they are working as a team.

The last informal assessment will be to read the student's How Scientific Journal.

Information Center:



- Add the Welcome Message as a poster for the Information Center.



**Teacher Reflection - What went well? What problems did you experience?**

Note to Teacher: These materials for the instrument activity were provided by the Waste Management Center across from the Jay County Landfill on Highway 27 between Redkey and Portland. They have an amazing number of recycled items that they provide for teachers and other groups to use in classrooms and for activities and crafts. Mrs. Hays is willing to go out to schools and do demonstrations as well.



**Parent Connection:**

Send home the instruments with a note explaining how the students were learning about reducing, reusing, and recycling. A letter written by their children about recycling would be a good finish for this lesson.

**Teacher Tip: Symbols are used for each of the C.L.A.S.S. strategies and tools:**

Hallway Procedure 	Welcome Message 	Agenda 	Community Circle 
Literacy Links 	Behavior Procedure 	Technology Connection 	Information Center 
Say it 	Play it 	Relay it 	Weigh it 
Parent Connection 	Teacher 		